FINAL REPORT FOR THE EXPEDITED CLEANUP OF MATERIAL DISPOSAL AREA (MDA) M, TA-9

Prepared for
Los Alamos National Laboratory

By

NES, Inc.
Danbury, CT

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EXECUTIVE SUMMARY

The contract for the expedited cleanup of Material Disposal Area (MDA) M was awarded to NES, Inc. on October 2, 1995, through the Basic Ordering Agreement (BOA) in place for Los Alamos National Laboratory's (LANL) Environmental Restoration (ER) Project. The contract was structured for a fixed price for labor and a fixed unit price for waste disposal. The objective of the cleanup was to remove and dispose of debris and soil located within the top five (5) feet of the surface, deposited over the 3.2 acre site. This cleanup resulted in the disposal of approximately 5460 yds^3 of radioactive, chemical, asbestos, hazardous and clean waste streams. The on-site cleanup activities commenced on November 17, 1995 and were completed March 6, 1996. There were no lost-time accidents for the duration of the project.

1.0 INTRODUCTION

Material Disposal Area (MDA) M, also known as Solid Waste Management Unit (SWMU) 9-013, is located within the western portion of the Los Alamos National Laboratory's (LANL) Technical Area (TA) 9. The expedited cleanup of MDA M was proposed as part of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) process described in the LANL Operable Unit (OU) 1157 RFI Work Plan (LANL 1993, 1230) (Reference 1). SWMU 9-013 consisted of a former surface disposal area and satellite area approximately 3.2 acres in size. A wide variety of materials including potentially hazardous waste, laboratory chemical waste, high explosive (HE) and organic wastes, construction and demolition debris were disposed at this site. The disposal area was used from 1948 to approximately 1965. Preliminary results from the RFI sampling effort had indicated the presence of heavy metals, organics and radioactive contamination above the LANL screening action levels (SALs). Additionally, asbestos was also visually confirmed to be present at several locations in MDA M.

The expedited cleanup of MDA M was to be performed in two phases. Activities comprising Phase I of the expedited cleanup included regrading the perimeter trench and diverting runoff, removal of all surface debris, transportation and disposal of the surface debris, excavation of 'hot spots' in contaminated soil, geophysical survey of the cleared areas and confirmatory sampling and analysis to verify the nature and extent of potential residue contamination. After the surface debris was cleared and the confirmatory sampling and analysis complete, a Phase II of the expedited cleanup will commence. The purpose of Phase II will consist of evaluating the confirmatory sampling results to determine if the cleanup action levels derived from the preliminary results contained in the RFI and the LANL Expedited Cleanup Plan for SWMU 9-013 (Reference 2) are appropriate and were met with the Phase I activities. Should LANL determine that the cleanup levels were not met, the remaining contaminated soil is to be excavated, transported and disposed at the appropriate facility. This report does not include Phase II activities.

NES, Inc. was awarded the contract by LANL on October 2, 1995, to perform the Phase I cleanup activities. The project began with mobilization on November 13, 1995 and was completed with demobilization on March 15, 1996.

2.0 SITE DESCRIPTION

MDA M, SWMU 9-013 is a surface material disposal area located within a secured area of TA-9, southeast of LANL Guard Station 502 and northeast of Old Anchor East (Figure 2-1). MDA M occupies approximately 3.2 acres and is roughly circular in shape. The MDA also includes a satellite area located approximately 750 feet northwest of the main site which occupies an area approximately 40 feet by 60 feet (Figure 2-2). MDA M, at the western edge of the Pajarito Plateau in Los Alamos County, lies on a mesa between Canon de Valle on the south and Pajarito Canyon on the north. MDA M is located on United States Department of Energy (USDOE) owned land.

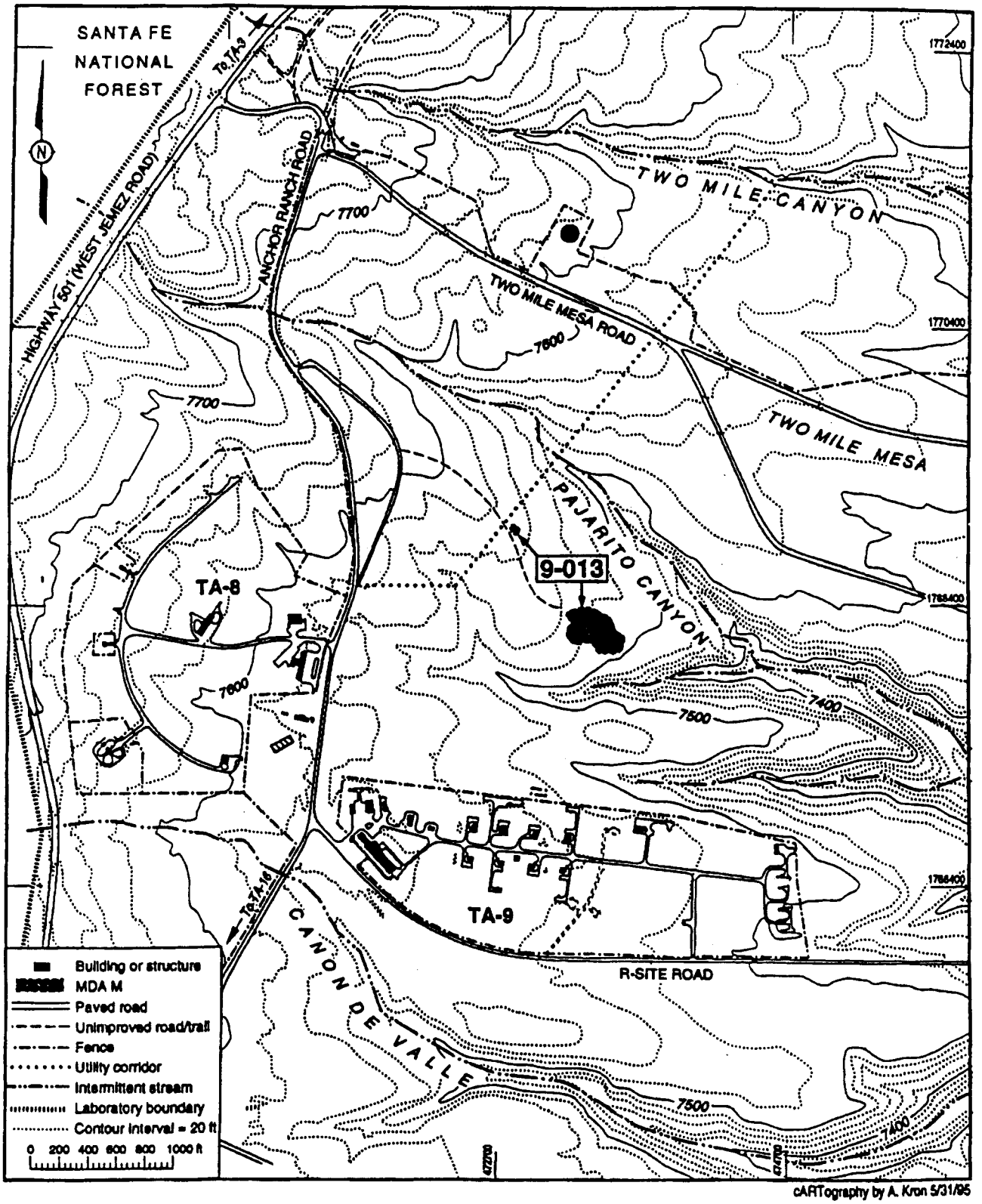
NES established the site controls per the Site Specific Health and Safety Plan (SSHASP) (Reference 3). This included the establishment of controlled areas, the setup of the NES office and on-site laboratory and the staging of the equipment. Site setup began with the establishment of the controlled areas. Yellow rope and 'Construction Area' signs were used to demarcate the outer perimeters of the main and satellite areas (Figure 2-3) and establish these areas as work areas. Inside the perimeter of the work areas, construction fencing and signs were used to establish and demarcate the areas as Contamination Reduction Zones (CRZs). Inside of the CRZs, yellow and magenta rope and signs were used to mark radiological exclusion zones (EZs). Roping and the appropriate 29 CFR postings were used to mark hazardous EZs. The waste staging area was located on the east side of the main area. The low level radioactive waste (LLRW) staging area was demarcated with yellow and magenta rope and posted as 'Radioactive Materials Management Area' (RMMA). The hazardous materials' waste staging area was roped and posted as a 'Less Than 90 Day Storage Area' per LANL Waste Management Group.

3.0 HEALTH AND SAFETY

Preliminary characterization data from the 'Expedited Cleanup Plan for MDA M' was supplied to NES by LANL prior to the start of the project. This information was used to develop the Site Specific Health and Safety Plan (SSHASP). This document provided the health and safety requirements specific to MDA M. To further ensure worker safety, the NES on-site analytical laboratory was used to identify any contaminants present on the site which were not initially identified in the Expedited Cleanup Plan.

NES performed a more detailed characterization survey in each cell prior to the beginning of remediation activities. One of the purposes of this survey was to identify any potential hazards which may have existed in the cells, in order to prescribe the appropriate personal protective equipment (PPE), if required, before the workers entered the cells. This survey also assisted in the identification of the waste stream and appropriate disposal sites.

Figure 2-1
MDA M, SWMU 9-013



cARTography by A. Kron 5/31/95

Figure 2-2
Site Map for MDA M, SWMU 9-013

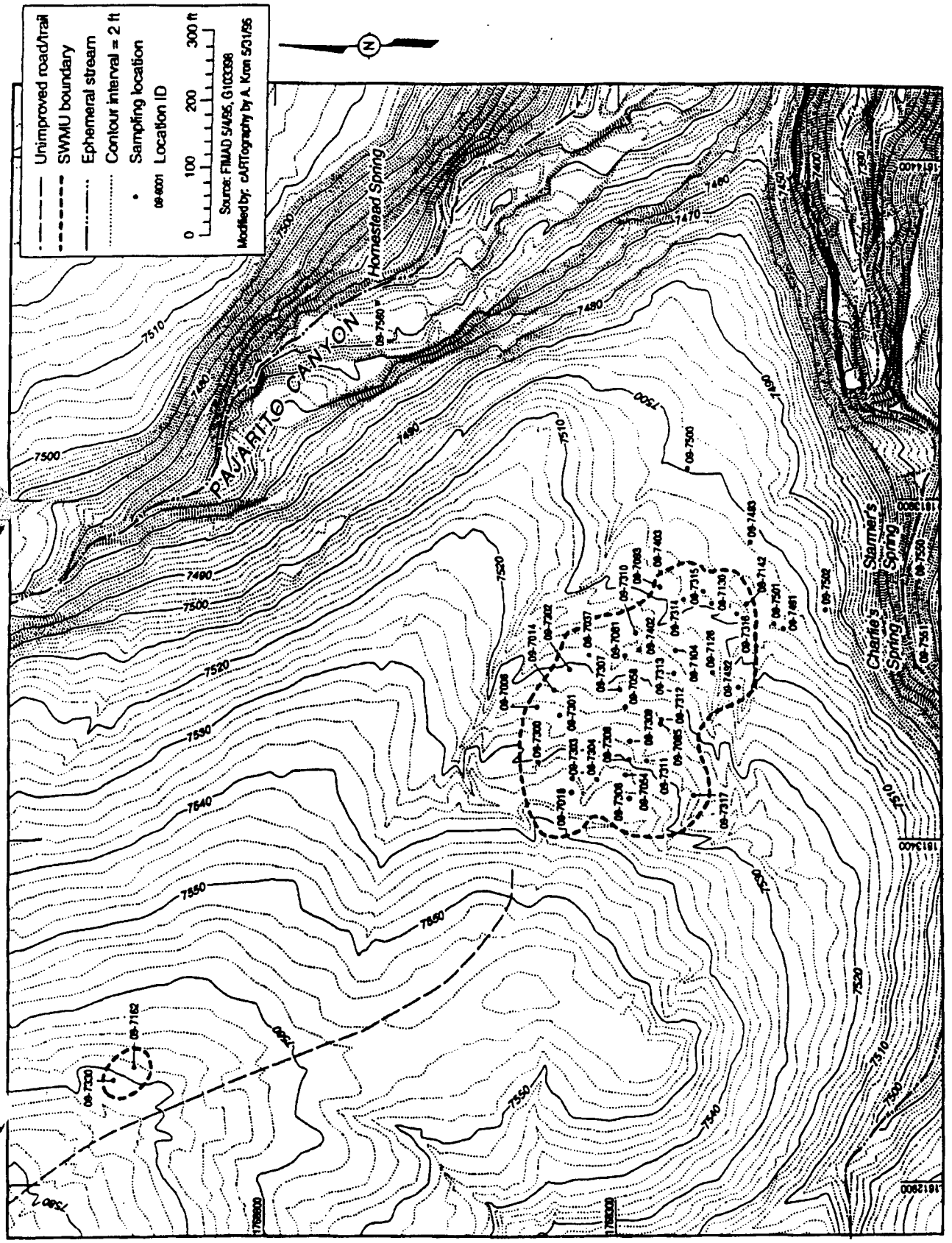
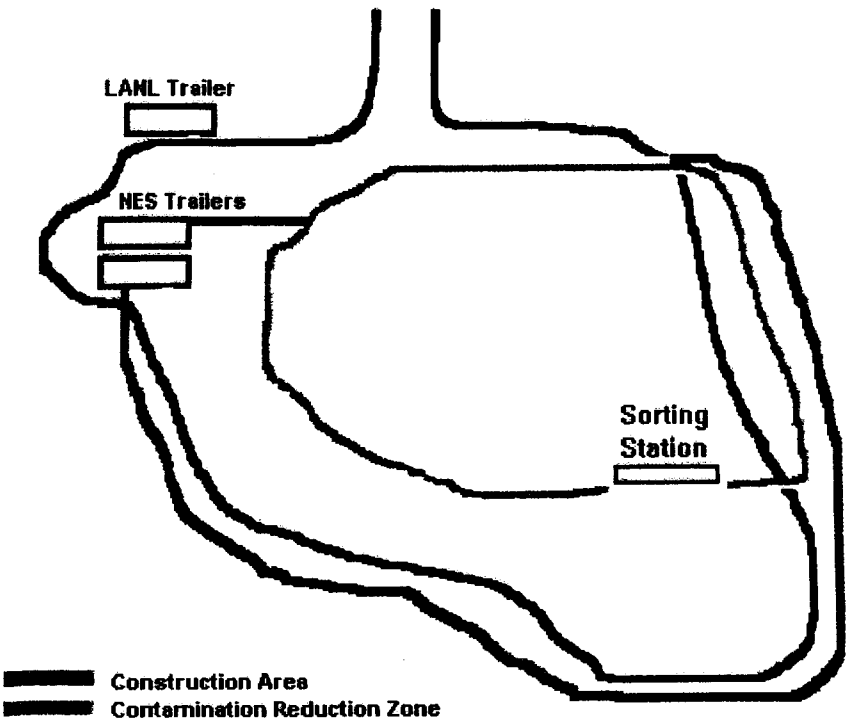


Figure 2-3
Site Layout for MDA M



3.1 Radiological Hazards

MDA M contained many noncombustibles and was suspected of being contaminated with radioactive materials (Reference 4). However, in an October 1992 general area radiation survey performed by LANL, no areas had registered above background. However, the presence of Uranium-235 and -238 (U-235 and U-238) were detected above LANL SALs.

3.1.1 Radiation Work Permit

Remediation activities which occurred within radiological exclusion zones (EZs) were performed under a Radiation Work Permit (RWP) prepared by LANL. The RWP prescribed the radiological protection requirements for work being performed in radiological exclusion zones. The RWP used for this project is included in Appendix A. The RWP required the use of engineering controls and protective clothing, as necessary, to ensure that the work was accomplished in a radiologically safe manner.

3.1.2 Radiological Contamination Control

Radiological exclusion zones were established where remediation activities involved radioactive materials. Appropriate PPE was required, per the RWP, prior to entering the area. The main and satellite areas of MDA M, defined as a Solid Waste Management Unit (SWMU), were demarcated as Contamination Reduction Zones (CRZs). As remediation activities proceeded, radiological exclusion zones were established, per the limits specified in the SSHASP, around the individual piles of radioactive material. Prior to leaving an exclusion zone, all personnel and equipment were monitored by Health Physics technicians to ensure that no radioactive contamination had been transferred.

Personnel performing remediation activities in the radiological exclusion zones were required, per the RWP, to wear personal protective equipment (PPE) prior to entering the work area. Typical PPE consisted of tyvek coveralls, boot covers and gloves.

3.1.3 Airborne Radioactivity

Air sampling was performed during activities with the potential to generate airborne radioactivity. The results of this sampling demonstrated that the radioactive contamination present at MDA M was not transferrable, therefore, no respiratory protection for radiological contaminants was required.

3.1.4 Radiological Postings

Transportation and disposal containers, such as B-25 boxes, 55 gallon drums and rolloff bins, used for radioactive waste, were posted as radioactive material. The containers were stored in a posted Radioactive Material Storage Area (RMSA) while awaiting disposal. Radiological exclusion zones

established within the SWMU were roped off and posted as appropriate. All radiological postings used at MDA M were provided by LANL ESH-1.

3.1.5 Radiation Exposure

Radiological hazards were identified by the use of dose rate meters, contamination surveys and air monitoring. Thermoluminescent dosimeters (TLDs) and self-reading pocket dosimeters (SRDs) were provided to monitor personnel exposures throughout the project. Health Physics technicians radiologically monitored the remediation activities during the entire project to identify the presence of radioactive material in the field.

3.1.6 Radiological Monitoring

Throughout the project, Health Physics technicians performed direct reading radiological surveys prior to, during and after the removal of debris and soil from a cell and/or pile. These surveys were also accompanied by the smear surveys which were performed on the different types of debris in a cell or a pile. The smear surveys were analyzed for the presence of alpha and beta contamination on an automatic low level alpha and beta/gamma smear counter located in the NES on-site radioanalytical laboratory. Representative composite soil samples were obtained from each cell. These samples were also analyzed in the on-site radioanalytical laboratory using gamma spectroscopy.

3.2 Industrial

A Certified Industrial Hygienist (CIH) was present to identify asbestos containing material (ACM) and provide support to the project in addressing other potential health and safety concerns. Field instruments, such as a photo ionization detector (PID), aerosol monitors, and air particulate samplers, were available to detect chemical and industrial airborne hazards. The on-site analytical laboratory was used in conjunction with the field monitoring data, to identify hazardous materials in the cells prior to workers entering the area.

3.2.1 Industrial Hazards

During a site visit to MDA M by LANL in the spring of 1992, rusted metal cans ranging in size from 12 ounces to 55 gallons were observed. A white fibrous substance believed to be asbestos was visible on the ground areas. A variety of glass containers and broken glass has also been identified at the site. Electrical wires and cables were scattered throughout the area. Other materials, including metal and wood objects, chemical and HE laboratory appliances and fixtures, bathroom fixtures and appliances, tree stumps, automobile parts, smudge pots, and construction and demolition debris were disposed of at MDA M and the satellite area. Semi-volatiles (SVOCs), metal concentrations, organachlorine pesticides and polychloronated byphenyls (PCBs) were detected above LANL SALs. No volatiles (VOCs) or identifiable HE compounds were detected above the SALs.

3.2.2 Chemical/Hazardous Contamination Control

Personnel performing remediation activities in cells where either chemical, i.e., PCB, ACM, and/or hazardous, i.e., lead and chromium, contaminants were present or were likely to be present, were required to wear personal protective equipment (PPE) prior to entering the work area. PPE consisted of tyvek coveralls, boot covers and gloves. In some cases, particularly when remediating ACM, respiratory protection was also required. Personal lapel air samplers were worn by workers remediating chemical and hazardous material. Results of personal air sampling are contained in Appendix F. Based on these results, no worker approached or exceeded a Permissible Exposure Level (PEL) for RCRA contaminants. Since the SWMU was controlled as a CRZ, only authorized personnel were permitted to enter the area at any time.

3.2.3 Postings

Required site controls and postings were established per the SSHASP, Section 5.0 (Reference 3) (Figure 2-3). Work areas were oriented such that any established EZs or regulated areas (RAs), if necessary for lead and asbestos, were downwind, the CRZ was contiguous with any EZs or RAs upwind of the EZs or RAs and the support zone was contiguous with the CRZ upwind of the CRZ and any established EZs or RAs. Since lead and asbestos co-existed with other chemical contaminants, EZs were established in place of RAs. All Occupational Safety and Health Administration (OSHA) posting requirements per 29 CFR 1910.145, 1926.62(m) and 1926.1101(k)(7) (Reference 5) were implemented when the actions levels specified in Table 5-2 of the SSHASP (Reference 3) were exceeded. These postings were also in accordance with LANL's Laboratory Standard LS107-02.1 (Reference 6).

3.2.4 Dust Monitoring

The generation of nuisance dust was measured with a dust/aerosol monitor. A water truck was used to wet down dry areas and also areas identified as containing ACM or hazardous contaminants, undergoing remediation activities.

3.2.5 Asbestos Abatement

During remediation activities, a Certified Industrial Hygienist (CIH) was available to visually identify asbestos as it was uncovered. Waste material containing greater than 1% asbestos by volume and/or material positively identified as ACM, was classified as ACM. Full PPE and half-face respirators were required for work involving asbestos exceeding this level. Personal lapel air samplers were utilized to monitor the presence and amount of airborne asbestos which may have been generated during asbestos remediation activities. Results of airborne sampling for asbestos are included in Appendix F. Based on these results, no worker approached or exceeded a Permissible Exposure Level (PEL) for airborne asbestos.

3.2.6 Sample Screening

A photo ionization detector (PID) was used to detect the presence of volatile organic compounds (VOCs) in the field. Also used were aerosol monitors and air samplers to detect the presence and level of nuisance dusts and particulates; sound level meter to monitor the noise levels due to the operation of heavy equipment; personal air samplers worn by workers to monitor breathing zone air; and direct visual inspection of the work area and activities by the CIH.

3.2.7 On-Site Laboratory Screening

To compliment the portable field instruments, NES performed hazardous materials analyses within the on-site laboratory. Material samples were analyzed for hazardous (RCRA) metals using a x-ray fluorescent detection system (XRF); polychloronated byphenyls (PCBs); benzene, toluene, ethylbenzene and xylene compounds (BTEX); polyaromatic hydrocarbons (PAH) and high explosives (HE). Analytical results were used to determine potential health and safety concerns and also to determine if PPE would be necessary.

4.0 REMEDIATION ACTIVITIES

NES began on-site remediation activities on November 17, 1995. These activities started with piles located in the main area, on the north side. Since these piles were small in nature, they were moved and processed to allow for the movement and staging of waste at the eastern end of the site. Prior to the remediation of any pile, the pile was screened for radiological, HE, RCRA (Resource Conservation and Recovery Act) metals, polychloronated byphenyls (PCBs), polyaromatic hydrocarbons (PAH), BTEX compounds (benzene, toluene, ethylbenzene and xylene) and VOC contaminants. This screening permitted an initial estimate of waste types and volumes and allowed the work crews to anticipate the hazards associated with each different pile. When an individual pile was determined to contain hazardous materials, that pile was defined as an EZ. Personal protective equipment was prescribed per the SSHASP (Reference 3) for the remediation activities.

To effectively perform the remediation activities for MDA M, the project was broken down into the following tasks:

- Task 1 Preparation of Site Plans
- Task 2 Mobilization
- Task 3 Characterization
- Task 4 On-Site Processing
- Task 5 Verification Survey
- Task 6 Demobilization
- Task 7 Prepare Final Report

4.1 Task 1 Preparation of Site Plans

NES prepared a Site Remediation Work Plan (SRWP) (Reference 7), Spill Prevention and Control Plan (SPCP) (Reference 8), Waste Management Plan (WMP)/Waste Characterization Strategy Form (WCSF) (Reference 9) and Site Specific Health and Safety Plan (SSHASP) (Reference 3). These documents incorporated the federal, state and LANL requirements for the remediation of MDA M.

4.1.1 Site Remediation Work Plan (SRWP)

The SRWP addressed the activities of the Phase I cleanup of MDA M which included: the removal of all surface debris to a depth of five (5) feet from the top of an individual pile, segregation of the waste streams, transportation and disposal of the surface debris, excavation of 'hot spots' in the contaminated soil, and the confirmatory sampling to demonstrate the levels of remaining contamination. The SRWP also identified the level of effort from mobilization, through implementation, to the completion of the Final Report as is identified in the project schedule, Figure 4-2.

4.1.2 Spill Prevention and Control Plan (SPCP)

The SCPC was written in accordance with the requirements specified in LANL Administrative Requirement (LANL AR) 9.4, "Accidental Oil, Chemical and Airborne Releases" (Reference 10). The SPCP identified the known and potential liquid hazards on-site at MDA M and addressed the actions needed to take place in the event of a spill. The SPCP also identified the restrictions for use and storage of liquids on the MDA M site.

4.1.3 Waste Management Plan (WMP)/Waste Characterization Strategy Form (WCSF)

The WMP/WCSF was developed to identify the known and potential waste streams at MDA M, identify the types of analyses required for waste profiling and to identify the appropriate Treatment/Storage/Disposal Facility (TSD) based on the results of the analyses.

4.1.4 Site Specific Health and Safety Plan (SSHASP)

The SSHASP was developed to comply with the applicable federal and state occupational health and safety requirements, including those of the USDOE. The SSHASP included the project organization, responsibilities and authorities; a Hazard Analysis (HA) for the project tasks for the known and potential hazards at MDA M; site controls; exposure monitoring and corresponding actions; personal protective equipment; decontamination; Emergency/Incident Action Plan; training; medical surveillance; Quality Control and Quality Assurance (QC/QA); and record keeping.

4.1.5 Readiness Review

The Readiness Review was conducted on November 15, 1995. The purpose of the Readiness review was for final verification by LANL ensuring the readiness of NES for field operations. The Readiness Review also verified that NES was ready to mobilize for field work and that the work complied with the applicable LANL and NES procedures, guidelines and federal and state regulations. The requirements for preparation for the Readiness Review are outlined in LANL-ER-AP-05.1, 'Readiness Review for Environmental Restoration Project Field Activities' (Reference 11). Contained in this procedure is the 'Readiness Review Checklist' which was used to demonstrate compliance with the requirements needed for issuance to NES of the Notice to Proceed. The completed and signed checklist is contained in Appendix B. Based on the results of the Readiness Review, NES was issued the Notice to Proceed-Full Activation on November 16, 1995.

4.2 Task 2 Mobilization

NES began equipment and personnel procurement activities on October 2, 1995, when Task Order B40660016-CL was issued by LANL. These activities included procurement of materials and equipment and preparation for transportation of the materials, equipment and personnel to LANL. NES personnel mobilized to the site on November 13, 1995.

4.2.1 Site Preparation

During the site preparation, the site control measures per the SSHASP, Section 5.0 (Reference 3), were initiated. This included the establishment and demarcation of the controlled areas, the setup of the on-site office/break area and laboratory and the staging of the equipment.

4.2.1.1 Establishment of Controlled Areas

Yellow rope and 'Construction Area' signs were used to demarcate the outer perimeters of the main and satellite areas (Figure 2-3) and establish these areas as work areas. Inside the perimeter of the work areas, construction fencing and signs were used to establish and demarcate the areas as Contamination Reduction Zones (CRZs). Inside of the CRZs, yellow and magenta rope and signs were used to mark radiological exclusion zones (EZs). Yellow roping and the appropriate 29 CFR postings were used to mark hazardous EZs. The waste staging area was located on the east side of the main area. The low level radioactive waste (LLRW) staging area was demarcated with yellow and magenta rope and posted as 'Radioactive Materials Management Area' (RMMA). The hazardous materials' waste staging area was roped and posted as a 'Less Than 90 Day Storage Area' per LANL Waste Management Group.

4.2.1.2 Establishment of Grids

LANL had established a reference grid system for the MDA M main and satellite areas (Figure

4-1). The grid system contained 167 25 foot by 25 foot cells which were used to provide a base map for the initial characterization performed by LANL for the Expedited Cleanup Plan (Reference 2). NES re-established this grid system, with the assistance of a LANL land survey team, demarcating the corners of each cell with a wooden stake and identifying the cell number on the stakes. The distinct piles of debris were also identified using a letter or letters, and the cells associated with these piles were cross referenced to the pile identification letter. The pile identification letter and associated cells are contained in Table 4-1 and illustrated in Figure 4-1. The north side of the main area did not contain many distinct piles, therefore, the cleanup of the north side was on a cell by cell basis. The north side of the main area included cells 1 through 15, 17 through 38, 47 through 50, 62 through 64, 78 and 78A. The south side of the main area and the satellite area contained distinct piles and the cleanup for these areas was on a pile by pile basis. NES used the re-established grid system to characterize each of the cells and/or piles.

Table 4-1
Pile Identification and Corresponding Cells

Pile Identification Letter	Corresponding Cells
A	123,131
B	122,131,138
C	137,142
D	128,129,136,141
E	135,140
F	134,139
G	119,120,130
H	121
I	103,104,117,118
J	101,102,115,116
K	105,106,107
L	92,93,108,109
M	114
N	124,125
O	125
P	97,112,113
Q	94,94A,95,96,110,111

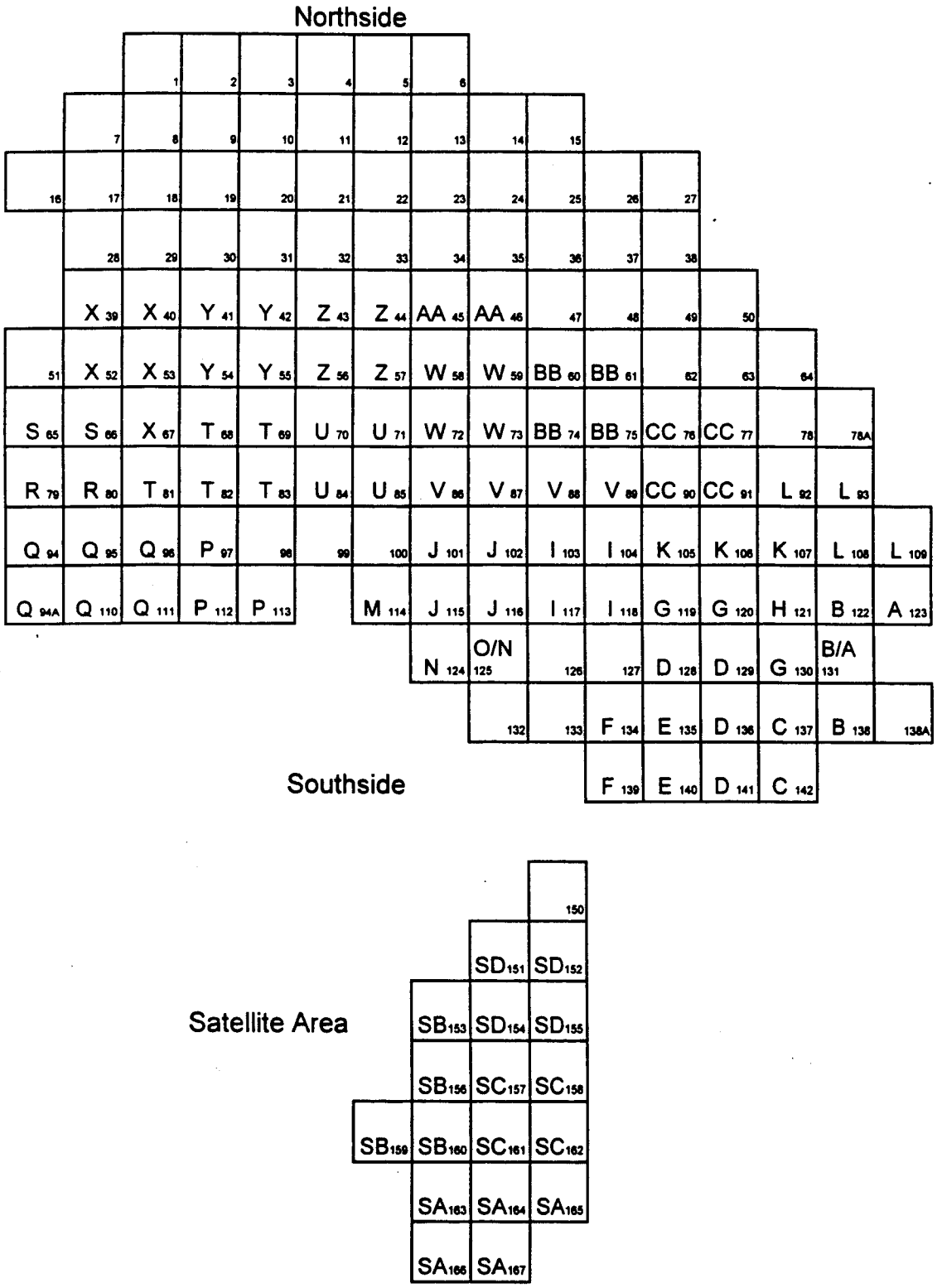
R	79,80
S	65,66
T	68,69,81,82,83
U	70,71,84,85
V	86,87,88,89
W	58,59,72,73
X	39,40,52,53,67
Y	41,42,54,55
Z	43,44,56,57
AA	45,46
BB	60,61,74,75
CC	76,77,90,91
SA	163,164,165,166,167
SB	153,156,159,160
SC	157,158,161,162
SD	151,152,154,155

No piles of debris were on the following cells: 16,51,98,99,100,126,127,132,133,138A and 143 through 150.

4.2.1.3 Preparation of the Work Site

Preparation of the work site began with the arrival of the construction and heavy equipment; the purchased materials; and the NES laboratory equipment. A generator was setup to provide electrical service for the entire site. The heavy equipment was initially staged in the turnaround area, located in the southwest corner of the MDA M main area. Parking areas were established and marked adjacent to the trailers and the access road. Upon arrival of the office/laboratory and support trailers, the setup of the office, radioanalytical/hazardous laboratory and the break/change area, commenced. These trailers were positioned in the northwest corner of the MDA M main area. Construction fencing was used to direct incoming pedestrian traffic into the project office, where visitors were required to sign-in and obtain a briefing prior to touring the site.

Figure 4-1
Survey Units for MDA M



4.3 Task 3 Characterization

Prior to the commencing cleanup activities of MDA M, NES performed a characterization survey. The purpose of the characterization survey was to identify any potential health and safety issues and define the waste streams. Throughout the project, Health Physics technicians performed direct reading radiological surveys prior to, during and after the removal of debris and soil from a cell and/or pile. These surveys were also accompanied by the smear surveys which were performed on the different types of debris in a cell or a pile. The smear surveys were analyzed for the presence of alpha/beta contamination on the automatic smear counter located in the NES on-site radioanalytical laboratory. Representative composite soil samples were obtained for each cell. These samples were also analyzed in the on-site radioanalytical laboratory using gamma spectroscopy. NES performed hazardous materials analyses within the on-site laboratory. Here, material samples were analyzed for hazardous (RCRA) metals using a x-ray fluorescent detection system (XRF); PCBs (polychloronated byphenyls); BTEX (benzene, toluene, ethylbenzene and xylene) compounds; PAH (polyaromatic hydrocarbons) and HE (high explosives). Analytical results were used to determine potential health and safety concerns and also to determine if PPE would be necessary.

4.3.1 Radiological Surveys

4.3.1.1 Field Screening

Prior to the beginning of remediation activities, individual cells were radiologically surveyed by Health Physics technicians. Hand-held direct reading instruments were used to survey the piles for the presence of radioactive materials. Smear surveys of debris contained in the piles, were performed to determine if loose surface contamination was present. Cells had to be radiologically surveyed before work crew members were permitted to enter. Radiological exclusion zones and controls were established around piles which were determined to contain radioactive materials.

As a result of the field screening, the following cells were discovered to contain debris demonstrating direct reading results above background:

C-2	C-44	C-76	C-122
C-6	C-45	C-78	C-123
C-13	C-46	C-78A	C-124
C-14	C-52	C-82	C-126
C-22	C-58	C-89	C-129
C-26	C-59	C-109	C-133
C-41	C-70	C-120	C-140
C-42	C-72	C-121	

4.3.1.2 Gamma Spectroscopy

Composite soil samples were taken from each cell and/or pile and analyzed by the gamma spectroscopy system. This system is capable of identifying individual isotopes in the soil. The soil was analyzed for the presence of radioactivity above background levels. However, certain isotopes were determined to be significant enough to track during the entire project. The isotopes of concern were:

- Cs-137
- U-235
- Ra-226
- Pa-234m

These isotopes were selected based on historical documentation reviewed prior to the remediation activities. The Operable Unit 1157 RFI Work Plan indicated the possible presence of Cs-137. The Request For Proposal (RFP) for the Cleanup of MDA M indicated the presence of radium 226 (Ra-226), uranium 235 (U-235) and uranium 238 (U-238). The isotope protactinium 234 metastable (Pa-234m) was selected to be an isotope of concern after discussions with ESH-1.

The background soil sample used for MDA M was a composite sample taken from various locations around the perimeter of the site (including the satellite area). From this sample, the background levels of the isotopes of concern were determined. The background soil sample results are presented below:

Description	Activity (pCi/g)						
	Cs-137	U-235	Ra-226*	Pa-234m*	Th-234*	Pb-214*	Bi-214*
Background Soil (10 min. count)	0.730	<1.71	<5.88	<4.34	<26.0	2.43	1.77

* U-238 daughter products

Activities for isotopes that were below the gamma spectroscopy system's lower limit of detection (LLD) are expressed as less than the LLD.

The characterization survey revealed U-238 as the primary radioactive contaminant of MDA M. U-238 was identified by the presence of its daughter products: Ra-226, Th-234, Pa-234m, lead 214 (Pb-214) and bismuth 214 (Bi-214). The total activity of the U-238 daughter products was determined for all samples with elevated amounts of Ra-226 (Section 5.1). U-235 appeared with U-238 in some of the samples, but never by itself. The results of the gamma spectroscopy are presented in Table 4-2. The gamma spectroscopy data collected for each cell and pile during the characterization is included in Appendix C.

4.3.2 Hazardous Surveys

Composite soil samples were taken from each cell and/or pile for analysis for hazardous materials. Each soil sample was analyzed by the NES on-site laboratory for the following constituents:

- RCRA metals
- PCBs
- BTEX compounds
- PAHs
- HE

4.3.2.1 RCRA Metals

RCRA metals in the soil samples, were analyzed by use of an X-Ray Fluorescent Detector (XRF). The XRF was capable of measuring the total RCRA metal content of a soil sample, displaying the results in parts per million (ppm). When an XRF result for a metal was equal to or greater than the total metal limit specified by the Resource Conservation and Recovery Act of 1976 (Section 6.4), the soil was initially classified as hazardous. This information was used to identify potential health and safety concerns and initial waste stream classification. A background soil sample was obtained from the surrounding areas around the main and satellite areas. The XRF results for the background soil indicated elevated levels of arsenic, lead and mercury. The Expedited Cleanup Plan (Reference 2) had identified the presence metals at elevated levels in the background samples. The background results were subtracted from the soil sample results for the cells in the main and satellite areas. The results from the XRF are presented in Table 4-3.

4.3.2.2 PCBs, BTEX Compounds and PAHs

Aminoassay test kits were used to perform field screening for PCBs, BTEX compounds and PAHs. These kits performed by exhibiting a color change on a piece of filter paper that could be read quantitatively with an electronic reader. The action level for BTEX compounds was any result equal or greater than 2.5 ppm; for PCBs, any result equal to or greater than 0.5 ppm; and for PAH, any result equal to or greater than 0.6 ppm. These results were used primarily for identifying potential health and safety concerns and waste stream classification, associated with the presence of these particular materials. The results of the aminoassay kits are presented in Table 4-4.

Table 4-2
Gamma Spectroscopy Results for the Characterization of MDA M

MCA ID#	Pile	Cell #	Description	Activity (pCi/gm)				
				Pa-234m	Cs-137	U-235	Ra-226	Total U-238 Daughters
59	NA	NA (NES Office)	Bkg Soil	<3.58	<0.430	<1.59	<5.41	NA
7	NA	NA	Bkg Soil (1 hr)	<8.02	0.413	<0.519	<1.60	NA
7	NA	NA	Bkg Soil (TA-9)	<4.34	0.730	<1.71	<5.88	NA
34	NA	1	Soil	<4.04	1.04	<1.86	<5.40	NA
37	NA	2	Soil	<4.27	0.751	<1.77	<5.44	NA
36	NA	3	Soil	<2.12	0.278	<1.51	<4.20	NA
26	NA	4	Soil	<2.79	0.140	<1.25	<3.85	NA
27	NA	5	Soil	<3.26	<0.330	<1.28	<4.05	NA
20	NA	6	Soil	<2.55	<0.291	<1.38	<4.45	NA
28	NA	7	Soil	<3.59	0.428	<1.66	<5.47	NA
30	NA	8	Soil (20 min)	<5.80	<0.315	<1.20	13.2	34.2
30	NA	8	Soil	<3.89	0.409	<1.69	13.5	35.6
17	NA	9	Soil	<5.18	0.824	<2.32	<8.08	NA
31	NA	10	Soil	<4.17	0.475	<1.92	<5.21	NA
29	NA	11	Soil	<3.82	<0.393	<1.39	<5.24	NA
21	NA	12	Soil	<2.76	0.688	<1.07	<3.39	NA
21	NA	12	Soil (recount)	<3.22	0.530	<1.18	<3.84	NA
23	NA	13	Soil	<2.83	<0.284	<1.13	<3.97	NA
15	NA	14	Soil (1hr)	24.2	0.716	2.13	38.2	122
15	NA	14	Soil (20 min)	<7.35	<0.617	<1.59	33.6	87.7
15	NA	14	Soil	<4.78	0.869	<2.25	36.4	84.5
24	NA	15	Soil	<4.11	<0.449	<1.71	<6.63	NA
25	NA	17	Soil	<4.17	0.692	<1.80	<5.39	NA
22	NA	18	Soil	<4.29	<0.433	<1.57	9.25	23.9
19	NA	19	Soil	<3.36	0.326	<1.77	<5.50	NA
10	NA	20	Soil	<3.01	0.478	<1.76	<5.62	NA
8	NA	21	Soil	<4.01	<0.195	<1.84	<5.64	NA
16	NA	22	Soil	<3.12	<0.358	<1.60	<5.86	NA
9	NA	23	Soil	<3.11	<0.460	<1.53	<5.20	NA
11	NA	24	Soil	<4.66	0.418	<1.66	<5.99	NA
13	NA	25	Soil	<5.08	0.401	<1.89	<6.57	NA
18	NA	26	Soil	<4.24	0.438	<1.87	<6.19	NA
76	NA	26	Soil	<4.15	<0.565	<2.95	<9.97	NA
35	NA	27	Soil	<4.65	0.430	<2.09	<6.10	NA
44	NA	27	Soil (recount)	<3.51	0.618	<1.98	<6.87	NA
14	NA	28	Soil	<3.47	<0.446	<1.66	<4.79	NA
46	NA	28	Soil (recount)	<3.43	0.306	<1.50	<4.99	NA
54	NA	29	Soil	<3.48	0.521	<1.68	<4.01	NA
57	NA	30	Soil	<3.71	<0.388	<1.69	<5.10	NA
56	NA	31	Soil	<3.47	<0.422	<1.66	<4.80	NA
52	NA	32	Soil	<3.95	0.696	<1.65	<4.97	NA
53	NA	33	Soil	<4.15	<0.420	<1.74	<5.31	NA
49	NA	34	Soil	<3.40	0.377	<1.70	<6.38	NA
55	NA	35	Soil	<4.03	0.710	<1.66	<5.31	NA
58	NA	36	Soil	<4.05	<0.385	<1.64	<5.49	NA
46	NA	37	Soil (1 hr)	<9.41	0.236	<0.757	3.61	13.9
46	NA	37	Soil	<4.82	<0.505	<2.04	<5.90	NA
32	NA	38	Soil	<3.57	<0.338	<2.03	<6.13	NA
51	X	39	Soil	<4.68	0.582	<1.65	<5.09	NA
39	X	40	Soil	<4.71	<0.591	<1.75	6.27	17.9
50	Y	41	Soil	<5.37	0.572	<1.90	<6.47	NA
47	Y	42	Soil	<4.76	0.610	<1.86	3.32	10.4
48	Z	43	Soil	<3.09	1.23	<1.71	<4.92	NA
40	Z	44	Soil	<3.35	0.691	<1.88	<5.70	NA
38	AA	45	Soil	<3.10	<0.441	<1.87	<5.24	NA
101	AA	45 (underneath screens)	Soil	<5.03	0.268	<1.72	<5.62	NA

MCA ID#	Pile	Cell #	Description	Activity (pCi/gm)				
				Pa-234m	Cs-137	U-235	Ra-226	Total U-238 Daughters
43	AA	46	Soil	<4.16	0.517	<1.88	<5.69	NA
42	NA	47	Soil	<3.49	0.277	<1.86	<6.43	NA
33	NA	48	Soil	<4.28	<0.371	<1.83	<4.95	NA
12	NA	49	Soil	<3.61	0.995	<2.05	<5.98	NA
3	NA	50	Soil	<3.55	<0.386	<1.78	<4.89	NA
41	NA	62	Soil	<3.01	0.516	<1.86	<5.16	NA
4	NA	63	Soil	<4.36	1.24	<2.07	<6.79	NA
5	NA	64	Soil	<3.53	<0.426	<1.87	<5.82	NA
1	CC	77	Soil	<0.376	<0.447	<1.44	<5.56	NA
6	NA	78A	Soil	<3.23	<0.556	<1.58	<5.23	NA
59	NA	78	Soil/Asb (1hr)	36.8	0.318	3.04	51.7	164
59	NA	78	Soil/Asb	8.05	0.449	3.44	52.9	128.5
2	NA	78	Soil	<5.38	<0.611	<1.77	11.8	28.3
77	NA	78	Soil	<6.07	<0.781	<1.89	9.30	25.7
97	NA	126	Soil	<4.61	0.513	<1.69	11.9	29.6
98	NA	127	Soil	<4.03	0.516	<1.61	<5.54	NA
60	A	123, 131	Soil	<4.68	0.698	<1.77	<4.63	NA
64	B	122, 131,138	Soil	<4.61	1.11	<1.85	<5.64	NA
70	C	137, 142	Soil	<4.22	<0.791	<1.79	<5.58	NA
71	D	128,129, 136, 141	Soil	<3.60	<0.299	<1.45	<5.38	NA
66	E	135, 140	Soil	<5.04	<0.867	<1.98	<6.20	NA
61	F	134, 139	Soil	<3.72	<0.370	<1.70	<5.67	NA
94	G	119, 120, 130	Soil	<5.01	1.18	<2.07	10.7	27.0
69	H	121	Soil	<4.43	2.24	<1.83	<6.40	NA
75	I	103, 104, 117, 118	Soil	<3.18	<0.366	<1.87	<4.81	NA
74	J	101, 102, 115, 116	Soil	<4.95	<0.277	<1.36	<5.75	NA
65	K	105,106, 107	Soil	<3.65	<0.548	<1.75	<6.59	NA
62	L	92, 93, 108, 109	Soil (20 min)	<7.68	1.13	<1.53	26.8	65.2
62	L	92, 93, 108, 109	Soil	<4.48	1.08	<2.12	27.7	68.0
95	L	92, 93	Soil (recount)	<3.57	0.864	<1.73	<5.81	NA
102	L	108, 109	Soil (recount)	<3.83	0.500	<1.37	<4.65	NA
63	M	114	Soil	<4.55	<0.458	<2.02	<6.24	NA
93	N	124, 125	Soil	<3.93	0.292	<1.85	<5.32	NA
99	N	124	Soil (recount)	<5.94	0.779	<2.14	17.5	45.1
99	N	124	Soil (20 min)	<6.58	0.555	<1.29	14.5	37.9
99	N	124	Soil (1hr)	<9.75	0.511	1.31	17.5	47.2
105	N	124	Soil (recount)	<4.92	1.11	<1.91	17.3	40.9
105	N	124	Soil (1hr)	<9.53	0.758	0.810	13.8	35.2
106	N	124	Soil (20 min)	<5.52	0.579	<1.20	<3.61	NA
68	O	125	Soil	<4.55	<0.477	<1.92	<5.26	NA
67	P	97, 112, 113	Soil	<3.05	<0.319	<1.55	<4.80	NA
72	Q	94,94A,95,96,110, 111	Soil	<2.71	<0.281	<1.61	<4.99	NA
73	R	79, 80	Soil	<4.52	<0.579	<1.72	13.2	34.9
73	R	79, 80	Soil (1hr)	<9.68	<0.377	<0.591	7.94	22.4
86	S	65, 66	Soil	<3.35	<0.333	<1.44	<4.53	NA
85	T	68, 69, 82, 83	Soil	<4.87	<0.420	<1.81	<5.33	NA
84	U	70, 71, 84, 85	Soil	<3.71	<0.380	<1.76	<5.60	NA
88	V	86, 87, 88, 89	Soil	<3.70	0.839	<1.72	<4.92	NA
96	V	89	Soil (recount)	<3.78	<0.468	<1.92	<6.44	NA
87	W	58, 59, 72, 73	Soil	<3.80	<0.473	<1.86	<5.91	NA
79	X	39, 40, 52, 53,67	Soil	<4.71	1.17	<1.88	<6.02	NA
80	Y	41, 42, 54, 55	Soil	<4.87	0.313	<1.73	<5.59	NA
81	Z	43, 44, 56, 57	Soil	<3.76	0.638	<1.71	9.27	23.4
83	AA	45, 46	Soil	<4.53	0.348	<1.84	<5.85	NA
82	BB	60, 61, 74, 75	Soil	<3.93	0.472	<1.61	<6.19	NA
78	CC	76, 77, 90, 91	Soil	<4.11	<0.493	<1.70	<5.43	NA
89	S-A	163, 164, 165,166, 167	Soil	<4.95	0.810	<1.86	<5.51	NA
91	S-B	153, 156, 159, 160	Soil	<3.34	0.326	<1.68	<5.39	NA
90	S-C	157, 158, 161, 162	Soil	<3.40	0.453	<1.63	<5.35	NA
92	S-D	151, 152, 154, 155	Soil	<4.09	1.11	<1.93	<5.36	NA

NA: Not Applicable

Table 4-3
RCRA Metal Results for the Characterization of MDA M

Cell #	XRF Results (ppm)							
	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Background	190	626	13	10	121	21	< 20	14
1	40	0	0	18	4	0	< 20	0
2	363	144	2	42	289	19	< 20	12
3	37	0	0	13	0	0	< 20	0
4	0	0	0	14	0	0	< 20	0
5	0	0	0	10	0	0	< 20	1
6	19	0	0	8	0	0	< 20	1
7	0	233	1	0	11	0	< 20	5
8	62	824	0	0	229	1	< 20	38
9	0	0	0	0	58	0	< 20	2
10	72	373	0	1	115	0	< 20	17
11	0	107	4	0	0	0	< 20	8
12	0	0	0	3	0	0	< 20	0
12	0	0	0	7	0	0	< 20	1
13	0	0	0	7	0	0	< 20	4
14	24	26	0	4	0	0	< 20	0
15	0	0	0	5	0	0	< 20	0
17	108	300	0	0	174	1	< 20	11
18	321	1,155	0	3	509	18	< 20	36
19	177	755	0	0	390	6	< 20	45
20	49	373	0	1	158	2	< 20	13
20	0	402	0	2	92	0	< 20	31
21	0	0	6	0	0	0	< 20	6
22	0	284	0	0	75	0	< 20	29
23	0	2	0	0	0	0	< 20	0
24	25	0	1	1	0	0	< 20	0
25	44	0	0	2	5	0	< 20	0
25	0	0	0	0	0	0	< 20	4
26	0	124	0	0	0	0	< 20	0
27	34	39	0	7	12	0	< 20	2
28	0	155	1	0	4	0	< 20	5
29	0	73	0	4	0	0	< 20	0
30	37	53	0	4	7	0	< 20	6
31	0	18	2	5	0	0	< 20	2
32	0	0	1	3	0	0	< 20	0
33	0	0	1	1	0	0	< 20	2
34	0	0	0	0	0	0	< 20	1
35	0	0	1	11	0	0	< 20	2
36	72	0	1	2	0	0	< 20	0
37	0	0	0	0	0	0	< 20	0
38	0	0	4	3	3	0	< 20	0
38	0	7	0	0	0	0	< 20	2
X:39	0	14	0	3	0	5	< 20	0
X:40	0	0	6	12	54	3	< 20	4
Y:41	54	0	0	0	11	0	< 20	3
Y:42	0	0	0	2	0	0	< 20	0
Z:43	11	0	0	6	60	0	< 20	3
Z:44	0	0	0	5	0	0	< 20	0

Cell #	XRF Results (ppm)							
	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
AA:45	0	267	0	0	6	0	< 20	25
47	0	0	0	0	0	0	< 20	1
48	35	34	0	0	4	0	< 20	4
48	0	138	0	0	0	0	< 20	0
49	0	0	2	0	0	0	< 20	0
49	0	0	1	4	0	0	< 20	0
50	0	0	2	1	0	0	< 20	0
62	0	0	82	0	0	0	< 20	0
62	81	0	0	8	2	0	< 20	0
63	0	0	0	1	0	0	< 20	0
64	0	0	3	2	0	0	< 20	0
78	0	0	3	2	10	0	< 20	3
78A	0	402	0	2	92	0	< 20	31
A: 123, 131	6	0	3	5	40	0	< 20	3
B: 122, 131, 138	0	0	1	4	0	0	< 20	0
B: 122, 131, 138	0	0	0	0	0	0	< 20	0
C: 137, 142	0	0	374	0	18	0	< 20	0
C: 137, 142	44	112	0	6	54	0	< 20	1
D: 128, 129, 136, 141	5	0	0	2	6	0	< 20	0
E: 135, 140	89	0	0	0	0	0	< 20	0
F: 134, 139	1	1	114	41	0	0	< 20	0
G: 119, 120, 130	0	0	0	0	49	0	< 20	20
H: 121	0	0	0	0	0	0	< 20	0
I: 103, 104, 117, 118	0	0	0	0	0	0	< 20	0
J: 101, 102, 115, 116	0	0	0	0	0	0	< 20	0
K: 105, 106, 107	0	0	3	0	0	0	< 20	3
L: 92, 93, 108, 109	0	0	635	0	144	0	< 20	13
M: 114	0	0	70	0	0	0	< 20	0
N: 124, 125	0	0	0	0	0	0	< 20	0
O: 125	0	0	0	0	9	0	< 20	0
P: 97, 112, 113	0	0	111	0	0	0	< 20	0
Q:94, 94A, 95, 96, 110, 111	0	0	137	0	0	0	< 20	0
R: 79, 80	0	0	106	0	32	0	< 20	0
S: 65, 66								
T: 68, 69,81, 82, 83	0	0	308	0	34	2	< 20	20
U: 70, 71, 84, 85	0	0	1,476	0	471	46	< 20	299
V: 86, 87, 88	0	0	214	29	16	0	< 20	39
V: 89	0	0	161	0	0	0	< 20	40
W: 58, 59, 72, 73	0	221	0	0	12	0	< 20	17
X: 39, 40, 52, 53, 67	91	570	0	0	177	3	< 20	13
Y: 41, 42, 54, 55	0	0	1,120	0	119	0	< 20	43
Y: 41, 42, 54, 55	324	1,247	0	0	273	10	< 20	51
Z: 43, 44, 56, 57	0	0	143	220	421	15	< 20	22
Z: 43, 44, 56, 57	115	330	0	0	280	0	< 20	22
AA: 45, 46	0	418	0	2	22	0	< 20	39
BB: 60, 61, 74, 75	0	115	0	0	0	3	< 20	49
CC: 76, 77, 90, 91	0	46	0	0	42	0	< 20	3
SA: 163, 164,165, 166,	0	0	0	0	0	0	< 20	0
SB: 153, 156, 159, 160	0	0	0	0	0	0	< 20	0
SC: 157, 158, 161, 162	0	0	1,639	0	0	0	< 20	0
SD: 151, 152, 154, 155	0	0	55	7	3	4	< 20	0

Table 4-4
PCB, BTEX and PAH Results for the Characterization of MDA M

Cell #	DTech Aminoassay Results (ppm)		
	Total BTEX	Total PAH	Total PCBs
Background	< 2.5	< 0.6	< 0.5
1	< 2.5	< 0.6	< 0.5
2	< 2.5	< 0.6	< 0.5
3	< 2.5	< 0.6	< 0.5
4	< 2.5	< 0.6	< 0.5
5	< 2.5	< 0.6	< 0.5
6	< 2.5	< 0.6	< 0.5
7	< 2.5	< 0.6	< 0.5
8	< 2.5	< 0.6	< 0.5
9	< 2.5	< 0.6	< 0.5
10	< 2.5	< 0.6	< 0.5
11	< 2.5	< 0.6	< 0.5
12	< 2.5	< 0.6	< 0.5
13	< 2.5	< 0.6	< 0.5
14	< 2.5	< 0.6	< 0.5
15	< 2.5	< 0.6	< 0.5
17	< 2.5	< 0.6	< 0.5
18	< 2.5	< 0.6	< 0.5
19	< 2.5	< 0.6	< 0.5
20	< 2.5	< 0.6	< 0.5
21	< 2.5	< 0.6	< 0.5
22	< 2.5	< 0.6	< 0.5
23	< 2.5	< 0.6	< 0.5
24	< 2.5	< 0.6	< 0.5
25	< 2.5	< 0.6	< 0.5
26	< 2.5	< 0.6	< 0.5
26	< 2.5	< 0.6	< 0.5
27	< 2.5	< 0.6	< 0.5
28	< 2.5	< 0.6	< 0.5
29	< 2.5	< 0.6	< 0.5
30	< 2.5	< 0.6	< 0.5
31	< 2.5	< 0.6	< 0.5
32	< 2.5	< 0.6	< 0.5
33	< 2.5	< 0.6	< 0.5
34	< 2.5	< 0.6	< 0.5
35	< 2.5	< 0.6	< 0.5
36	< 2.5	< 0.6	< 0.5
37	< 2.5	< 0.6	< 0.5
38	< 2.5	< 0.6	< 0.5
X: 39	< 2.5	< 0.6	< 0.5
X: 40	< 2.5	0.6 - 1.0	< 0.5
Y: 41	< 2.5	< 0.6	< 0.5
Y: 42	< 2.5	< 0.6	< 0.5
Z: 43	< 2.5	< 0.6	< 0.5
Z: 44	< 2.5	< 0.6	< 0.5
AA: 45	< 2.5	< 0.6	< 0.5
AA: 46	2.5 - 5.0	< 0.6	< 0.5

Cell #	DTech Aminoassay Results (ppm)		
	Total BTEX	Total PAH	Total PCBs
47	< 2.5	1.0 - 5.0	< 0.5
48	< 2.5	< 0.6	< 0.5
49	< 2.5	< 0.6	< 0.5
50	< 2.5	< 0.6	< 0.5
62	2.5 - 5.0	< 0.6	< 0.5
63	< 2.5	< 0.6	< 0.5
64	< 2.5	< 0.6	< 0.5
77	< 2.5	< 0.6	< 0.5
78	< 2.5	< 0.6	< 0.5
78A	< 2.5	< 0.6	< 0.5
A: 123, 131	< 2.5	< 0.6	< 0.5
B: 122, 131, 138	< 2.5	< 0.6	< 0.5
C: 137, 142	< 2.5	< 0.6	< 0.5
D: 128,129, 136, 141	< 2.5	< 0.6	< 0.5
E: 135, 140	< 2.5	< 0.6	< 0.5
F: 134, 139	< 2.5	< 0.6	< 0.5
G: 119, 120, 130	2.5 - 5.0	< 0.6	< 0.5
H: 121	< 2.5	0.6 - 1.0	1.1 - 4.0
I: 103, 104, 117, 118	2.5 - 5.0	< 0.6	< 0.5
J: 101, 102, 115, 116	< 2.5	< 0.6	< 0.5
K: 105,106, 107	< 2.5	< 0.6	< 0.5
L: 92, 93, 108, 109	< 2.5	< 0.6	< 0.5
L: 108, 109	< 2.5	< 0.6	< 0.5
M: 114	< 2.5	< 0.6	< 0.5
N: 124, 125	< 2.5	< 0.6	0.5 - 1.0
O: 125	< 2.5	< 0.6	< 0.5
P: 97, 112, 113	< 2.5	< 0.6	< 0.5
Q: 94, 94A, 95, 96, 110, 111	< 2.5	< 0.6	< 0.5
R: 79, 80	2.5 - 5.0	< 0.6	< 0.5
S: 65, 66	< 2.5	< 0.6	< 0.5
T: 68, 69, 81,82, 83	2.5 - 5.0	< 0.6	< 0.5
U: 70, 71, 84, 85	< 2.5	< 0.6	< 0.5
V: 86, 87, 88, 89	< 2.5	< 0.6	< 0.5
W: 58, 59, 72, 73	< 2.5	< 0.6	< 0.5
X: 39, 40, 52, 53, 67	< 2.5	10.0 - 25.0	1.1 - 4.0
Y: 41, 42, 54, 55	< 2.5	< 0.6	< 0.5
Z: 43, 44, 56, 57	< 2.5	0.6 - 1.0	< 0.5
BB: 60, 61, 74, 75	< 2.5	< 0.6	< 0.5
CC: 76, 77, 90, 91	< 2.5	< 0.6	< 0.5
SA: 163-167	2.5 - 5.0	1.0 - 5.0	0.5 - 1.0
SB: 153,156,159,160	2.5 - 5.0	< 0.6	< 0.5
SC:157,158,161,162	< 2.5	< 0.6	< 0.5
SD:151,152,154,155	2.5 - 5.0	< 0.6	< 0.5
IT Van	< 2.5	< 0.6	< 0.5
Crew Trailer	< 2.5	< 0.6	< 0.5

4.3.2.3 HE Survey

The HE Spot Test Kits supplied by LANL were used for field screening. The kits were capable of producing a qualitative indication of the presence of HE. Samples of material, including soil, were taken from each cell and/or pile and tested for HE. When a potential positive result on debris was indicated, VOC and SVOC analyses of the debris were performed. These results are contained in Appendix I. No HE was detected at MDA M.

4.3.2.4 Asbestos Survey

The majority of asbestos identification took place on site by visual inspection of the CIH. To assist the CIH, an "Asbestos Identification Board" was provided by LANL which provided examples of material that contained or appeared to contain asbestos. When material was uncovered that appeared to contain asbestos, but did not appear on the board, a sample was sent to the independent laboratory for bulk asbestos analysis. These results are contained in Appendix E.

4.3.2.5 Air Monitoring

At the beginning of the project, a negative exposure assessment was performed to determine if work activities were creating any airborne hazards. Air samples were taken from the general work area, as well as the workers breathing zone, and sent to the independent laboratory for analysis for asbestos, lead, chromium and cadmium. Results from the air monitoring indicated that no airborne hazards existed during work activities. These results are located in Appendix F.

4.4 Task 4 On-Site Processing

The on-site processing of the debris began in the main area with the debris located on the north side. Since this debris was not in distinct piles, as in the south side, it was removed first and processed which allowed for the movement and staging waste on the eastern side of the site. Each cell and/or pile was initially characterized before it was processed. Sorting and segregating of clean debris, i.e., debris whose radiological and hazardous characterization survey results indicated the absence of the contaminants, were accomplished by first removing the large pieces of metal and concrete from the cells and piles. This material was stockpiled for eventual recycling. It was intended to also segregate glass and wood for recycling purposes. However, the acceptance criteria from the glass recycler required the glass to be segregated by color. Since most of the glass at MDA M was broken and scattered throughout the piles, the workers' health and safety issues associated with handling the broken glass out-weighted the benefits of recycling the glass. Therefore, the glass was disposed at the Los Alamos (LA) County landfill. The wood was intended to be transported to the LANL burnpit where it would be used as fuel for flashing HE contaminated materials. However, since the wood was comprised of large tree stumps, rotted from years of exposure to weather, LANL determined that the amount of smoke from burning the wood could provoke concerns regarding air pollution. Therefore, the wood was also disposed at

the LA County landfill. The next step for sorting the clean debris was to move the pile of clean debris to sorting tables, constructed of heavy screens, located inside the CRZ. These sorting tables allowed the clean soil to fall through, which was stockpiled for later use as backfill. The remaining debris on the tables was containerized and disposed at the LA County landfill. The piles and cells whose characterization results, either radiological and/or hazardous, indicated the presence of these contaminants, were not sorted due to health and safety concerns. These piles and cells were directly containerized for disposal.

4.4.1 Monitoring During On-Site Processing

Throughout the on-site processing, Health Physics technicians performed direct reading radiological surveys prior to, during and after the removal of debris from a cell or pile. Each frontend loader bucket of debris and soil was monitored for the presence of radiologically contaminated material, prior to the bucket being emptied into the disposal containers. Also, the CIH was present to visually inspect the debris for the presence of ACM or other hazards.

4.5 Task 5 Verification Survey

For the Verification Survey, the site was re-gridded in to 100 foot by 100 foot grids. The purpose of this survey was to demonstrate the levels of contaminants, if any, remaining on the MDA M main and satellite areas. The Verification Survey is discussed in detail in Section 6.0 of this report.

4.6 Task 6 Demobilization

This was the final on-site task for the expedited cleanup of MDA M and was completed on March 15, 1996. All personnel, materials and equipment were removed from the site. Waste generated during the cleanup activities was removed, with the exception of the low level radioactive waste (LLRW). The LLRW was packaged and prepared for shipment, however, based on the schedule of the LANL TA-54 Area G LLRW disposal area, the last of the LLRW left MDA M on March 20, 1996.

4.7 Task 7 Final Report

This document entails a summary of the expedited cleanup of MDA M; discussions of sampling and analyses; quantities and types of waste disposed; analytical data for the site characterization, waste profiling and verification survey; and conclusions and lessons learned.

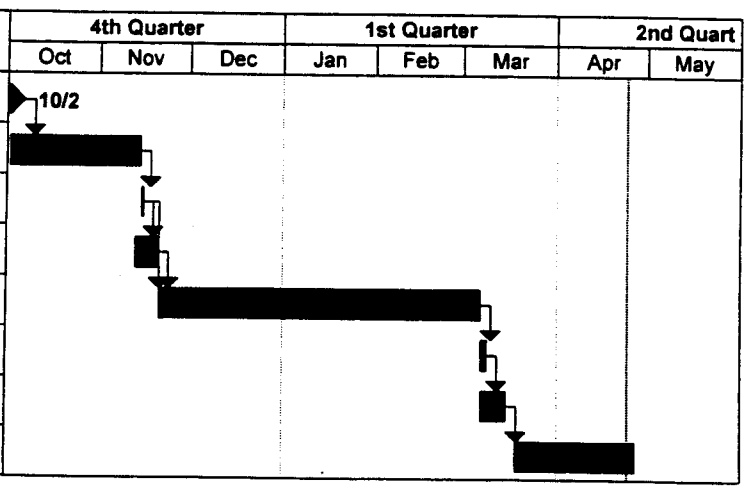
4.8 Schedule

NES began mobilization to the MDA M site November 13, 1995. The characterization activities began November 17, 1995. Site remediation began November 20, 1995 and continued until March 6, 1996. The verification survey began March 7, 1996 and was completed on March 8,

1996. Demobilization activities were completed on March 15, 1996. The schedule of the remediation of MDA M is presented in Figure 4-2.

Figure 4-2
Schedule for the Expedited Cleanup of MDA M

ID	Task Name	Duration
1	Award of Contract	0d
2	Prepare Documents	32d
3	Readiness Review	1d
4	Mobilization	6d
5	Cleanup of Cells-Sorting	67d
6	Site Survey	2d
7	Demobilization	5d
8	Prepare Final Report	30d



5.0 WASTE DISPOSAL

Soil samples collected for the on-site analysis were split for off-site independent laboratory analyses. Results from the independent laboratory were used to profile the waste for disposal purposes. This information was incorporated into the Waste Profile Forms (WPFs) prepared by NES for LANL. The independent laboratory analyzed the samples for the following constituents:

- Total RCRA Metals
- Total PCBs and Pesticides
- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)

The results from the laboratory for the soil samples are included in Appendix D.

5.1 Radioactive

Per the surface contamination limits described in the SSHASP (Reference 3) and in accordance LANL LP 107-04.1, 'Releasing Materials and Equipment' (Reference 13), debris was classified as either low level radioactive waste (LLRW) or clean waste. These limits are listed in Table 5-1. The methods used to ascertain the waste types, were by means of direct survey readings and smears. The smears were counted in the on-site radioanalytical laboratory using an automatic low level alpha/beta/gamma counter. When smear results were equal to or greater than the limits specified in Table 5-1, the debris was classified and disposed as LLRW. Smears results of less than the limits, indicated that no transferable radioactive material was present. All smear results for the debris indicated less than detectable values for both alpha and beta; therefore, the debris exhibited no transferrable radioactive contamination. The smear results used to document and track the smears are contained in Appendix G. Direct survey readings were taken using a Ludlum model 2220/2221 with a 44-9 probe. When direct readings indicated results greater than the background direct reading result, the debris was classified and disposed of as LLRW. The LLRW remediated at MDA M was classified as radioactive by the direct survey method results.

Table 5-1
Summary of Surface Contamination Limits

NUCLIDE	TOTAL (Fixed + Removable)	REMOVABLE
U-nat, U-235, U-238, and associated decay products	5,000 dpm α /100 cm^2	1,000 dpm α /100 cm^2
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	500 dpm/100 cm^2	20 dpm/100 cm^2
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000 dpm/100 cm^2	200 dpm/100 cm^2
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above.	5,000 dpm β-γ /100 cm^2	1,000 dpm β-γ /100 cm^2

[a] Where surface contamination by both alpha and beta/gamma emitting nuclides exists, the limits established for alpha and beta/gamma emitting nuclides apply independently.

[b] As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

[c] The amount of removable radioactive material per 100 cm^2 of surface area was determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency.

Radiological screening action levels (SALs) employed by LANL were used to classify soil as either radioactive or non-radioactive. In addition to the SALs, NES used an action level, derived from the United States Nuclear Regulatory Commission's (USNRC) Branch Technical Position (BTP) titled "NRC Disposal of On-Site Storage of Thorium or Uranium Waste from Past Operations" (Reference 14), to prompt detailed segregation of the debris and soil in a pile, in order to minimize the amount the LLRW. This action prevented the disposal of the entire pile as LLRW. Only the debris and surrounding soil whose radiological monitoring results exceeded the limits specified, were disposed as LLRW. In the event that the soil results were equal to or greater than the LANL limit specified for soil, the soil was disposed as LLRW. The soil contamination action levels used during the remediation of MDA M are presented in Table 5-2. No soil was disposed as LLRW based on gamma spectroscopy results. The results of the gamma spectroscopy of the soil are contained in Appendix C.

Table 5-2
Soil Contamination Action Levels

LANL SAL for U-238	NES Action Level for U-238*
60 pCi/g	35 pCi/g

* Based on total activity of its daughter products as measured by gamma spectroscopy.

Low level radioactive waste (LLRW) was placed into roll-off bins, B-25 boxes and 55 gallon drums. The drums were used exclusively for LLRW/asbestos waste. LANL maintained possession of radioactive waste and designated TA-54, Area G as the disposal location. Area G began accepting waste shipments from MDA M on March 7, 1996. The final shipment of LLRW from MDA M to Area G was on March 20, 1996. A total of 199 yd^3 of radioactive waste was removed from MDA M. The majority of radioactive waste removed from MDA M was in the form of LLRW. A total of 107 yd^3 of LLRW was removed from the site. The remaining radioactive waste was in the form of LLRW/asbestos. This was packaged in both 55 gallon drums and roll-off bins for a total of 92 yd^3. This waste was transported to Area G for disposal.

5.2 Chemical

Chemical waste was comprised of soil and debris contaminated with mainly PCBs. Since LANL Waste Management group required all soil and debris samples be analyzed by an independent laboratory, for waste profiling, total PCB and pesticides analyses were performed. There were no pesticides detected. Results of the total PCB analysis are listed in Table 5-3 and are contained in Appendix D. For disposal purposes, since the source of the PCBs was not known, i.e., no evidence of transformers, capacitors or ballasts, the source of the PCBs had to be assumed to be greater than 500 ppm. Therefore, waste containing any indication of PCBs had to be disposed at a regulated facility. For site classification based on known hazards present, the site remained classified as a non-Toxic Substance Control Act (TSCA) site. However, should a source of the PCBs, i.e., transformer, capacitor, ballast, had been discovered in a cell or cells, then that particular cell would have been classified as TSCA and the appropriate constraints and requirements would be implemented for that cell. Throughout the MDA M project, no source of the PCBs was ever discovered.

An oil drum was discovered in cell 46 which contained residual amounts of oil. An estimated five gallons of oil was present inside the drum. This drum was placed into a drum overpack and disposed of at Henderson of Colorado. The analytical results are contained in Appendix H.

Table 5-3
Independent Laboratory Results for PCBs

Cell #	Independent Laboratory Results (ppm)						
	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260
Background	ND	ND	ND	ND	ND	ND	ND
1	NP	NP	NP	NP	NP	NP	NP
2	NP	NP	NP	NP	NP	NP	NP
3	NP	NP	NP	NP	NP	NP	NP
4	NP	NP	NP	NP	NP	NP	NP
5	NP	NP	NP	NP	NP	NP	NP
6	NP	NP	NP	NP	NP	NP	NP
7	NP	NP	NP	NP	NP	NP	NP
8	ND	ND	ND	ND	ND	0.038	0.020
9	ND	ND	ND	ND	ND	0.033	0.040
10	ND	ND	ND	ND	ND	0.033	0.040
11	ND	ND	ND	ND	ND	0.16	0.13
12	ND	ND	ND	ND	ND	0.16	0.13
13	ND	ND	ND	ND	ND	0.16	0.13
14	ND	ND	ND	ND	ND	0.16	0.13
15	ND	ND	ND	ND	ND	0.16	0.13
17	ND	ND	ND	ND	ND	0.038	0.020
18	ND	ND	ND	ND	ND	0.033	0.040
19	ND	ND	ND	ND	ND	0.033	0.040
20	ND	ND	ND	ND	ND	ND	ND
21	ND	ND	ND	ND	ND	ND	ND
22	ND	ND	ND	ND	ND	0.16	0.13
23	ND	ND	ND	ND	ND	ND	ND
24	ND	ND	ND	ND	ND	ND	ND
25	ND	ND	ND	ND	ND	ND	ND
26	ND	ND	ND	ND	ND	ND	ND
26	ND	ND	ND	ND	ND	0.16	0.13
27	NP	NP	NP	NP	NP	NP	NP
28	NP	NP	NP	NP	NP	NP	NP
29	NP	NP	NP	NP	NP	NP	NP
30	NP	NP	NP	NP	NP	NP	NP
31	NP	NP	NP	NP	NP	NP	NP
32	NP	NP	NP	NP	NP	NP	NP
33	NP	NP	NP	NP	NP	NP	NP
34	NP	NP	NP	NP	NP	NP	NP
35	NP	NP	NP	NP	NP	NP	NP
36	NP	NP	NP	NP	NP	NP	NP
37	NP	NP	NP	NP	NP	NP	NP
38	ND	ND	ND	ND	ND	ND	ND
X: 39	ND	ND	ND	ND	ND	0.020	0.012
X: 40	ND	ND	ND	ND	ND	0.020	0.012

Cell #	Independent Laboratory Results (ppm)						
	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260
AA: 45	ND	ND	ND	ND	ND	0.16	0.13
AA: 46	ND	ND	ND	ND	ND	0.020	0.012
47	ND	ND	ND	ND	ND	0.020	0.012
48	NP	NP	NP	NP	NP	NP	NP
49	NP	NP	NP	NP	NP	NP	NP
50	NP	NP	NP	NP	NP	NP	NP
62	NP	NP	NP	NP	NP	NP	NP
63	NP	NP	NP	NP	NP	NP	NP
64	NP	NP	NP	NP	NP	NP	NP
78	ND	ND	ND	ND	ND	0.16	0.13
78A	ND	ND	ND	ND	ND	0.16	0.13
A: 123, 131	ND	ND	ND	ND	ND	0.0080	0.0057
B: 122, 131, 138	ND	ND	ND	ND	ND	0.0080	0.0057
C: 137, 142	ND	ND	ND	ND	ND	0.020	0.012
D: 128, 129, 136, 141	ND	ND	ND	ND	ND	0.020	0.012
E: 135, 140	ND	ND	ND	ND	ND	0.020	0.012
F: 134, 139	ND	ND	ND	ND	ND	0.020	0.012
G: 119, 120, 130	ND	ND	ND	ND	ND	0.0080	0.0057
H: 121	ND	ND	ND	ND	ND	0.0080	0.0057
I: 103, 104, 117, 118	ND	ND	ND	ND	ND	0.0080	0.0057
J: 101, 102, 115, 116	ND	ND	ND	ND	ND	0.020	0.012
K:105, 106, 107	ND	ND	ND	ND	ND	0.020	0.012
L: 92, 93, 108, 109	ND	ND	ND	ND	ND	0.021	ND
L: 108, 109	ND	ND	ND	ND	ND	0.021	ND
M: 114	ND	ND	ND	ND	ND	0.020	0.012
N: 124, 125	ND	ND	ND	ND	ND	0.020	0.012
O: 125	ND	ND	ND	ND	ND	0.020	0.012
P: 97, 112, 113	ND	ND	ND	ND	ND	ND	ND
Q: 94, 94A, 95, 96, 110, 111	ND	ND	ND	ND	ND	ND	ND
R: 79, 80	ND	ND	ND	ND	ND	0.014	0.029
S: 65, 66	ND	ND	ND	ND	ND	ND	ND
T: 68, 69, 81, 82, 83	ND	ND	ND	ND	ND	0.014	0.029
U: 70, 71, 84, 85	ND	ND	ND	ND	ND	0.042	0.051
V: 86, 87, 88, 89	ND	ND	ND	ND	ND	0.020	0.032
W: 58, 59, 72, 73	ND	ND	ND	ND	ND	0.020	0.032
X: 39, 40, 52, 53, 67	ND	ND	ND	ND	ND	0.042	0.051
	ND	ND	ND	ND	ND	0.020	0.012
Y: 41, 42, 54, 55	ND	ND	ND	ND	ND	0.042	0.051
	ND	ND	ND	ND	ND	0.066	0.051
Z: 43, 44, 56, 57	ND	ND	ND	ND	ND	0.066	0.051
AA: 45, 46	ND	ND	ND	ND	ND	0.020	0.012
BB: 60, 61, 74, 75	ND	ND	ND	ND	ND	0.0030	0.0039
CC: 76, 77, 90, 91	ND	ND	ND	ND	ND	0.0030	0.0039
SA: 163,164,165,166,167	ND	ND	ND	ND	ND	ND	ND
SB: 153,156,159,160	ND	ND	ND	0.044	ND	ND	0.017
SC: 157,158,161,162	ND	ND	ND	ND	ND	ND	ND
SD: 151,152,154,155	ND	ND	ND	ND	ND	ND	0.12

Note: ND = Not Detectable NP = No pile

5.2.1 Non-hazardous/Chemical/Non-asbestos

A total of 1,875 yd^3 of PCB contaminated waste was removed from MDA M. There were no special packaging requirements, i.e., liners, for this type of waste. This waste form was disposed at Rio Rancho of New Mexico.

5.3 Asbestos

Asbestos containing material (ACM) was defined as any soil waste containing greater than 1% of asbestos by volume and/or material positively identified as ACM. This criteria was based on the definition provided by the New Mexico Environmental Department (NMED). ACM was further characterized as friable or non-friable by either visual inspection by the CIH or the results of bulk asbestos sampling. LANL provided the project with a display containing numerous samples which based on visual inspection, appeared to be ACM. This display was accompanied by bulk asbestos results for each of the material types. In some cases, even though the material appeared to be ACM, the asbestos sample results classified the material as non-ACM. This display was used in the field by the CIH to help identify ACM and establish asbestos exclusion zones around the cells containing the ACM.

Packaging of friable and/or non-friable ACM required that the waste be placed into plastic liners totally 12 mils in thickness. For MDA M, two 6 mil liners were used to line either the rolloffs or the end dump trucks used to contain and ship the ACM to the appropriate TSD. These liners were securely closed by using a 'burrito wrapping' technique and the appropriate 29 CFR 1926 labeling applied. The majority of the ACM waste was friable asbestos also containing PCB contaminants. The packaging requirements for this type of waste stream did not change due to the presence of the PCBs. Packaging, shipment and disposal requirements of ACM waste are more restrictive than PCB requirements.

5.3.1 Non-hazardous/Chemical/Asbestos (Friable)

A total of 2,220 yd^3 of PCB contaminated friable asbestos waste was removed from MDA M. This waste was disposed at Butterfield of Arizona.

5.3.2 Non-hazardous/Chemical/Asbestos (Non-friable)

A total of 260 yd^3 of PCB contaminated non-friable asbestos waste was removed from MDA M. This waste was disposed at Rio Rancho, New Mexico.

5.4 Hazardous

Hazardous waste was classified by the independent laboratory's results of analysis for heavy, i.e., RCRA metals. These RCRA metals included: arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver. The concentration limits for the RCRA metals were based on the

Resource Conservation and Recovery Act of 1976 limits shown in Table 5-4. The RCRA action level for total metal analysis results is twenty (20) times the RCRA leachable limit. When the action level was meet or exceeded, a toxicity characteristic leaching procedure (TCLP) for the metal of concern was performed by the independent laboratory. The results of the RCRA metal analysis are listed in Table 5-5 and are contained in Appendix D. Debris and soil was disposed as hazardous material when the TCLP results for any of the eight RCRA metals exceeded the leachable limit for that metal, specified by the Resource Conservation Recovery Act. A total of 495 yd^3 of hazardous/chemical/non-asbestos waste was removed from MDA M. This waste was packaged into rolloffs lined with one 6 mil plastic liner and disposed at Kettleman of California.

Table 5-4 Soil Concentration Limits for RCRA Metals

	Soil Concentration (ppm)							
	Pb	Hg	Ba	Cd	Cr	Se	As	Ag
Leachable Limit	5	0.2	100	1	5	1	5	5
Total Limit	100	4	2000	20	100	20	100	100

5.5 Clean

At the beginning of the project, clean waste, i.e., waste whose characterization screening results were less than the action levels (Section 4.3) was sifted through screening tables and the work crew sorted through the clean waste by hand. A sorting station was established at the northeastern corner of MDA M. Soil passing through the screening tables was stockpiled at the northern end of the site. Waste remaining on top of the screens, was sorted into concrete, metal and remaining debris. A total of 411 yd^3 of clean waste was removed from MDA M.

5.5.1 Clean Debris

This waste consisted mainly of non-recyclable building debris. A total of 166 yd^3 was shipped to the Los Alamos County Landfill.

5.5.2 Scrap Metal

Metal from MDA M was segregated from each pile and cell for recycling. A total of 160 yd^3 of scrap metal was removed by the metal recycler.

5.5.3 Concrete

Concrete was also segregated from the piles and cells. This concrete was transferred to S-Site to be pulverized at a later date for recycling. A total of 85 yd^3 of concrete was removed for recycling.

5.6 Mixed Waste

No mixed waste was encountered during the remediation of MDA M. However, during the initial in-situ characterization of cell 26, direct radiation surveys of the debris demonstrated readings above background and the XRF of the soil demonstrated elevated lead levels. The gamma spectroscopy of the soil indicated radioactivity levels less than background. Debris from cell 26, containing non-transferrable radioactive material, was packaged exclusively in ten B-25 boxes. In order to verify that the in-situ sampling results yielding this mixed waste, were applicable to the actual containerized waste, resampling and reanalysis of the containerized waste in the B-25s was performed. TCLP lead results indicated lead levels below the RCRA limit; gamma spectroscopy results of the soil remained less than background; and direct radiation readings remained above background. Therefore, the waste contained in the B-25 boxes was classified as LLRW only. These results are contained in Appendix J.

5.7 High Explosives (HE)

The HE Spot Test Kits supplied by LANL provided qualitative results for the presence of high explosives on debris or in soil. The presence of HE was indicated by a color change on a piece of filter paper. The absence of this color change was regarded as a negative indication of HE. In the case of positive indications for HE, LANL DX-2 was notified to perform a quantitative analysis. Positive HE results were demonstrated for the wood stumps which were located on the north side of the main area. DX-2 reviewed the data and the stumps and determined that the positive results were due to the nitrates in the decayed wood. Also, there were two cells which tested positive for HE using the Spot Test Kit. Material samples from these cells were analyzed by DX-2 to determine the concentrations of explosives present in the material. Samples containing greater than 5% HE were classified as HE waste by LANL. These analytical results demonstrated the presence of TNT at less than 5%. At the request of LANL DX-2, analysis for volatiles (VOCs) and semi-volatiles (SVOCs) was also performed. These analyses were performed to rule out the presence of these compounds which can result in a false positive for the HE Spot Test. The results of the VOC and SVOC analyses are contained in Appendix I. These results indicated the absence of VOCs and SVOCs and therefore, the cells were reclassified as non-explosive.

Table 5-5
Independent Laboratory Results for RCRA Metals

Cell #	Independent Laboratory Results (ppm)							
	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Background	ND	1.6	ND	ND	ND	ND	ND	ND
1	NP	NP	NP	NP	NP	NP	NP	NP
2	NP	NP	NP	NP	NP	NP	NP	NP
3	NP	NP	NP	NP	NP	NP	NP	NP
4	NP	NP	NP	NP	NP	NP	NP	NP
5	NP	NP	NP	NP	NP	NP	NP	NP
6	NP	NP	NP	NP	NP	NP	NP	NP
7	NP	NP	NP	NP	NP	NP	NP	NP
8	6.90	792	2.48	35.4	388	0.22	ND	32.6
9	ND	1,040	4.35	33.6	686	ND	ND	58.7
10	ND	1,040	4.35	33.6	686	ND	ND	58.7
11	ND	1,040	4.35	33.6	686	ND	ND	58.7
12	NT	1150	23.8	19.8	1860	2.88	10.3	12.8
13	NT	1150	23.8	19.8	1860	2.88	10.3	12.8
14	NT	1150	23.8	19.8	1860	2.88	10.3	12.8
15	NP	NP	NP	NP	NP	NP	NP	NP
17	6.90	792	2.48	35.4	388	0.22	ND	32.6
18	ND	1,040	4.35	33.6	686	ND	ND	58.7
19	ND	1,040	4.35	33.6	686	ND	ND	58.7
20	ND	1.6	0.036	ND	ND	ND	ND	ND
20	ND	1.6	0.036	ND	ND	ND	ND	ND
21	ND	1.6	0.036	ND	ND	ND	ND	ND
22	NT	1150	23.8	19.8	1860	2.88	10.3	12.8
23	ND	1.6	0.036	ND	ND	ND	ND	ND
24	ND	1.6	ND	[illegible]	ND	ND	ND	ND
25	ND	1.6	ND	ND	ND	ND	ND	ND
25	ND	1.6	ND	ND	ND	ND	ND	ND
26	ND	1.6	ND	ND	ND	ND	ND	ND
28	NP	NP	NP	NP	NP	NP	NP	NP
28	NP	NP	NP	NP	NP	NP	NP	NP
29	NP	NP	NP	NP	NP	NP	NP	NP
30	NP	NP	NP	NP	NP	NP	NP	NP
31	NP	NP	NP	NP	NP	NP	NP	NP
32	NP	NP	NP	NP	NP	NP	NP	NP
33	NP	NP	NP	NP	NP	NP	NP	NP
34	NP	NP	NP	NP	NP	NP	NP	NP
35	NP	NP	NP	NP	NP	NP	NP	NP
36	NP	NP	NP	NP	NP	NP	NP	NP
37	NP	NP	NP	NP	NP	NP	NP	NP
38	ND	1.6	ND	ND	ND	ND	ND	ND
38	ND	1.6	ND	ND	ND	ND	ND	ND
X:39	ND	472	3.92	13.4	511	ND	ND	10.9
X:40	ND	472	3.92	13.4	511	ND	ND	10.9
Y:41	ND	115	ND	6.56	22.6	ND	ND	ND
Y:42	ND	115	ND	6.56	22.6	ND	ND	ND
Z:43	ND	115	ND	6.56	22.6	ND	ND	ND
Z:44	ND	115	ND	6.56	22.6	ND	ND	ND
AA:45	NT	1150	23.8	19.8	1860	2.88	10.3	12.8

Cell #	Independent Laboratory Results (ppm)							
	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
47	NP	NP	NP	NP	NP	NP	NP	NP
48	NP	NP	NP	NP	NP	NP	NP	NP
48	NP	NP	NP	NP	NP	NP	NP	NP
49	NP	NP	NP	NP	NP	NP	NP	NP
49	NP	NP	NP	NP	NP	NP	NP	NP
50	NP	NP	NP	NP	NP	NP	NP	NP
62	NP	NP	NP	NP	NP	NP	NP	NP
62	NP	NP	NP	NP	NP	NP	NP	NP
63	NP	NP	NP	NP	NP	NP	NP	NP
64	NP	NP	NP	NP	NP	NP	NP	NP
78	NT	1150	23.8	19.8	1860	2.88	10.3	12.8
78A	NT	1150	23.8	19.8	1860	2.88	10.3	12.8
A: 123, 131	NT	26.3	0.88	13.2	95.8	ND	7.9	12.6
B: 122, 131, 138	NT	26.3	0.88	13.2	95.8	ND	7.9	12.6
C: 137, 142	ND	127	ND	6.67	27.7	ND	ND	ND
D: 128, 129, 136, 141	ND	127	ND	6.67	27.7	ND	ND	ND
E: 135, 140	ND	127	ND	6.67	27.7	ND	ND	ND
F: 134, 139	ND	127	ND	6.67	27.7	ND	ND	ND
G: 119, 120, 130	NT	26.3	0.88	13.2	95.8	ND	7.9	12.6
H: 121	NT	26.3	0.88	13.2	95.8	ND	7.9	12.6
I: 103, 104, 117, 118	NT	26.3	0.88	13.2	95.8	ND	7.9	12.6
J: 101, 102, 115, 116	ND	127	ND	6.67	27.7	ND	ND	ND
K: 105,106, 107	ND	127	ND	6.67	27.7	ND	ND	ND
L: 92, 93, 108, 109	NT	754	1.27	14.6	151	ND	4.6	18.1
M: 114	ND	127	ND	6.67	27.7	ND	ND	ND
N: 124, 125	ND	127	ND	6.67	27.7	ND	ND	ND
O: 125	ND	127	ND	6.67	27.7	ND	ND	ND
P: 97, 112, 113	ND	148	ND	6.14	15.0	ND	ND	ND
Q:94, 94A, 95, 96, 110, 111	ND	148	ND	6.14	15.0	ND	ND	ND
R: 79, 80	ND	343	1.10	13.9	108	ND	ND	6.66
S: 65, 66	ND	148	ND	6.14	15.0	ND	ND	ND
T: 68, 69, 82, 83	ND	343	1.10	13.9	108	ND	ND	6.66
U: 70, 71, 84, 85	ND	472	3.92	13.4	511	ND	ND	10.9
V: 86, 87, 88	NT	576	4.44	12.3	387	0.43	4.6	85.9
V: 89	ND	472	3.92	13.4	511	ND	ND	10.9
W: 58, 59, 72, 73	NT	576	4.44	12.3	387	0.43	4.6	85.9
X: 39, 40, 52, 53,67	ND	472	3.92	13.4	511	ND	ND	10.9
Y: 41, 42, 54, 55	ND	115	ND	6.56	22.6	ND	ND	ND
Y: 41, 42, 54, 55	ND	115	ND	6.56	22.6	ND	ND	ND
Z: 43, 44, 56, 57	ND	115	ND	6.56	22.6	ND	ND	ND
Z: 43, 44, 56, 57	ND	115	ND	6.56	22.6	ND	ND	ND
AA: 45, 46	NT	810	3.77	12.8	213	ND	4.5	64.1
BB: 60, 61, 74, 75	ND	272	ND	9.46	4,160	ND	ND	19.7
CC: 76, 77, 90, 91	ND	272	ND	9.46	4,160	ND	ND	ND
SA: 163-167	ND	114	ND	5.5	18.7	ND	ND	ND
SB: 153, 156, 159, 160	ND	137	0.48	7.7	34.4	ND	ND	ND
SC: 157, 158, 161, 162	ND	553	ND	5.5	26.5	ND	ND	ND
SD: 151, 152, 154, 155	ND	155	0.42	9.0	35.0	ND	ND	ND

Note: ND = Not Detectable NP = No Pile NT = Not Tested

5.8 Additional Sampling

During the remediation activities, material samples were sent to the independent laboratory on an as-needed basis. Whenever closed containers were encountered, they were collected and opened by LANL Emergency Management Operations (EMO) and the containers and any liquids were sampled and analyzed for VOCs, pH and RCRA metals. Waste material from the B-25 boxes, initially classified as mixed waste was sampled separately for RCRA metals.

5.8.1 Closed Containers

When closed containers were discovered in the field, they were left undisturbed. The initial assessment of a closed container implied the potential for explosive characteristics. Because of this possibility, Emergency Management Operations (EMO) was notified to retrieve, open the bottles and sample the contents for VOCs. On December 1 and 21, 1995, EMO was requested to retrieve and open several containers in the field. EMO used a puncturing device to open the closed containers. The site was secured and all non-essential personnel were evacuated from the site, due to the possibility of an explosion. The access road to MDA M was block to prevent inadvertent access of non-essential personnel. EMO retrieved and punctured a total of 69 closed bottles and cans, allowing NES to send samples of the contents to the independent laboratory. All containers tested less than the regulatory limits for VOCs and pH. Results of the off-site analysis are included in Appendix N. The containers were then disposed by the independent laboratory.

5.8.2 B-25 Boxes

Waste material within the B-25 boxes was initially characterized by a composite soil sample from cell 26. This sample indicated both radioactive and lead contamination. Since the original sample was a composite, LANL requested NES to sample both soil and cable from boxed waste. A preliminary analysis showed no presence of lead contamination, indicating that the lead may have been from a portion of cell 26 not packaged as radioactive waste. On February 24, 1996, NES took composite core samples from all ten B-25 boxes. Independent laboratory results indicated that the radioactive material did not contain any lead contamination. Results from the laboratory are included in Appendix J. All material within the boxes was classified as LLRW for disposal at area G.

5.8.3 Representative Material Samples

LANL Waste Management Group requested that NES submit samples from the recyclable material for total metals, PCB, pesticides, VOC and SVOC analysis. The purpose of these samples was to determine if hazardous materials were present in the material sent off-site for recycling. Four composite samples were collected consisting of wood, glass, concrete and metal. These samples were composited from material located throughout the site. The results of these samples indicated that the recyclable material did not contain hazardous materials. The laboratory results are included in Appendix M.

6.0 VERIFICATION SURVEY

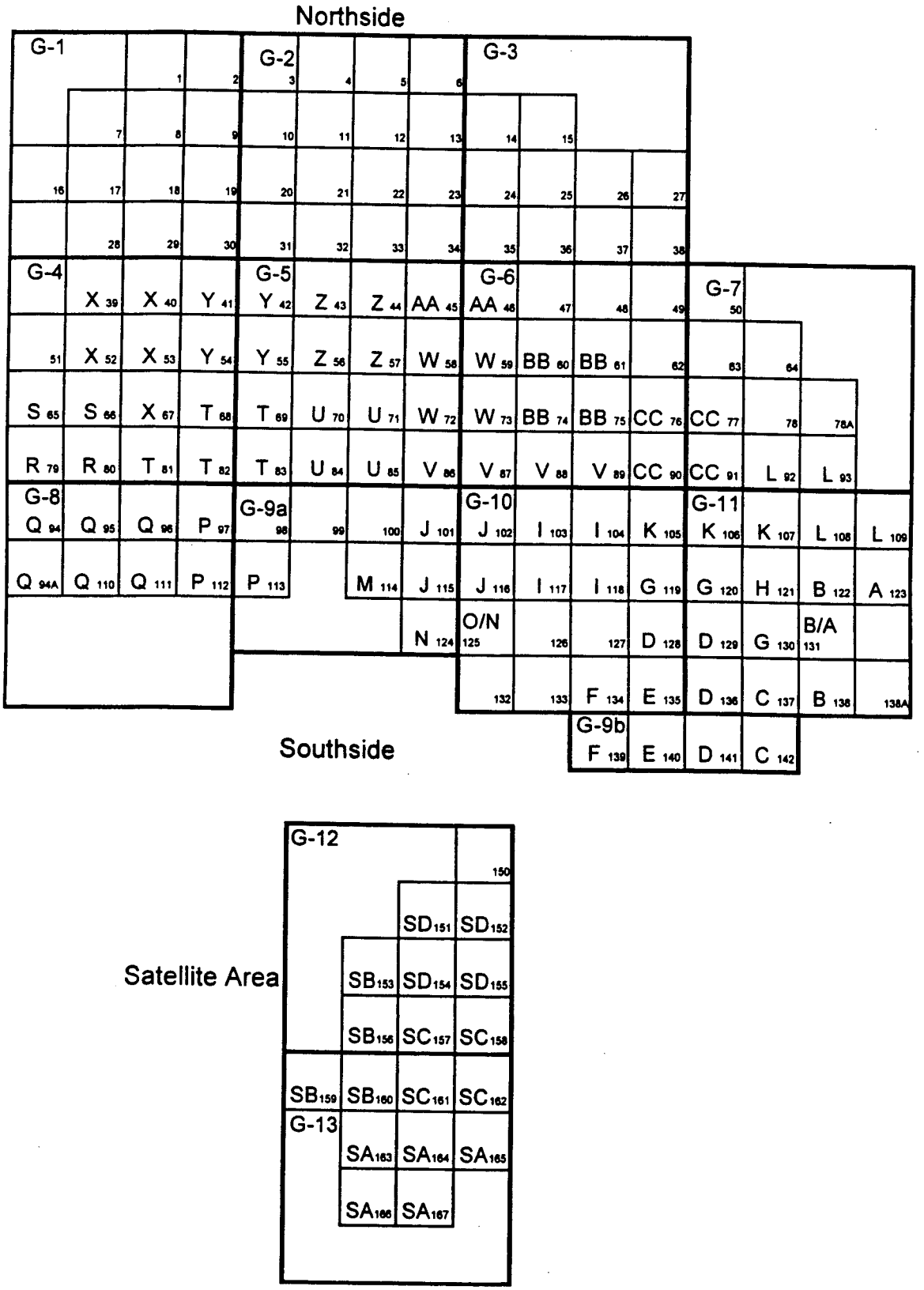
As remediation activities were completed, verification sampling began. The purpose of the verification sampling was to identify the presence of any remaining contaminants on the site for determination of the need for Phase II cleanup activities. The verification analyses performed for MDA M, consisted of the following for the composite soil samples:

- Gamma Spectroscopy
- Direct Radiation Readings
- Total RCRA Metals
- Total PCBs
- Asbestos

Total VOC analysis was performed on the soil samples obtained from the center of each of the verification survey grids. A grid was defined as a survey unit measuring 100 feet on each side The main and satellite areas combined, resulted in thirteen (13) verification survey grids. A map of the verification survey grids is shown in Figure 6-1.

The verification survey began on March 6, 1996. Representatives from LANL's survey and sampling field unit were present to split the soil samples. Two samples were pulled from each grid: one composite and one center location. The composites were analyzed for radioactive isotopes, total RCRA metals, total PCBs and asbestos. The centers were analyzed for VOCs. All samples taken were split between NES, LANL and the New Mexico Environmental Department (NMED). The results of the verification survey for RCRA metals, PCBs and VOCs are contained in Appendix L.

Figure 6-1
Verification Survey Grids



6.1 Gamma Spectroscopy

The results of the gamma spectroscopy for the verification survey are included in Appendix K and shown in Table 6-1.

Table 6-1 Gamma Spectroscopy Results for the Verification Survey

MCA ID #	Grid #	Description	Activity (pCi/g)			
			Pa-234m	Cs-137	U-235	Ra-226
107	G-1	Soil composite	< 3.72	< 0.420	< 1.54	< 4.23
108	G-2	Soil composite	< 3.51	< 0.318	< 1.52	< 4.53
109	G-3	Soil composite	< 2.98	< 0.410	< 1.66	< 5.95
110	G-4	Soil composite	< 3.44	< 0.312	< 1.47	< 4.66
111	G-5	Soil composite	< 3.89	< 0.298	< 1.47	< 4.96
112	G-6	Soil composite	< 3.03	< 0.305	< 1.55	< 5.44
113	G-7	Soil composite	< 4.32	< 0.348	< 1.40	< 5.51
114	G-8	Soil composite	< 2.61	< 0.315	< 1.63	< 5.44
115	G-9	Soil composite	< 3.71	< 0.332	< 1.58	< 5.20
116	G-10	Soil composite	< 3.79	< 0.363	< 1.70	< 5.79
117	G-11	Soil composite	< 3.53	< 0.340	< 1.71	< 4.59
118	G-12	Soil composite	< 2.98	0.591	< 1.71	< 5.22
119	G-13	Soil composite	< 4.12	< 0.351	< 1.53	< 5.15

6.2 Direct Radiation Readings

Direct beta/gamma radiation readings were obtained for the surface areas of the main and satellite areas. All direct readings were at background levels of 9 microRem/hour. These results are documented in the NES Radioanalytical Logbook.

6.3 Total RCRA Metals

The results of the metals analysis for the verification survey are shown in Table 6-2.

Table 6-2 Total RCRA Metal Results for the Verification Survey

Grid #	Independent Laboratory Results (ppm)							
	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
G-1	ND	233	0.57	11.1	35.4	ND	ND	1.6
G-2	ND	137	0.35	7.3	21.8	ND	ND	ND
G-3	ND	146	0.55	7.6	21.5	ND	ND	ND
G-4	ND	157	0.33	9.4	20.7	ND	ND	ND
G-5	ND	185	0.58	10.8	40.2	ND	ND	1.7
G-6	ND	188	0.77	10.5	31.7	ND	ND	3.3
G-7	ND	182	3.14	10.5	31.3	ND	ND	10.4
G-8	ND	168	0.26	9.9	20.8	ND	ND	ND
G-9	ND	206	0.28	10.7	13.9	ND	ND	ND
G-10	ND	132	0.34	9.7	13.4	ND	ND	ND
G-11	ND	136	0.24	9.8	12.8	ND	ND	ND
G-12	ND	84.0	ND	7.7	15.8	ND	ND	ND
G-13	ND	60.2	ND	6.7	11.1	ND	ND	ND

Note: ND = Not Detectable

6.4 Total PCBs

The results of the PCBs analysis for the verification survey are shown in Table 6-3.

Table 6-3 Total PCB Results for the Verification Survey

Grid #	Independent Laboratory Results (ppm)						
	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260
G-1	ND	ND	ND	ND	ND	ND	ND
G-2	ND	ND	ND	ND	ND	ND	0.010
G-3	ND	ND	ND	ND	0.008	0.012	0.008
G-4	ND	ND	ND	ND	0.064	ND	ND
G-5	ND	ND	ND	ND	0.005	0.030	0.017
G-6	ND	ND	ND	ND	ND	ND	ND
G-7	ND	ND	ND	ND	0.003	0.014	0.010
G-8	ND	ND	ND	ND	0.006	0.029	ND
G-9	ND	ND	ND	ND	ND	ND	ND
G-10	ND	ND	ND	ND	ND	ND	ND
G-11	ND	ND	ND	ND	ND	ND	ND
G-12	ND	ND	ND	ND	ND	ND	ND
G-13	ND	ND	ND	ND	ND	0.005	0.003

Note: ND = Not Detectable

6.5 Asbestos

The composite soil samples from each grid were also analyzed for asbestos by the independent laboratory. Results of the analysis indicated that all grids contained less than 1% asbestos by volume. The sample results are contained in Appendix L.

6.6 VOCs

Soil samples taken from the center of each grid were sent to the independent laboratory for detection of VOCs only. Results from the laboratory indicated VOCs were Not Detectable (ND) in any of the grids. These results are contained in Appendix L.

7.0 QUALITY ASSURANCE

The NES Project Management Plan (PMP) (Reference 15) was implemented for the duration of the project. The purpose of the PMP was to implement the NES Quality Assurance Manual and the quality requirements for the project activities and data. An on-site audit of NES' project records was performed January 17-19, 1996, by the NES Quality Assurance Department. The audit was completed with no significant findings.

8.0 CONCLUSIONS AND LESSONS LEARNED

The expedited cleanup of MDA M resulted in the packaging and disposal of approximately 5460 yds^3 of debris and soil. The various types of waste streams have been identified in this report. Although on several occasions, on-site work was suspended due to snow, ice and/or high winds, the remediation activities continued throughout the winter season. As a consequence of the ice and snow, remediation activities were hampered by the resulting mud. Again, measures were taken to alleviate the hazards resulting from the mud. Based on the results of the verification survey, the MDA M site appears to be free of hazardous contaminants. Lessons learned have proven that prompt, complete characterization and completion and approval of LANL required disposal documentation need to be the first priority prior to mobilization of work crews and heavy equipment.

9.0 REFERENCES

1. Resource Conservation Recovery Act (RCRA) Facility Investigation (RFI) for Operable Unit (OU) 1157 Work Plan, LANL 1993, 1230.
2. LANL Environmental Restoration (ER) Expedited Cleanup Plan for Solid Waste Management Unit (SWMU) 9-013, June 1995, Revision 0.
3. Site Specific Health and Safety Plan for the Cleanup of Solid Waste Management Unit (SWMU) 9-013 (MDA M), SSHASP No. 79.
4. LANL Solid Waste Management Units Reports, Volumes I through IV, LANL Report LA-UR-90-3400, LANL 1990, 0145.
5. 29 CFR 1910.145, 1926.62(m), 1926.1101(k)(7).
6. LANL Laboratory Standard LS107-02.1, "Radiological Posting."
7. Site Remediation Work Plan (SRWP) for the Cleanup of Solid Waste Management Unit (SWMU) 9-013.
8. Spill Prevention and Control Plan (SPCP) for the Cleanup of Solid Waste Management Unit (SWMU) 9-013.
9. Waste Management Plan/Waste Characterization Strategy Form for the Cleanup of Solid Waste Management Unit (SWMU) 9-013.
10. LANL AR 9.4, "Accidental Oil, Chemical and Airborne Releases."
11. LANL-ER-AP-05.1, "Readiness Review for Environmental Restoration Project Field Activities."
12. NES Document No. 82A8838, Project Management Plan for the Phase I Remediation of Material Disposal Area (MDA) M, TA-09 at Los Alamos National Laboratry, November 1995.
13. LANL LP107-04.1, "Releasing Materials and Equipment."
14. United States Nuclear Regulatory Commission (USNRC), SECY-81-676, October 1981, "Disposal or On-Site Storage of Residual Thorium or Uranium from Past Operations."
15. NES Document No. 80A9086, "Quality Assuarance Manual," February 1994.

APPENDIX A

RADIATION WORK PERMIT

Permit # → 09-ER-95-001

LOS ALAMOS NATIONAL LABORATORY

RADIOLOGICAL WORK PERMIT

HS USE ONLY	
Permit Number ~~ER/D&D-FUS-95-001~~	
Effective Date/Time 11/17/95	Expiration Date/Time 11/17/96

Requested By Deborah M. O'Connell	Group ESA-EPE(NE)	Telephone Number 662-1984	Mail Stop N/A
Work Location (TA, Building, Room Number) MDA M at TA-9	SOP Number SSHASP No. 19	Small Job Ticket NA	Work Order Number NA

Work to be performed (Add attachment if necessary)
Cleanup Activities involving removal of debris and soil

RWP approval required by: 11/17/95 | Desired start date: 11/17/95 | Probable end date: 1/31/96

Describe additional hazards (Ex: limited egress, confined space, chemicals, criticality, etc.)
Potential for RCRA, HE and Radiological Contaminants; sharp objects, uneven terrain; cold stress; insects/rodents/snakes.

Estimated Radiation Levels
Surface Contamination TBD | Airborne Contamination TBD | External Dose Equivalent Rate <1mr/h
Identify nuclides if possible U-238, Sr-90

Measured Radiation Levels*		Measured Contamination Levels*	DIRECT (dpm/100cm²)	SMEAR (dpm/100cm²)
Beta + Gamma (mR/h)	<1 / <1	Alpha	NDA / 2400	NDA / 100
Neutrons (mrem/h)	NA / NA	Beta + Gamma	NDA / 2.0E6	NDA / 200
		Tritium	NA	NA / NA

* Record general area/highest level encountered—see survey report for additional information.

Identify any contamination under paint or on inaccessible surfaces
Potential U-238/U-235/Sr-90 soil & Debris

Airborne Contamination Data TBD | Surveyed By Clarita Trujillo | Z Number 107706 | Date 7/12/95

Protective Clothing Requirements ☐ None Required
☑ Level I (Coveralls, 2 pairs of surgeon's gloves, booties, and skull cap) ☐ Taped openings
☐ Level II (2 coveralls, 2 pairs of surgeon's gloves, 2 pairs of booties, and hood) ☐ Other (See special instructions below)

Respiratory Requirements ☑ None Required
☐ Full-Face Respirator ☐ Supplied-Air Mask ☐ Particulate Cartridge ☐ Combination Cartridge
☐ Chemical Cartridge ☐ HS-5 Respirator Card ☐ CAM ☐ Ventilation (Specify)
☐ SCBA ☐ Supplied-Air Suit ☑ Special Air Test - During HCA-related activities ☐
☑ Regular Air Test

Dosimetry Requirements ☐ None Required
☑ WB Dosimeter ☐ PNAD Packet ☐ Alarming Dosimeter ☐ Nose Swipes ~~☐ Urinalysis~~ Not needed per 1/19
☐ Secondary Dosimeter ☐ TLD Finger Rings ☐ NTA Badges ☑ Whole-Body Count ☐ Workers are on Pu access list

RCT Monitoring Requirements ☐ None Required ☐ Self-Frisking ☐ RCT Monitor Undress
☐ Intermittent coverage ☑ Personnel before leaving job ☑ Equipment and tools prior to removal
☑ Continuous coverage ☑ Notify RCT at job end ☑ Notify RCT before job starts @ Clarita R Trujillo 104-1663 7-3999

Special Posting Requirements ☐ None Required
☑ Required (Specify) Controlled Area

Training Requirements ☑ Pre-Job Briefing
☐ GERT ☐ RadWorker I ☑ RadWorker II ☑ Other SSHASP

Special Requirements ☐ None Required ☐ ALARA Review/Pre-Job Briefing ☐ Special ALARA Controls (See Attachment)
Instructions (Add attachments if necessary)/Limiting Conditions
See Attached

Completed By Clarita R. Trujillo | Z Number 107706 | Date 11-17-95

1. Line Manager Deborah M. O'Connell	Z Number 640689	Group NES	Date 11/17/95	3.		Z Number	Group	Date
2. RCT Supervisor [signature]	Z Number 116067	Group HS-1	Date 11/17/95	4.		Z Number	Group	Date

LOS ALAMOS
NATIONAL LABORATORY

RADIOLOGICAL WORK PERMIT ACKNOWLEDGMENT LOG

RWP Number	Location
09-ER-95-001	TA-9 MDA-M

By signing this log, I acknowledge that I have read the radiological conditions and protection requirements of the RWP. I understand these conditions and protection requirements and will abide by them.

Z NUMBER	NAME (*Print*)	ORGANIZATION	NAME (*Signature*)	DATE	TIME
108821	Mary Peifer	ESH-1	[illegible]	11-21-95	0900
	Timothy M. Jones	IT corp	[illegible]	11-22-95	0805
	James R. Clements	IT Corp	[illegible]	11-22-95	0805
641847	Dwight Vann	NES	[illegible]	11-22-95	0805
	Bert Peterson	IT corp	[illegible]	11-22-95	0805
080165	Bennie Martinez	LAM	[illegible]	11-22-95	0805
084710	L. W. [illegible]	[illegible]	[illegible]	11-22-95	0805
107096	Tracy Smith	[illegible]	[illegible]	11-22-95	0805
099951	L. C. Impresciano	[illegible]	[illegible]	11-22-95	0805
117464	Pete A. Ross	[illegible]	[illegible]	11-22-95	0805
	Gregory [illegible]	[illegible]	[illegible]	[illegible]	0806
109152	Glenn Van[illegible]	[illegible]	[illegible]	[illegible]	0809
117352	Kirk [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
640689	Deborah M. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
116362	Adrian [illegible]	Delph.	[illegible]	[illegible]/95	08:15
114640	J. [illegible] Owens	Delph.	[illegible]	11/22/95	08:15
080258	R. J. [illegible]	DELPH	[illegible]	[illegible]/95	7:35

RWP 09-ER-95-001
ATTACHMENT 1

1. The Action Levels specified in SSHASP #79 Section 6.0, Table 6.1 are mandatory and shall be used to determine any upgrade or downgrade of PPE requirements. Any upgrade or downgrade to this RWP shall be made by ESH-1.

2. Hold Points are defined in Table 6.1 of the SSHASP.

3. Health Physics Monitoring Instructions (Table 6.1) Action Levels for soil are based on ***dry soil.*** Please be aware that in of wet conditions contaminated soil may adhere to personnel clothing, tires, etc. Any activity on personal clothing including shoe or boots is considered a radiological incident.

4. **Any skin or personal clothing contamination shall be reported to the ESH-1 Oversight RCT immediately.**

5. All material and equipment leaving a controlled area shall be surveyed and tagged in accordance with LP107-04.1, Releasing Material and Equipment.

6. Showers are mandatory of contamination is found on personnel but otherwise optional.

7. Air sampling shall be performed during excavation activities downwind from the work area.

8. Posting shall be maintained by NES. Posting and barricade rope or ribbon that has fallen down due to weather, etc. shall be put back in place as soon as it is found. ESH-1 shall be notified of any degraded posting.

9. For ESH-1 Health Physics assistance the first primary contact is Clarita R. Trullio (7-3999/104-6663). Clarita's backup is Marty Peifer (7-0083/104-6649). If they are unavailable please contact Pat LaFrate at 7-8366/104-7262.

APPENDIX B

READINESS REVIEW CHECKLIST

Los Alamos National Laboratory Environmental Restoration Project
READINESS REVIEW CHECKLIST

Field Unit: MDA (M) TA(s): 09 Date: 11/15/95
PRS Types: 9-013
Description of Field Activity: Expedited Cleanup

Applicable	Complete	R/A Assignment	
			1. GENERAL
X	X	LANL	A) Scope of Activity Defined
X	X	NES	B) Site Remediation Plan Completed
Applicable	**Complete**	**R/A Assignment**	**2. ENVIRONMENTAL AND CULTURAL PROTECTION (Section 5.1.1)**
X	X	LANL	A) ES&H Questionnaire Submitted and Approved
X	X	LANL	B) Appropriate NEPA Approval is Received
X	X	LANL	C) Flood Plains/Wetlands Assessment Performed
X	X	LANL	D) Threatened and Endangered Species Assessment Performed
X	X	LANL	E) Cultural Resources Assessment Performed
X	X	LANL	F) NESHAP Evaluated
NA			G) NPDES Evaluated
Applicable	**Complete**	**R/A Assignment**	**3. HEALTH & SAFETY (Section 5.1.2)**
X	X	NES/LANL	A) Site-Specific H&S Plan Approval
X	X	LANL	B) Contractor H&S Program Approved
X	X	NES	C) Medical Monitoring Established
X	X	NES	D) Health Physics Checklist Completed
Applicable	**Complete**	**R/A Assignment**	**4. WASTE MANAGEMENT (Section 5.1.3)**
X	X	NES	A) Site-Specific Waste Management Plan Completed & Waste Characterization Checklist Approved
X	X	NES/LANL	B) On-Site Waste Storage Areas Arranged
X	X	LANL	C) Trained Waste Coordinator Assigned
X	X	LANL	D) Trained Waste Generator Assigned R. Brewer, generator
X	X	LANL	E) Spill Prevention Plan Completed
X	X	NES	F) Waste Profile Forms Completed
X	X	LANL	G) Trained Waste Coordinator Assigned
Applicable	**Complete**	**R/A Assignment**	**5. TRAINING (Section 5.1.4)**
X	X	NES	A) HAZWOPER
X	X	NES	B) GET
X	X	NES	C) First Aid and CPR
X	*	NES	D) On-Site Orientation
X	*	NES	E) Site Specific Training
X	X	NES	F) Radiation Worker Training
X	*	NES	G) Respirator Training and Fit Test
		NES	H) Lockout/Tagout Training
X	*	NES	I) Asbestos Awareness
X	X	NES	J) HE Corridor Training
X	*	NES	K) Lead Awareness
X	X	NES	L) RSAA Training
X	X	NES/LANL	M) Documentation of Personnel Training Forwarded to the ER Training Coordinator

(*) Scheduled for 11/16/95

Los Alamos National Laboratory Environmental Restoration Project
READINESS REVIEW CHECKLIST (continued)

Applicable	Complete	R/A Assignment	6. WORK REQUESTS AND PERMIT REVIEWS (Section 5.1.5)
X	X	NES	A) Fencing
X	X	LANL	B) Excavation/Fill
			C) Special Work — RSAA
			D) Confined-Space
X	X	LANL	E) Radiation Work
			F) Burn/Hot Work

Applicable	Complete	R/A Assignment	7. SUPPORT AND EQUIPMENT (Section 5.1.6)
X	X	NES	A) Support Services Arranged
X	X	NES	B) Subcontractors Identified
X	X	LANL	C) Utilities Located and Marked
X	X	NES	D) Sanitation Facilities Arranged
X	X	NES	E) Communications Equipment Obtained
X	X	NES	F) Sampling and Survey Equipment and Supplies Obtained
X	X	NES	G) H&S Equipment and Supplies Obtained
X	X	NES	H) Copies of Applicable Procedures, H&S Plan, etc. on Site

Applicable	Complete	R/A Assignment	8. SAMPLE PLANNING (Section 5.1.7)
			A) Data Quality Objectives Prepared
			B) Sample Documentation Database Prepared
			C) Field Implementation Plan and Other Appropriate Plans Prepared and Approved
			D) Sampling and Analysis Plan Approved by NMED and/or EPA as Appropriate
			E) SOPs and Forms Prepared and/or Obtained
			F) FIMAD Location Numbers Obtained
			G) Transport of Hazardous Materials Arranged for Samples

Applicable	Complete	R/A Assignment	9. SAMPLE COORDINATION AND MANAGEMENT (Section 5.1.8)
X	X	NES	A) SMO or Analytical Laboratory Notified of Analytical Requirements
X	X	NES	B) Mobile Chemistry Laboratory
X	X	NES	C) Mobile Radiation Laboratory
X	X	NES	D) SMO or Analytical Laboratory Instructed on Sample Analysis Requirements

Applicable	Complete	R/A Assignment	10. SAMPLE PLANNING (Section 5.1.9)
			A) Drilling Package Submitted
			B) Drilling Scheduled
			C) Geophysical Contractor Scheduled

Applicable	Complete	R/A Assignment	11. LABORATORY AND SITE ACCESS (Section 5.1.10)
X	X	LANL	A) Operating Group Interface Established
X	X	LANL	B) Site Access Coordinated
X	X	LANL	C) Access Agreement and Other Permissions Obtained
X	X	LANL	D) Site Control and Security Planned and Arranged
X	X	NES/LANL	E) Laboratory Identification Badges Issued

Applicable	Complete	R/A Assignment	12. NOTIFICATIONS (Section 5.1.11)
X	X	LANL	A) ES&H Office(s), Group Leader(s), and Facility Managers at Affected TA(s)
			B) Non-DOE Property Owners
			C) Los Alamos County
X	X	LANL	D) Regulatory Compliance Manager
X	X	LANL	E) Policy and Public Involvement Representative

Applicable	Complete	R/A Assignment	13. OTHER (Section 5.1.12)
X	X	NES	A) Hazardous Waste Disposal Contractor in Place
X	X	NES	B) Asbestos Waste Contractor in Place
X	X	NES	C) Clean/Recycle Waste Disposal in Place
X	X	NES	D) HP Technicians in Place
X	X	NES	E) CIH in Place
X	X	NES	F) Escorts in Place

Signature confirms that all actions for readiness review have been completed.

Signature: Jonathan Kier, acting Date: 16 Nov 95

FPL, Field Unit MDA (M)

Fu 5

APPENDIX C

GAMMA SPECTROSCOPY FOR THE CHARACTERIZATION OF MDA M

GAMMA SPECTROSCOPY RESULTS FROM 11/21/95

FOR

CELLS 77,78,63,64,78A,50

Initial Calibration 11/21

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*                                                                     *
*        G A M M A   S P E C T R U M   R E C A L I B R A T I O N      *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 21-NOV-95 09:11:07

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 21-NOV-95 at 08:39:46

COLLECT Live Time: 1200. sec.

hgtrw 21-NOV-95 09:11:07

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	78.89	39.61	1.8	34777.	5336.	14.7	
2C	90.67	45.50	1.8	28374.	2162.	20.6	
3$	149.27	74.78	1.3	22013.	750.	57.0	PB-214
4$	167.66	83.97	3.6	90490.	2108.	29.0	
5$	173.76	87.02	3.6	101047.	3473.	21.7	PB-214
6?	235.85	118.04	1.7	40454.	9139.	75.1	
7?	243.25	121.74	1.7	38607.	181497.	3.8	SE-75,SCL-000, CO-57
8?	481.44	240.77	1.7	15156.	1328.	87.3	RA-224
9?	489.23	244.67	1.7	15615.	34165.	3.9	
10	591.74	295.90	1.1	11001.	1810.	19.0	PB-214
11?	680.58	340.30	1.8	9381.	3694.	59.2	CS-136
12?	688.47	344.24	1.8	10455.	90393.	2.6	BA-141, SCM-000
13	735.36	367.68	2.1	6780.	2851.	9.7	
14C	822.18	411.08	1.8	5956.	5673.	8.3	AU-198
15	887.79	443.88	1.6	6503.	7927.	3.9	
16	977.31	488.63	1.7	4939.	892.	24.7	
17	1128.01	563.96	2.0	6475.	1256.	21.5	CS-134,SB-122
18	1172.51	586.21	1.9	4628.	976.	22.0	
19	1357.24	678.57	1.3	4864.	606.	37.4	AG110M
20	1377.23	688.57	1.9	4958.	1369.	17.5	
21	1438.84	719.37	1.2	5217.	397.	59.9	
22?	1550.46	775.19	2.1	4688.	622.	55.6	
23?	1557.90	778.91	2.1	4881.	18877.	2.9	
24	1620.83	810.38	1.8	4224.	387.	55.4	I-132,CO-58
25	1734.84	867.40	2.0	4651.	5173.	5.1	
26?	1920.46	960.23	2.2	2331.	988.	22.2	
27?	1928.18	964.09	2.2	2287.	18107.	2.9	EU-152
28?	1933.43	966.72	2.2	2257.	1017.	33.6	
29	2010.22	1005.13	1.8	2038.	906.	17.8	
30C	2163.88	1081.99	2.3	2010.	577.	27.1	
31C	2171.88	1085.99	2.3	2042.	12003.	3.2	EU-152
32C	2179.34	1089.72	2.3	2072.	2345.	9.7	
33?	2216.92	1108.52	2.3	2019.	834.	29.1	
34?	2224.35	1112.24	2.3	2254.	15279.	2.6	TE-129,EU-152
35	2425.93	1213.08	2.1	1272.	1532.	9.4	
36C	2549.31	1274.81	2.1	675.	309.	30.1	NA-22
37	2598.59	1299.47	2.1	537.	1410.	7.5	
38?	2808.69	1404.60	2.5	430.	912.	25.8	
39?	2816.55	1408.53	2.5	575.	19134.	1.9	EU-152,BI-214, SCH-000
40C	2915.64	1458.12	2.5	83.	456.	11.3	I-135
41C	2922.16	1461.38	2.5	67.	308.	13.6	K-40
42	3059.51	1530.12	3.8	76.	497.	10.7	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

12 Multiplets processed.

C - Multiplet Analysis converged normally
- Multiplet Analysis Terminated because of no CHI-SQ improvement
- Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 1.386496E-07*Ch^2 + 4.996305E-01*Ch + 1.981197E-01

New Calibration Coefficients:

Energy = 2.502645E-07*Ch^2 + 4.990701E-01*Ch + 5.515613E-01

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Daily Source check 11/21

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 21-NOV-95 09:25:02

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1121
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 21-NOV-95 at 09:18:27

COLLECT Live Time: 60. seconds
Real Time: 75. seconds
Dead Time: 20.00 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 21-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

21-NOV-95 09:25:02

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1?	233.97	117.33	1.7	2015.	468.	61.8	
2?	243.60	122.14	1.7	1920.	9234.	4.5	SCL-000,CO-57
3	489.48	244.90	1.5	850.	1637.	7.3	
4$	678.49	339.28	1.8	461.	170.	41.8	AC-228
5$	688.65	344.35	1.8	542.	4489.	4.1	BA-141, SCM-000
6	822.42	411.16	1.6	246.	332.	17.9	AU-198
7	887.77	443.81	1.9	333.	358.	19.2	
8	1557.69	778.56	1.7	234.	944.	8.1	MO-99
9	1734.49	866.93	1.9	229.	248.	23.0	
10	1927.84	963.61	2.0	184.	850.	8.4	EU-152
11	2171.56	1085.49	2.2	302.	469.	15.3	EU-152
12	2224.02	1111.73	2.4	166.	754.	9.2	TE-129,EU-152
13	2598.52	1299.08	2.1	17.	79.	27.9	I-133
14C	2805.57	1402.70	2.5	26.	29.	31.8	
15C	2815.97	1407.90	2.5	38.	1007.	6.8	EU-152,BI-214, SCH-000
16$	2914.70	1457.32	1.5	13.	21.	72.1	I-135
17$	3056.06	1528.08	1.3	0.	15.	49.8	
18$	3061.01	1530.55	1.3	0.	10.	58.4	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

4 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 21-NOV-95 09:25:02

Sample: Eu-152 Standard
Data collected on 21-NOV-95 at 09:18:27
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<9.19E+01		LLD<9.19E+01	
TH-234	LLD<6.95E+02		LLD<6.95E+02	
TH-230	LLD<5.71E+03		LLD<5.71E+03	
XE-133	LLD<4.14E+01		LLD<4.14E+01	
CD-109	LLD<3.46E+02		LLD<3.46E+02	
SCL-000	9.73E+02	+- 4.51E+01	9.73E+02	+- 4.51E+01
CO-57	3.23E+02	+- 1.50E+01	3.23E+02	+- 1.50E+01
PA-234	LLD<3.08E+01		LLD<3.08E+01	
CE-144	LLD<5.41E+01		LLD<5.41E+01	
TC-99M	LLD<6.29E+00		LLD<6.29E+00	
U-235	LLD<5.17E+01		LLD<5.17E+01	
CE-141	LLD<1.14E+01		LLD<1.14E+01	
KR-85M	LLD<7.35E+00		LLD<7.35E+00	
XE-131M	LLD<2.86E+02		LLD<2.86E+02	
BA-139	LLD<3.21E+01		LLD<3.21E+01	
[illegible]E-139	LLD<6.78E+00		LLD<6.78E+00	
[illegible]A-226	LLD<1.74E+02		LLD<1.74E+02	
BA-141	LLD<1.17E+01		LLD<1.17E+01	
KR-89	LLD<3.35E+01		LLD<3.35E+01	
TE-132	LLD<7.26E+00		LLD<7.26E+00	
XE-133M	LLD<6.23E+01		LLD<6.23E+01	
TH-227	LLD<4.43E+01		LLD<4.43E+01	
PB-212	LLD<1.48E+01		LLD<1.48E+01	
RA-224	LLD<3.07E+02		LLD<3.07E+02	
XE-135	LLD<1.34E+01		LLD<1.34E+01	
XE-138	LLD<2.04E+01		LLD<2.04E+01	
SE-75	LLD<1.05E+01		LLD<1.05E+01	
NP-239	LLD<4.39E+01		LLD<4.39E+01	
HG-203	LLD<7.59E+00		LLD<7.59E+00	
IR-192	LLD<7.34E+00		LLD<7.34E+00	
CR-51	LLD<6.86E+01		LLD<6.86E+01	
SCM-000	9.45E+02	+- 4.17E+01	9.45E+02	+- 4.17E+01
BI-211	LLD<8.68E+01		LLD<8.68E+01	
PB-214	LLD<2.23E+01		LLD<2.23E+01	
BA-133	LLD<1.11E+01		LLD<1.11E+01	
I-131	LLD<9.35E+00		LLD<9.35E+00	
SN-113	LLD<9.56E+00		LLD<9.56E+00	
KR-87	LLD<1.31E+01		LLD<1.31E+01	
PB-211	LLD<2.22E+02		LLD<2.22E+02	
AU-198	2.32E+01	+- 4.18E+00	2.32E+01	+- 4.18E+00
SB-125	LLD<2.10E+01		LLD<2.10E+01	
[illegible]I-212	LLD<1.99E+03		LLD<1.99E+03	
BE-7	LLD<6.97E+01		LLD<6.97E+01	
HF-181	LLD<9.43E+00		LLD<9.43E+00	
RU-103	LLD<8.70E+00		LLD<8.70E+00	
KR-85	LLD<1.78E+03		LLD<1.78E+03	

SR-85	LLD<7.80E+00		LLD<7.80E+00		
I-133	LLD<9.68E+00		LLD<9.68E+00		
BA-140	LLD<3.41E+01		LLD<3.41E+01		
Y-91M	LLD<8.80E+00		LLD<8.80E+00		
[illegible]-207	LLD<9.96E+00		LLD<9.96E+00		
[illegible]-208	LLD<1.26E+01		LLD<1.26E+01		
SB-124	LLD<9.25E+00		LLD<9.25E+00		
CS-134	LLD<9.16E+00		LLD<9.16E+00		
BI-214	LLD<2.00E+01		LLD<2.00E+01		
RU-106	LLD<9.74E+01		LLD<9.74E+01		
LA-142	LLD<1.66E+01		LLD<1.66E+01		
AG-110M	LLD<9.55E+00		LLD<9.55E+00		
NB-97	LLD<9.08E+00		LLD<9.08E+00		
CS-137	LLD<1.08E+01		LLD<1.08E+01		
I-132	LLD<9.46E+00		LLD<9.46E+00		
W-187	LLD<3.80E+01		LLD<3.80E+01		
ZR-97	LLD<1.07E+01		LLD<1.07E+01		
ZR-95	LLD<2.01E+01		LLD<2.01E+01		
NB-95	LLD<1.05E+01		LLD<1.05E+01		
TL-210	LLD<1.48E+01		LLD<1.48E+01		
CO-58	LLD<1.14E+01		LLD<1.14E+01		
CS-136	LLD<1.16E+01		LLD<1.16E+01		
MN-54	LLD<1.11E+01		LLD<1.11E+01		
CO-56	LLD<1.15E+01		LLD<1.15E+01		
I-134	LLD<1.21E+01		LLD<1.21E+01		
TL-207	LLD<5.18E+03		LLD<5.18E+03		
Y-88	LLD<1.17E+01		LLD<1.17E+01		
AC-228	LLD<3.44E+01		LLD<3.44E+01		
EU-152	9.12E+02	+- 7.97E+01	9.12E+02	+-	7.97E+01
[illegible]-234M	LLD<2.85E+01		LLD<2.85E+01		
[illegible]-91	LLD<2.97E+01		LLD<2.97E+01		
RB-89	LLD<1.70E+01		LLD<1.70E+01		
FE-59	LLD<1.87E+01		LLD<1.87E+01		
ZN-65	LLD<4.96E+01		LLD<4.96E+01		
SC-46	LLD<1.07E+01		LLD<1.07E+01		
TA-182	LLD<3.19E+01		LLD<3.19E+01		
I-135	LLD<2.96E+01		LLD<2.96E+01		
CL-39	LLD<1.57E+01		LLD<1.57E+01		
NA-22	LLD<7.39E+00		LLD<7.39E+00		
AR-41	LLD<1.26E+01		LLD<1.26E+01		
CO-60	LLD<5.31E+00		LLD<5.31E+00		
NA-24	LLD<3.45E+00		LLD<3.45E+00		
SR-92	LLD<4.17E+00		LLD<4.17E+00		
SCH-000	9.84E+02	+- 7.40E+01	9.84E+02	+-	7.40E+01
CS-138	LLD<4.61E+00		LLD<4.61E+00		
K-40	LLD<4.47E+01		LLD<4.47E+01		
KR-88	LLD<4.22E+01		LLD<4.22E+01		
TL-209	LLD<3.44E+00		LLD<3.44E+00		
LA-140	LLD<6.14E-01		LLD<6.14E-01		
AL-26	LLD<6.17E-01		LLD<6.17E-01		
MN-56	LLD<2.27E+00		LLD<2.27E+00		
RB-88	LLD<2.96E+00		LLD<2.96E+00		
	---		---		
Total	4.16E+03	+- 1.26E+02	4.16E+03	+-	1.26E+02

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1121

PEAKS NOT USED IN ANALYSIS

Centroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
233.97	117.33	468.	61.8	4.80E+02
489.48	244.90	1637.	7.3	2.25E+03
678.49	339.28	170.	41.8	3.09E+02
887.77	443.81	358.	19.2	8.49E+02
1557.69	778.56	944.	8.1	3.95E+03
1734.49	866.93	248.	23.0	1.15E+03
2598.52	1299.08	79.	27.9	5.06E+02
2805.57	1402.70	29.	31.8	1.94E+02
2914.70	1457.32	21.	72.1	1.45E+02
3056.06	1528.08	15.	49.8	1.02E+02
3061.01	1530.55	10.	58.4	7.26E+01

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C-77

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*            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 21-NOV-95 11:27:35

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0001
Measured by: dlv

Sample Description: C-77 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.9800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 21-NOV-95 at 10:36:13

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 21-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 21-NOV-95 11:27:35

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.86	239.09	1.0	73.	121.	28.7	PB-212
2	677.09	338.58	0.7	18.	16.	90.2	AC-228
3	704.12	352.08	1.1	23.	86.	27.5	PB-214
4	1021.70	510.71	1.1	15.	20.	74.3	TL-208,NA-22, ANN-RD
5	1166.38	583.00	0.6	11.	30.	51.0	TL-208
6	1218.81	609.20	1.1	19.	38.	49.4	BI-214
7	1822.92	911.15	0.9	3.	24.	44.8	AC-228
8E	2130.67	1065.04	0.6	2.	8.	95.8	
9	2920.92	1460.43	2.6	4.	83.	23.3	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

E - Multiplet Analysis ERROR

hgtrw 21-NOV-95 11:27:35

Sample: C-77 Soil
Data collected on 21-NOV-95 at 10:36:13
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.56E+00		LLD<3.56E+00	
TH-234	LLD<2.33E+01		LLD<2.33E+01	
TH-230	LLD<2.22E+02		LLD<2.22E+02	
XE-133	LLD<1.53E+00		LLD<1.53E+00	
CD-109	LLD<1.00E+01		LLD<1.00E+01	
SCL-000	LLD<7.00E-01		LLD<7.00E-01	
CO-57	LLD<2.32E-01		LLD<2.32E-01	
PA-234	LLD<9.50E-01		LLD<9.50E-01	
CE-144	LLD<2.05E+00		LLD<2.05E+00	
TC-99M	LLD<2.12E-01		LLD<2.12E-01	
U-235	LLD<1.44E+00		LLD<1.44E+00	
CE-141	LLD<3.76E-01		LLD<3.76E-01	
KR-85M	LLD<2.43E-01		LLD<2.43E-01	
XE-131M	LLD<7.80E+00		LLD<7.80E+00	
BA-139	LLD<8.93E-01		LLD<8.93E-01	
[illegible]-139	LLD<1.81E-01		LLD<1.81E-01	
[illegible]-226	LLD<5.56E+00		LLD<5.56E+00	
BA-141	LLD<4.73E-01		LLD<4.73E-01	
KR-89	LLD<2.36E+00		LLD<2.36E+00	
TE-132	LLD<2.28E-01		LLD<2.28E-01	
XE-133M	LLD<2.30E+00		LLD<2.30E+00	
TH-227	LLD<2.00E+00		LLD<2.00E+00	
PB-212	1.37E+00	+- 3.96E-01	1.37E+00	+- 3.96E-01
RA-224	LLD<5.81E+00		LLD<5.81E+00	
XE-135	LLD<2.19E-01		LLD<2.19E-01	
XE-138	LLD<8.58E-01		LLD<8.58E-01	
SE-75	LLD<3.29E-01		LLD<3.29E-01	
NP-239	LLD<1.66E+00		LLD<1.66E+00	
HG-203	LLD<2.56E-01		LLD<2.56E-01	
IR-192	LLD<2.61E-01		LLD<2.61E-01	
CR-51	LLD<2.25E+00		LLD<2.25E+00	
SCM-000	LLD<1.07E+00		LLD<1.07E+00	
BI-211	LLD<8.61E+00		LLD<8.61E+00	
PB-214	1.92E+00	+- 5.28E-01	1.92E+00	+- 5.28E-01
BA-133	LLD<7.06E-01		LLD<7.06E-01	
I-131	LLD<2.77E-01		LLD<2.77E-01	
SN-113	LLD<3.42E-01		LLD<3.42E-01	
KR-87	LLD<4.33E-01		LLD<4.33E-01	
PB-211	LLD<9.80E+00		LLD<9.80E+00	
AU-198	LLD<2.62E-01		LLD<2.62E-01	
SB-125	LLD<7.97E-01		LLD<7.97E-01	
[illegible]-212	LLD<7.51E+01		LLD<7.51E+01	
BE-7	LLD<2.41E+00		LLD<2.41E+00	
HF-181	LLD<2.94E-01		LLD<2.94E-01	
RU-103	LLD<2.50E-01		LLD<2.50E-01	
KR-85	LLD<7.62E+01		LLD<7.62E+01	

SR-85	LLD<3.33E-01		LLD<3.33E-01		
I-133	LLD<3.27E-01		LLD<3.27E-01		
BA-140	LLD<1.14E+00		LLD<1.14E+00		
Y-91M	LLD<2.89E-01		LLD<2.89E-01		
[illegible]-207	LLD<2.79E-01		LLD<2.79E-01		
[illegible]-208	1.08E+00	+- 5.54E-01	1.08E+00	+-	5.54E-01
SB-124	LLD<3.98E-01		LLD<3.98E-01		
CS-134	LLD<6.42E-01		LLD<6.42E-01		
BI-214	1.23E+00	+- 6.07E-01	1.23E+00	+-	6.07E-01
RU-106	LLD<2.11E+00		LLD<2.11E+00		
LA-142	LLD<6.10E-01		LLD<6.10E-01		
AG-110M	LLD<6.15E-01		LLD<6.15E-01		
NB-97	LLD<6.04E-01		LLD<6.04E-01		
CS-137	LLD<4.47E-01		LLD<4.47E-01		
I-132	LLD<4.17E-01		LLD<4.17E-01		
W-187	LLD<1.05E+00		LLD<1.05E+00		
ZR-97	LLD<3.24E-01		LLD<3.24E-01		
ZR-95	LLD<5.66E-01		LLD<5.66E-01		
NB-95	LLD<2.79E-01		LLD<2.79E-01		
TL-210	LLD<2.20E+00		LLD<2.20E+00		
CO-58	LLD<3.43E-01		LLD<3.43E-01		
CS-136	LLD<3.50E-01		LLD<3.50E-01		
MN-54	LLD<3.33E-01		LLD<3.33E-01		
CO-56	LLD<2.56E-01		LLD<2.56E-01		
I-134	LLD<3.29E-01		LLD<3.29E-01		
TL-207	LLD<3.20E+02		LLD<3.20E+02		
Y-88	LLD<4.25E-01		LLD<4.25E-01		
AC-228	1.64E+00	+- 7.36E-01	1.64E+00	+-	7.36E-01
EU-152	LLD<3.97E+00		LLD<3.97E+00		
[illegible]A-234M	LLD<3.76E+00		LLD<3.76E+00		
[illegible]-91	LLD<1.12E+00		LLD<1.12E+00		
RB-89	LLD<7.25E-01		LLD<7.25E-01		
FE-59	LLD<6.30E-01		LLD<6.30E-01		
ZN-65	LLD<1.13E+00		LLD<1.13E+00		
SC-46	LLD<4.80E-01		LLD<4.80E-01		
TA-182	LLD<1.46E+00		LLD<1.46E+00		
I-135	LLD<1.15E+00		LLD<1.15E+00		
CL-39	LLD<7.50E-01		LLD<7.50E-01		
NA-22	LLD<5.37E-01		LLD<5.37E-01		
AR-41	LLD<3.07E-01		LLD<3.07E-01		
CO-60	LLD<3.22E-01		LLD<3.22E-01		
NA-24	LLD<2.74E-01		LLD<2.74E-01		
SR-92	LLD<3.41E-01		LLD<3.41E-01		
SCH-000	LLD<1.92E+00		LLD<1.92E+00		
CS-138	LLD<4.47E-01		LLD<4.47E-01		
K-40	2.07E+01	+- 4.86E+00	2.07E+01	+-	4.86E+00
KR-88	LLD<1.52E+00		LLD<1.52E+00		
TL-209	LLD<1.09E+00		LLD<1.09E+00		
LA-140	LLD<4.03E-01		LLD<4.03E-01		
AL-26	LLD<3.36E-01		LLD<3.36E-01		
MN-56	LLD<6.53E-01		LLD<6.53E-01		
RB-88	LLD<2.17E+00		LLD<2.17E+00		
	---		---		
Total	2.79E+01	+- 5.03E+00	2.79E+01	+-	5.03E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0001

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
677.09	338.58	16.	90.2	2.90E+00
2130.67	1065.04	8.	95.8	4.68E+00

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C-78

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*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 21-NOV-95 11:45:46

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0002
Measured by: dlv

Sample Description: C-78 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.1900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 21-NOV-95 at 11:28:35

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 21-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 21-NOV-95 11:45:46

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	186.05	93.41	1.4	122.	93.	42.8	TH-234
2	371.57	186.03	1.9	73.	94.	35.3	U-235,RA-226
3	477.88	239.10	1.5	71.	97.	33.9	PB-212
4	591.13	295.65	1.7	17.	46.	39.1	PB-214
5	676.82	338.45	1.9	12.	28.	53.6	AC-228
6	704.81	352.43	1.7	29.	49.	43.3	PB-214
7	1166.75	583.18	1.1	9.	26.	50.6	TL-208
8	1219.28	609.43	1.7	7.	29.	45.4	BI-214
9	1290.37	644.95	1.4	3.	8.	91.3	SB-124
10	1822.00	910.69	1.7	6.	25.	50.1	AC-228
11E	2614.33	1307.00	0.9	3.	8.	109.6	
12	2921.58	1460.76	3.4	0.	67.	23.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

E - Multiplet Analysis ERROR

hgtrw 21-NOV-95 11:45:46

Sample: C-78 Soil
Data collected on 21-NOV-95 at 11:28:35
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.22E+00		LLD<4.22E+00	
TH-234	LLD<2.89E+01		LLD<2.89E+01	
TH-230	LLD<2.46E+02		LLD<2.46E+02	
XE-133	LLD<1.84E+00		LLD<1.84E+00	
CD-109	LLD<1.26E+01		LLD<1.26E+01	
SCL-000	LLD<7.07E-01		LLD<7.07E-01	
CO-57	LLD<2.35E-01		LLD<2.35E-01	
PA-234	LLD<9.58E-01		LLD<9.58E-01	
CE-144	LLD<1.88E+00		LLD<1.88E+00	
TC-99M	LLD<2.50E-01		LLD<2.50E-01	
U-235	LLD<1.77E+00		LLD<1.77E+00	
CE-141	LLD<3.77E-01		LLD<3.77E-01	
KR-85M	LLD<2.39E-01		LLD<2.39E-01	
XE-131M	LLD<9.22E+00		LLD<9.22E+00	
BA-139	LLD<9.79E-01		LLD<9.79E-01	
[illegible]E-139	LLD<1.99E-01		LLD<1.99E-01	
[illegible]A-226	1.18E+01	+- 4.18E+00	1.18E+01	+- 4.18E+00
BA-141	LLD<7.07E-01		LLD<7.07E-01	
KR-89	LLD<2.23E+00		LLD<2.23E+00	
TE-132	LLD<2.57E-01		LLD<2.57E-01	
XE-133M	LLD<2.40E+00		LLD<2.40E+00	
TH-227	LLD<2.11E+00		LLD<2.11E+00	
PB-212	1.25E+00	+- 4.25E-01	1.25E+00	+- 4.25E-01
RA-224	LLD<6.79E+00		LLD<6.79E+00	
XE-135	LLD<2.43E-01		LLD<2.43E-01	
XE-138	LLD<9.02E-01		LLD<9.02E-01	
SE-75	LLD<4.11E-01		LLD<4.11E-01	
NP-239	LLD<1.61E+00		LLD<1.61E+00	
HG-203	LLD<2.61E-01		LLD<2.61E-01	
IR-192	LLD<2.82E-01		LLD<2.82E-01	
CR-51	LLD<2.47E+00		LLD<2.47E+00	
SCM-000	LLD<1.23E+00		LLD<1.23E+00	
BI-211	LLD<9.03E+00		LLD<9.03E+00	
PB-214	1.23E+00	+- 5.34E-01	1.23E+00	+- 5.34E-01
BA-133	LLD<6.47E-01		LLD<6.47E-01	
I-131	LLD<2.78E-01		LLD<2.78E-01	
SN-113	LLD<3.58E-01		LLD<3.58E-01	
KR-87	LLD<5.21E-01		LLD<5.21E-01	
PB-211	LLD<1.10E+01		LLD<1.10E+01	
AU-198	LLD<2.49E-01		LLD<2.49E-01	
[illegible]B-125	LLD<7.39E-01		LLD<7.39E-01	
[illegible]I-212	LLD<8.22E+01		LLD<8.22E+01	
BE-7	LLD<2.29E+00		LLD<2.29E+00	
HF-181	LLD<2.96E-01		LLD<2.96E-01	
RU-103	LLD<2.65E-01		LLD<2.65E-01	
KR-85	LLD<6.69E+01		LLD<6.69E+01	

SR-85	LLD<2.93E-01		LLD<2.93E-01		
I-133	LLD<3.00E-01		LLD<3.00E-01		
BA-140	LLD<1.12E+00		LLD<1.12E+00		
Y-91M	LLD<3.61E-01		LLD<3.61E-01		
-207	LLD<2.50E-01		LLD<2.50E-01		
-208	LLD<1.20E+00		LLD<1.20E+00		
SB-124	LLD<3.39E-01		LLD<3.39E-01		
CS-134	LLD<6.11E-01		LLD<6.11E-01		
BI-214	1.07E+00	+- 4.85E-01	1.07E+00	+-	4.85E-01
RU-106	LLD<3.11E+00		LLD<3.11E+00		
LA-142	LLD<5.94E-01		LLD<5.94E-01		
AG-110M	LLD<4.48E-01		LLD<4.48E-01		
NB-97	LLD<4.36E-01		LLD<4.36E-01		
CS-137	LLD<4.04E-01		LLD<4.04E-01		
I-132	LLD<3.36E-01		LLD<3.36E-01		
W-187	LLD<1.17E+00		LLD<1.17E+00		
ZR-97	LLD<3.72E-01		LLD<3.72E-01		
ZR-95	LLD<7.07E-01		LLD<7.07E-01		
NB-95	LLD<3.15E-01		LLD<3.15E-01		
TL-210	LLD<2.15E+00		LLD<2.15E+00		
CO-58	LLD<3.54E-01		LLD<3.54E-01		
CS-136	LLD<3.83E-01		LLD<3.83E-01		
MN-54	LLD<4.18E-01		LLD<4.18E-01		
CO-56	LLD<3.15E-01		LLD<3.15E-01		
I-134	LLD<3.79E-01		LLD<3.79E-01		
TL-207	LLD<2.65E+02		LLD<2.65E+02		
Y-88	LLD<3.46E-01		LLD<3.46E-01		
AC-228	1.94E+00	+- 9.75E-01	1.94E+00	+-	9.75E-01
EU-152	LLD<4.23E+00		LLD<4.23E+00		
-234M	LLD<5.38E+00		LLD<5.38E+00		
-91	LLD<1.08E+00		LLD<1.08E+00		
RB-89	LLD<7.66E-01		LLD<7.66E-01		
FE-59	LLD<8.78E-01		LLD<8.78E-01		
ZN-65	LLD<1.04E+00		LLD<1.04E+00		
SC-46	LLD<3.28E-01		LLD<3.28E-01		
TA-182	LLD<1.37E+00		LLD<1.37E+00		
I-135	LLD<1.34E+00		LLD<1.34E+00		
CL-39	LLD<1.01E+00		LLD<1.01E+00		
NA-22	LLD<5.26E-01		LLD<5.26E-01		
AR-41	LLD<4.57E-01		LLD<4.57E-01		
CO-60	LLD<4.05E-01		LLD<4.05E-01		
NA-24	LLD<2.11E-01		LLD<2.11E-01		
SR-92	LLD<5.20E-01		LLD<5.20E-01		
SCH-000	LLD<1.64E+00		LLD<1.64E+00		
CS-138	LLD<4.77E-01		LLD<4.77E-01		
K-40	1.87E+01	+- 4.53E+00	1.87E+01	+-	4.53E+00
KR-88	LLD<3.44E+00		LLD<3.44E+00		
TL-209	LLD<6.12E-01		LLD<6.12E-01		
LA-140	LLD<4.48E-01		LLD<4.48E-01		
AL-26	LLD<2.75E-01		LLD<2.75E-01		
MN-56	LLD<1.56E+00		LLD<1.56E+00		
RB-88	LLD<1.56E+00		LLD<1.56E+00		
	---		---		
Total	3.60E+01	+- 6.30E+00	3.60E+01	+-	6.30E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0002

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
186.05	93.41	93.	42.8	1.38E+01
591.13	295.65	46.	39.1	7.44E+00
676.82	338.45	28.	53.6	5.01E+00
1166.75	583.18	26.	50.6	8.24E+00
1290.37	644.95	8.	91.3	2.87E+00
2614.33	1307.00	8.	109.6	5.11E+00

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C-63

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 21-NOV-95 13:17:49

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0004
Measured by: dlv

Sample Description: C-63 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 4.9300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 21-NOV-95 at 12:58:45

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 21-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

21-NOV-95 13:17:49

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.08	239.20	1.2	67.	71.	22.0	PB-212
2C	591.21	295.70	2.0	19.	31.	27.4	PB-214
3	704.61	352.32	2.2	15.	41.	21.6	PB-214
4	955.60	477.69	1.7	10.	10.	55.6	BE-7
5	1167.22	583.42	2.4	10.	20.	33.4	TL-208
6	1219.33	609.45	1.9	13.	26.	29.8	BI-214
7	1323.40	661.46	1.5	10.	57.	15.9	CS-137

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 21-NOV-95 13:17:49

Sample: C-63 Soil
Data collected on 21-NOV-95 at 12:58:45
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.49E+00		LLD<4.49E+00	
TH-234	LLD<3.13E+01		LLD<3.13E+01	
TH-230	LLD<2.60E+02		LLD<2.60E+02	
XE-133	LLD<2.10E+00		LLD<2.10E+00	
CD-109	LLD<1.37E+01		LLD<1.37E+01	
SCL-000	LLD<8.78E-01		LLD<8.78E-01	
CO-57	LLD<2.91E-01		LLD<2.91E-01	
PA-234	LLD<1.16E+00		LLD<1.16E+00	
CE-144	LLD<2.15E+00		LLD<2.15E+00	
TC-99M	LLD<2.09E-01		LLD<2.09E-01	
U-235	LLD<2.07E+00		LLD<2.07E+00	
CE-141	LLD<4.47E-01		LLD<4.47E-01	
KR-85M	LLD<3.20E-01		LLD<3.20E-01	
XE-131M	LLD<1.10E+01		LLD<1.10E+01	
BA-139	LLD<1.10E+00		LLD<1.10E+00	
[illegible]E-139	LLD<2.22E-01		LLD<2.22E-01	
[illegible]A-226	LLD<6.79E+00		LLD<6.79E+00	
BA-141	LLD<5.63E-01		LLD<5.63E-01	
KR-89	LLD<3.01E+00		LLD<3.01E+00	
TE-132	LLD<2.59E-01		LLD<2.59E-01	
XE-133M	LLD<2.62E+00		LLD<2.62E+00	
TH-227	LLD<2.25E+00		LLD<2.25E+00	
PB-212	1.15E+00	+- 2.53E-01	1.15E+00	+- 2.53E-01
RA-224	LLD<6.64E+00		LLD<6.64E+00	
XE-135	LLD<2.73E-01		LLD<2.73E-01	
XE-138	LLD<1.06E+00		LLD<1.06E+00	
SE-75	LLD<4.31E-01		LLD<4.31E-01	
NP-239	LLD<1.95E+00		LLD<1.95E+00	
HG-203	LLD<3.37E-01		LLD<3.37E-01	
IR-192	LLD<3.24E-01		LLD<3.24E-01	
CR-51	LLD<2.57E+00		LLD<2.57E+00	
SCM-000	LLD<1.18E+00		LLD<1.18E+00	
BI-211	LLD<8.46E+00		LLD<8.46E+00	
PB-214	1.29E+00	+- 2.79E-01	1.29E+00	+- 2.79E-01
BA-133	LLD<7.46E-01		LLD<7.46E-01	
I-131	LLD<3.47E-01		LLD<3.47E-01	
SN-113	LLD<4.98E-01		LLD<4.98E-01	
KR-87	LLD<5.36E-01		LLD<5.36E-01	
PB-211	LLD<8.38E+00		LLD<8.38E+00	
AU-198	LLD<3.37E-01		LLD<3.37E-01	
[illegible]B-125	LLD<1.05E+00		LLD<1.05E+00	
[illegible]I-212	LLD<8.89E+01		LLD<8.89E+01	
BE-7	1.40E+00	+- 7.75E-01	1.40E+00	+- 7.75E-01
HF-181	LLD<4.92E-01		LLD<4.92E-01	
RU-103	LLD<3.37E-01		LLD<3.37E-01	
KR-85	LLD<1.06E+02		LLD<1.06E+02	

SR-85	LLD<4.64E-01	LLD<4.64E-01
I-133	LLD<4.22E-01	LLD<4.22E-01
BA-140	LLD<1.34E+00	LLD<1.34E+00
Y-91M	LLD<3.97E-01	LLD<3.97E-01
[illegible]-207	LLD<3.19E-01	LLD<3.19E-01
[illegible]-208	LLD<1.22E+00	LLD<1.22E+00
SB-124	LLD<4.15E-01	LLD<4.15E-01
CS-134	LLD<6.92E-01	LLD<6.92E-01
BI-214	1.20E+00 +- 3.57E-01	1.20E+00 +- 3.57E-01
RU-106	LLD<4.23E+00	LLD<4.23E+00
LA-142	LLD<6.55E-01	LLD<6.55E-01
AG-110M	LLD<1.04E+00	LLD<1.04E+00
NB-97	LLD<9.93E-01	LLD<9.93E-01
CS-137	1.24E+00 +- 1.98E-01	1.24E+00 +- 1.98E-01
I-132	LLD<7.65E-01	LLD<7.65E-01
W-187	LLD<1.43E+00	LLD<1.43E+00
ZR-97	LLD<4.53E-01	LLD<4.53E-01
ZR-95	LLD<5.30E-01	LLD<5.30E-01
NB-95	LLD<4.98E-01	LLD<4.98E-01
TL-210	LLD<2.14E+00	LLD<2.14E+00
CO-58	LLD<5.55E-01	LLD<5.55E-01
CS-136	LLD<4.30E-01	LLD<4.30E-01
MN-54	LLD<4.64E-01	LLD<4.64E-01
CO-56	LLD<4.78E-01	LLD<4.78E-01
I-134	LLD<5.26E-01	LLD<5.26E-01
TL-207	LLD<3.65E+02	LLD<3.65E+02
Y-88	LLD<4.36E-01	LLD<4.36E-01
AC-228	LLD<2.13E+00	LLD<2.13E+00
EU-152	LLD<4.12E+00	LLD<4.12E+00
[illegible]A-234M	LLD<4.36E+00	LLD<4.36E+00
[illegible]-91	LLD<1.91E+00	LLD<1.91E+00
RB-89	LLD<1.05E+00	LLD<1.05E+00
FE-59	LLD<1.03E+00	LLD<1.03E+00
ZN-65	LLD<1.30E+00	LLD<1.30E+00
SC-46	LLD<7.36E-01	LLD<7.36E-01
TA-182	LLD<1.99E+00	LLD<1.99E+00
I-135	LLD<1.36E+00	LLD<1.36E+00
CL-39	LLD<7.34E-01	LLD<7.34E-01
NA-22	LLD<6.26E-01	LLD<6.26E-01
AR-41	LLD<6.81E-01	LLD<6.81E-01
CO-60	LLD<3.29E-01	LLD<3.29E-01
NA-24	LLD<4.43E-01	LLD<4.43E-01
SR-92	LLD<6.10E-01	LLD<6.10E-01
SCH-000	LLD<3.38E+00	LLD<3.38E+00
CS-138	LLD<6.33E-01	LLD<6.33E-01
K-40	LLD<1.16E+01	LLD<1.16E+01
KR-88	LLD<2.64E+00	LLD<2.64E+00
TL-209	LLD<7.68E-01	LLD<7.68E-01
LA-140	LLD<5.50E-01	LLD<5.50E-01
AL-26	LLD<3.03E-01	LLD<3.03E-01
MN-56	LLD<1.78E+00	LLD<1.78E+00
RB-88	LLD<1.39E+00	LLD<1.39E+00
Total	6.27E+00 +- 9.54E-01	6.27E+00 +- 9.54E-01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0004

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.21	295.70	31.	27.4	4.94E+00
1167.22	583.42	20.	33.4	6.36E+00

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C-64

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*            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 21-NOV-95 13:37:11

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0005
Measured by: dlv

Sample Description: C-64 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.2600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 21-NOV-95 at 13:23:09

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 21-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

21-NOV-95 13:37:11

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.99	239.16	1.4	76.	123.	14.7	PB-212
2	704.66	352.35	1.1	18.	60.	17.1	PB-214
3	1166.47	583.04	1.1	15.	26.	30.5	TL-208
4	1219.93	609.75	1.8	10.	39.	20.9	BI-214
5	2922.27	1461.11	1.8	4.	54.	14.9	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 21-NOV-95 13:37:11

Sample: C-64 Soil
Data collected on 21-NOV-95 at 13:23:09
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.51E+00		LLD<3.51E+00	
TH-234	LLD<2.52E+01		LLD<2.52E+01	
TH-230	LLD<2.24E+02		LLD<2.24E+02	
XE-133	LLD<1.74E+00		LLD<1.74E+00	
CD-109	LLD<1.17E+01		LLD<1.17E+01	
SCL-000	LLD<7.07E-01		LLD<7.07E-01	
CO-57	LLD<2.35E-01		LLD<2.35E-01	
PA-234	LLD<1.04E+00		LLD<1.04E+00	
CE-144	LLD<1.95E+00		LLD<1.95E+00	
TC-99M	LLD<2.28E-01		LLD<2.28E-01	
U-235	LLD<1.87E+00		LLD<1.87E+00	
CE-141	LLD<3.60E-01		LLD<3.60E-01	
KR-85M	LLD<2.59E-01		LLD<2.59E-01	
XE-131M	LLD<8.26E+00		LLD<8.26E+00	
BA-139	LLD<1.05E+00		LLD<1.05E+00	
[illegible]E-139	LLD<2.13E-01		LLD<2.13E-01	
[illegible]A-226	LLD<5.82E+00		LLD<5.82E+00	
BA-141	LLD<5.18E-01		LLD<5.18E-01	
KR-89	LLD<2.37E+00		LLD<2.37E+00	
TE-132	LLD<2.22E-01		LLD<2.22E-01	
XE-133M	LLD<2.10E+00		LLD<2.10E+00	
TH-227	LLD<2.07E+00		LLD<2.07E+00	
PB-212	1.55E+00	+- 2.29E-01	1.55E+00	+- 2.29E-01
RA-224	LLD<8.20E+00		LLD<8.20E+00	
XE-135	LLD<2.32E-01		LLD<2.32E-01	
XE-138	LLD<9.57E-01		LLD<9.57E-01	
SE-75	LLD<3.66E-01		LLD<3.66E-01	
NP-239	LLD<1.67E+00		LLD<1.67E+00	
HG-203	LLD<3.15E-01		LLD<3.15E-01	
IR-192	LLD<2.62E-01		LLD<2.62E-01	
CR-51	LLD<2.35E+00		LLD<2.35E+00	
SCM-000	LLD<1.27E+00		LLD<1.27E+00	
BI-211	LLD<8.64E+00		LLD<8.64E+00	
PB-214	1.49E+00	+- 2.54E-01	1.49E+00	+- 2.54E-01
BA-133	LLD<5.63E-01		LLD<5.63E-01	
I-131	LLD<2.54E-01		LLD<2.54E-01	
SN-113	LLD<3.48E-01		LLD<3.48E-01	
KR-87	LLD<4.58E-01		LLD<4.58E-01	
PB-211	LLD<9.47E+00		LLD<9.47E+00	
AU-198	LLD<2.80E-01		LLD<2.80E-01	
SB-125	LLD<7.22E-01		LLD<7.22E-01	
[illegible]-212	LLD<9.00E+01		LLD<9.00E+01	
BE-7	LLD<2.75E+00		LLD<2.75E+00	
HF-181	LLD<3.74E-01		LLD<3.74E-01	
RU-103	LLD<2.95E-01		LLD<2.95E-01	
KR-85	LLD<9.05E+01		LLD<9.05E+01	

SR-85	LLD<3.96E-01		LLD<3.96E-01		
I-133	LLD<2.88E-01		LLD<2.88E-01		
BA-140	LLD<1.08E+00		LLD<1.08E+00		
Y-91M	LLD<2.74E-01		LLD<2.74E-01		
-207	LLD<2.85E-01		LLD<2.85E-01		
TL-208	LLD<1.19E+00		LLD<1.19E+00		
SB-124	LLD<4.03E-01		LLD<4.03E-01		
CS-134	LLD<6.32E-01		LLD<6.32E-01		
BI-214	1.43E+00	+- 3.00E-01	1.43E+00	+-	3.00E-01
RU-106	LLD<3.07E+00		LLD<3.07E+00		
LA-142	LLD<6.89E-01		LLD<6.89E-01		
AG-110M	LLD<4.37E-01		LLD<4.37E-01		
NB-97	LLD<4.22E-01		LLD<4.22E-01		
CS-137	LLD<4.26E-01		LLD<4.26E-01		
I-132	LLD<4.82E-01		LLD<4.82E-01		
W-187	LLD<1.19E+00		LLD<1.19E+00		
ZR-97	LLD<2.66E-01		LLD<2.66E-01		
ZR-95	LLD<6.11E-01		LLD<6.11E-01		
NB-95	LLD<3.97E-01		LLD<3.97E-01		
TL-210	LLD<2.06E+00		LLD<2.06E+00		
CO-58	LLD<3.64E-01		LLD<3.64E-01		
CS-136	LLD<3.02E-01		LLD<3.02E-01		
MN-54	LLD<3.31E-01		LLD<3.31E-01		
CO-56	LLD<3.96E-01		LLD<3.96E-01		
I-134	LLD<4.63E-01		LLD<4.63E-01		
TL-207	LLD<3.18E+02		LLD<3.18E+02		
Y-88	LLD<3.61E-01		LLD<3.61E-01		
AC-228	LLD<1.76E+00		LLD<1.76E+00		
EU-152	LLD<3.29E+00		LLD<3.29E+00		
-234M	LLD<3.53E+00		LLD<3.53E+00		
-91	LLD<1.39E+00		LLD<1.39E+00		
RB-89	LLD<9.44E-01		LLD<9.44E-01		
FE-59	LLD<7.52E-01		LLD<7.52E-01		
ZN-65	LLD<1.05E+00		LLD<1.05E+00		
SC-46	LLD<4.75E-01		LLD<4.75E-01		
TA-182	LLD<1.57E+00		LLD<1.57E+00		
I-135	LLD<1.33E+00		LLD<1.33E+00		
CL-39	LLD<1.00E+00		LLD<1.00E+00		
NA-22	LLD<4.63E-01		LLD<4.63E-01		
AR-41	LLD<4.86E-01		LLD<4.86E-01		
CO-60	LLD<4.76E-01		LLD<4.76E-01		
NA-24	LLD<4.45E-01		LLD<4.45E-01		
SR-92	LLD<6.52E-01		LLD<6.52E-01		
SCH-000	LLD<1.63E+00		LLD<1.63E+00		
CS-138	LLD<3.57E-01		LLD<3.57E-01		
K-40	1.50E+01	+- 2.24E+00	1.50E+01	+-	2.24E+00
KR-88	LLD<3.23E+00		LLD<3.23E+00		
TL-209	LLD<1.33E+00		LLD<1.33E+00		
LA-140	LLD<5.84E-01		LLD<5.84E-01		
AL-26	LLD<1.94E-01		LLD<1.94E-01		
MN-56	LLD<1.74E+00		LLD<1.74E+00		
RB-88	LLD<3.31E+00		LLD<3.31E+00		
	---		---		
Total	1.94E+01	+- 2.29E+00	1.94E+01	+-	2.29E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0005

PEAKS NOT USED IN ANALYSIS

Centroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
1166.47	583.04	26.	30.5	8.27E+00

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C-78A

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 21-NOV-95 14:44:37

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0006
Measured by: dlv

Sample Description: C-78A Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.2000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 21-NOV-95 at 13:42:00

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 21-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 21-NOV-95 14:44:37

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.11	239.22	1.7	86.	128.	14.7	PB-212
2	704.62	352.33	1.7	23.	78.	15.0	PB-214
3	1021.74	510.73	1.5	18.	16.	49.2	TL-208,NA-22, ANN-RD
4	1166.84	583.23	1.9	7.	36.	20.4	TL-208
5	1219.85	609.72	1.6	9.	52.	16.2	BI-214
6	1822.95	911.16	0.9	11.	31.	25.4	AC-228
7	2921.80	1460.87	2.0	0.	79.	11.3	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 21-NOV-95 14:44:37

Sample: C-78A Soil
Data collected on 21-NOV-95 at 13:42:00
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.40E+00		LLD<3.40E+00	
TH-234	LLD<2.64E+01		LLD<2.64E+01	
TH-230	LLD<2.29E+02		LLD<2.29E+02	
XE-133	LLD<1.47E+00		LLD<1.47E+00	
CD-109	LLD<1.10E+01		LLD<1.10E+01	
SCL-000	LLD<6.96E-01		LLD<6.96E-01	
CO-57	LLD<2.31E-01		LLD<2.31E-01	
PA-234	LLD<9.88E-01		LLD<9.88E-01	
CE-144	LLD<1.60E+00		LLD<1.60E+00	
TC-99M	LLD<2.17E-01		LLD<2.17E-01	
U-235	LLD<1.58E+00		LLD<1.58E+00	
CE-141	LLD<3.61E-01		LLD<3.61E-01	
KR-85M	LLD<2.53E-01		LLD<2.53E-01	
XE-131M	LLD<8.27E+00		LLD<8.27E+00	
BA-139	LLD<9.00E-01		LLD<9.00E-01	
[illegible]E-139	LLD<1.83E-01		LLD<1.83E-01	
[illegible]A-226	LLD<5.23E+00		LLD<5.23E+00	
BA-141	LLD<4.46E-01		LLD<4.46E-01	
KR-89	LLD<2.32E+00		LLD<2.32E+00	
TE-132	LLD<2.41E-01		LLD<2.41E-01	
XE-133M	LLD<2.30E+00		LLD<2.30E+00	
TH-227	LLD<2.06E+00		LLD<2.06E+00	
PB-212	1.41E+00	+- 2.08E-01	1.41E+00	+- 2.08E-01
RA-224	LLD<5.64E+00		LLD<5.64E+00	
XE-135	LLD<2.13E-01		LLD<2.13E-01	
XE-138	LLD<7.79E-01		LLD<7.79E-01	
SE-75	LLD<2.98E-01		LLD<2.98E-01	
NP-239	LLD<1.51E+00		LLD<1.51E+00	
HG-203	LLD<2.49E-01		LLD<2.49E-01	
IR-192	LLD<2.19E-01		LLD<2.19E-01	
CR-51	LLD<2.14E+00		LLD<2.14E+00	
SCM-000	LLD<1.04E+00		LLD<1.04E+00	
BI-211	LLD<8.01E+00		LLD<8.01E+00	
PB-214	1.69E+00	+- 2.54E-01	1.69E+00	+- 2.54E-01
BA-133	LLD<6.27E-01		LLD<6.27E-01	
I-131	LLD<2.78E-01		LLD<2.78E-01	
SN-113	LLD<4.17E-01		LLD<4.17E-01	
KR-87	LLD<4.96E-01		LLD<4.96E-01	
PB-211	LLD<9.25E+00		LLD<9.25E+00	
AU-198	LLD<2.33E-01		LLD<2.33E-01	
SB-125	LLD<7.55E-01		LLD<7.55E-01	
[illegible]I-212	LLD<7.24E+01		LLD<7.24E+01	
BE-7	LLD<2.25E+00		LLD<2.25E+00	
HF-181	LLD<2.40E-01		LLD<2.40E-01	
RU-103	LLD<2.56E-01		LLD<2.56E-01	
KR-85	LLD<7.57E+01		LLD<7.57E+01	

SR-85	LLD<3.31E-01		LLD<3.31E-01		
I-133	LLD<3.15E-01		LLD<3.15E-01		
BA-140	LLD<9.65E-01		LLD<9.65E-01		
Y-91M	LLD<3.15E-01		LLD<3.15E-01		
-207	LLD<2.62E-01		LLD<2.62E-01		
TL-208	1.29E+00	+- 2.64E-01	1.29E+00	+-	2.64E-01
SB-124	LLD<2.97E-01		LLD<2.97E-01		
CS-134	LLD<6.23E-01		LLD<6.23E-01		
BI-214	1.65E+00	+- 2.68E-01	1.65E+00	+-	2.68E-01
RU-106	LLD<2.71E+00		LLD<2.71E+00		
LA-142	LLD<4.66E-01		LLD<4.66E-01		
AG-110M	LLD<6.99E-01		LLD<6.99E-01		
NB-97	LLD<6.50E-01		LLD<6.50E-01		
CS-137	LLD<5.56E-01		LLD<5.56E-01		
I-132	LLD<5.34E-01		LLD<5.34E-01		
W-187	LLD<1.23E+00		LLD<1.23E+00		
ZR-97	LLD<3.24E-01		LLD<3.24E-01		
ZR-95	LLD<5.59E-01		LLD<5.59E-01		
NB-95	LLD<3.86E-01		LLD<3.86E-01		
TL-210	LLD<2.00E+00		LLD<2.00E+00		
CO-58	LLD<2.99E-01		LLD<2.99E-01		
CS-136	LLD<2.76E-01		LLD<2.76E-01		
MN-54	LLD<3.88E-01		LLD<3.88E-01		
CO-56	LLD<3.89E-01		LLD<3.89E-01		
I-134	LLD<4.24E-01		LLD<4.24E-01		
TL-207	LLD<2.47E+02		LLD<2.47E+02		
Y-88	LLD<3.28E-01		LLD<3.28E-01		
AC-228	2.01E+00	+- 5.10E-01	2.01E+00	+-	5.10E-01
EU-152	LLD<4.01E+00		LLD<4.01E+00		
-234M	LLD<3.23E+00		LLD<3.23E+00		
-91	LLD<1.14E+00		LLD<1.14E+00		
RB-89	LLD<6.94E-01		LLD<6.94E-01		
FE-59	LLD<8.52E-01		LLD<8.52E-01		
ZN-65	LLD<1.16E+00		LLD<1.16E+00		
SC-46	LLD<5.96E-01		LLD<5.96E-01		
TA-182	LLD<1.69E+00		LLD<1.69E+00		
I-135	LLD<1.33E+00		LLD<1.33E+00		
CL-39	LLD<1.09E+00		LLD<1.09E+00		
NA-22	LLD<5.68E-01		LLD<5.68E-01		
AR-41	LLD<3.49E-01		LLD<3.49E-01		
CO-60	LLD<3.65E-01		LLD<3.65E-01		
NA-24	LLD<3.76E-01		LLD<3.76E-01		
SR-92	LLD<3.62E-01		LLD<3.62E-01		
SCH-000	LLD<3.26E-01		LLD<3.26E-01		
CS-138	LLD<4.10E-01		LLD<4.10E-01		
K-40	1.89E+01	+- 2.16E+00	1.89E+01	+-	2.16E+00
KR-88	LLD<1.47E+00		LLD<1.47E+00		
TL-209	LLD<2.37E-01		LLD<2.37E-01		
LA-140	LLD<3.62E-01		LLD<3.62E-01		
AL-26	LLD<1.69E-01		LLD<1.69E-01		
MN-56	LLD<6.33E-01		LLD<6.33E-01		
RB-88	LLD<4.31E-01		LLD<4.31E-01		
	---	---	---	---	---
Total	2.70E+01	+- 2.28E+00	2.70E+01	+-	2.28E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0006

ALL PEAKS USED IN ANALYSIS

0 ↕☺

C-50

0↕♥♠

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 21-NOV-95 12:56:35

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0003
Measured by: dlv

Sample Description: C-50 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.5600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 21-NOV-95 at 11:49:44

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 21-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 21-NOV-95 12:56:35

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.84	239.09	2.1	62.	128.	26.0	PB-212
2	590.95	295.57	2.4	27.	48.	42.5	PB-214
3	704.44	352.24	1.4	11.	70.	27.4	PB-214
4	1021.19	510.46	2.7	5.	24.	48.5	TL-208,NA-22, ANN-RD
5	1166.55	583.08	2.0	7.	40.	37.3	TL-208
6	1218.60	609.09	1.1	23.	25.	71.3	BI-214
7	1322.79	661.15	2.4	11.	24.	60.7	CS-137
8	1938.55	968.97	2.3	3.	19.	54.6	AC-228,RU-105
9	2921.56	1460.75	2.1	8.	79.	25.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 21-NOV-95 12:56:35

Sample: C-50 Soil
Data collected on 21-NOV-95 at 11:49:44
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.35E+00		LLD<3.35E+00	
TH-234	LLD<2.60E+01		LLD<2.60E+01	
TH-230	LLD<2.16E+02		LLD<2.16E+02	
XE-133	LLD<1.54E+00		LLD<1.54E+00	
CD-109	LLD<1.03E+01		LLD<1.03E+01	
SCL-000	LLD<8.02E-01		LLD<8.02E-01	
CO-57	LLD<2.66E-01		LLD<2.66E-01	
PA-234	LLD<1.02E+00		LLD<1.02E+00	
CE-144	LLD<1.82E+00		LLD<1.82E+00	
TC-99M	LLD<2.31E-01		LLD<2.31E-01	
U-235	LLD<1.78E+00		LLD<1.78E+00	
CE-141	LLD<4.23E-01		LLD<4.23E-01	
KR-85M	LLD<2.40E-01		LLD<2.40E-01	
XE-131M	LLD<8.89E+00		LLD<8.89E+00	
BA-139	LLD<1.17E+00		LLD<1.17E+00	
[illegible]-139	LLD<2.38E-01		LLD<2.38E-01	
[illegible]A-226	LLD<4.89E+00		LLD<4.89E+00	
BA-141	LLD<4.60E-01		LLD<4.60E-01	
KR-89	LLD<2.34E+00		LLD<2.34E+00	
TE-132	LLD<2.22E-01		LLD<2.22E-01	
XE-133M	LLD<2.06E+00		LLD<2.06E+00	
TH-227	LLD<1.90E+00		LLD<1.90E+00	
PB-212	1.55E+00	+- 4.06E-01	1.55E+00	+- 4.06E-01
RA-224	LLD<5.95E+00		LLD<5.95E+00	
XE-135	LLD<2.46E-01		LLD<2.46E-01	
XE-138	LLD<8.50E-01		LLD<8.50E-01	
SE-75	LLD<3.94E-01		LLD<3.94E-01	
NP-239	LLD<1.54E+00		LLD<1.54E+00	
HG-203	LLD<2.52E-01		LLD<2.52E-01	
IR-192	LLD<2.85E-01		LLD<2.85E-01	
CR-51	LLD<2.14E+00		LLD<2.14E+00	
SCM-000	LLD<1.27E+00		LLD<1.27E+00	
BI-211	LLD<7.94E+00		LLD<7.94E+00	
PB-214	1.65E+00	+- 4.53E-01	1.65E+00	+- 4.53E-01
BA-133	LLD<6.82E-01		LLD<6.82E-01	
I-131	LLD<2.96E-01		LLD<2.96E-01	
SN-113	LLD<3.52E-01		LLD<3.52E-01	
KR-87	LLD<4.29E-01		LLD<4.29E-01	
PB-211	LLD<7.73E+00		LLD<7.73E+00	
AU-198	LLD<2.51E-01		LLD<2.51E-01	
[illegible]B-125	LLD<7.69E-01		LLD<7.69E-01	
[illegible]-212	LLD<7.40E+01		LLD<7.40E+01	
BE-7	LLD<2.83E+00		LLD<2.83E+00	
HF-181	LLD<3.51E-01		LLD<3.51E-01	
RU-103	LLD<2.92E-01		LLD<2.92E-01	
KR-85	LLD<7.90E+01		LLD<7.90E+01	

SR-85	LLD<3.45E-01		LLD<3.45E-01		
I-133	LLD<2.87E-01		LLD<2.87E-01		
BA-140	LLD<1.06E+00		LLD<1.06E+00		
Y-91M	LLD<2.79E-01		LLD<2.79E-01		
PI-207	LLD<3.14E-01		LLD<3.14E-01		
TL-208	1.58E+00	+- 5.88E-01	1.58E+00	+-	5.88E-01
SB-124	LLD<4.07E-01		LLD<4.07E-01		
CS-134	LLD<6.37E-01		LLD<6.37E-01		
BI-214	8.52E-01	+- 6.07E-01	8.52E-01	+-	6.07E-01
RU-106	LLD<2.93E+00		LLD<2.93E+00		
LA-142	LLD<5.02E-01		LLD<5.02E-01		
AG-110M	LLD<4.96E-01		LLD<4.96E-01		
NB-97	LLD<4.81E-01		LLD<4.81E-01		
CS-137	3.86E-01	+- 2.34E-01	3.86E-01	+-	2.34E-01
I-132	LLD<3.65E-01		LLD<3.65E-01		
W-187	LLD<1.02E+00		LLD<1.02E+00		
ZR-97	LLD<3.18E-01		LLD<3.18E-01		
ZR-95	LLD<5.74E-01		LLD<5.74E-01		
NB-95	LLD<3.74E-01		LLD<3.74E-01		
TL-210	LLD<2.11E+00		LLD<2.11E+00		
CO-58	LLD<3.09E-01		LLD<3.09E-01		
CS-136	LLD<3.43E-01		LLD<3.43E-01		
MN-54	LLD<3.28E-01		LLD<3.28E-01		
CO-56	LLD<3.53E-01		LLD<3.53E-01		
I-134	LLD<4.22E-01		LLD<4.22E-01		
TL-207	LLD<2.98E+02		LLD<2.98E+02		
Y-88	LLD<3.68E-01		LLD<3.68E-01		
AC-228	LLD<1.45E+00		LLD<1.45E+00		
EU-152	LLD<4.31E+00		LLD<4.31E+00		
PA-234M	LLD<3.55E+00		LLD<3.55E+00		
ZR-91	LLD<1.25E+00		LLD<1.25E+00		
RB-89	LLD<7.52E-01		LLD<7.52E-01		
FE-59	LLD<1.02E+00		LLD<1.02E+00		
ZN-65	LLD<1.17E+00		LLD<1.17E+00		
SC-46	LLD<4.86E-01		LLD<4.86E-01		
TA-182	LLD<1.44E+00		LLD<1.44E+00		
I-135	LLD<1.46E+00		LLD<1.46E+00		
CL-39	LLD<8.92E-01		LLD<8.92E-01		
NA-22	LLD<3.89E-01		LLD<3.89E-01		
AR-41	LLD<3.83E-01		LLD<3.83E-01		
CO-60	LLD<3.56E-01		LLD<3.56E-01		
NA-24	LLD<3.17E-01		LLD<3.17E-01		
SR-92	LLD<2.60E-01		LLD<2.60E-01		
SCH-000	LLD<2.18E+00		LLD<2.18E+00		
CS-138	LLD<5.91E-01		LLD<5.91E-01		
K-40	2.08E+01	+- 5.29E+00	2.08E+01	+-	5.29E+00
KR-88	LLD<3.54E+00		LLD<3.54E+00		
TL-209	LLD<1.32E+00		LLD<1.32E+00		
LA-140	LLD<2.58E-01		LLD<2.58E-01		
AL-26	LLD<2.27E-01		LLD<2.27E-01		
MN-56	LLD<8.53E-01		LLD<8.53E-01		
RB-88	LLD<4.73E-01		LLD<4.73E-01		
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Total	2.68E+01	+- 5.40E+00	2.68E+01	+-	5.40E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0003

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
590.95	295.57	48.	42.5	7.76E+00
1938.55	968.97	19.	54.6	9.56E+00

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GAMMA SPECTROSCOPY RESULTS FROM 11/22/95

11/22

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*                                                               *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N   *
*                                                               *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 22-NOV-95 08:52:27

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 22-NOV-95 at 08:17:28

COLLECT Live Time: 1200. sec.

hgtrw 22-NOV-95 08:52:27

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	78.98	39.97	1.8	33394.	5500.	14.0	
2C	90.64	45.79	1.8	27618.	2218.	18.6	
3C	149.47	75.15	1.5	23506.	783.	64.5	PB-214
4$	168.83	84.81	3.4	87375.	3475.	34.2	
5$	173.85	87.32	3.4	92970.	3205.	41.3	PB-214,CD-109
6$	178.62	89.70	3.4	98288.	2395.	54.6	
7?	234.98	117.84	1.7	40139.	8525.	47.3	
8?	243.35	122.02	1.7	38775.	181719.	2.3	SE-75,SCL-000, CO-57
9C	295.63	148.11	1.5	22614.	614.	61.4	PU-241
10C	300.44	150.51	1.5	22941.	579.	61.9	TE-131,KR-85M
11?	480.44	240.38	1.7	15144.	1620.	37.5	RA-224
12?	489.25	244.78	1.7	14430.	35282.	3.8	
13?	494.27	247.29	1.7	14023.	1634.	39.6	
~~14~~	~~591.73~~	~~295.95~~	~~1.5~~	~~9344.~~	~~1522.~~	~~19.8~~	~~PB-214~~
15?	679.66	339.87	1.8	9361.	3527.	36.9	CS-136
16?	688.43	344.24	1.8	10449.	90162.	1.7	BA-141, SCM-000
17	735.38	367.69	1.5	6631.	2905.	9.4	
18C	822.13	411.02	1.8	6037.	5820.	7.4	AU-198
19	887.75	443.80	1.7	6498.	7722.	4.0	
20	977.02	488.39	1.6	5389.	905.	26.0	
21	1127.17	563.41	1.7	6113.	1222.	21.1	CS-134,SB-122
22	1172.32	585.97	1.6	5804.	715.	34.6	
23C	1357.23	678.37	1.3	4422.	233.	87.2	AG110M
24	1377.10	688.29	1.7	4338.	1483.	14.7	
25C	1438.48	718.97	1.7	3938.	426.	45.1	
26C	1446.13	722.80	1.7	3949.	308.	48.1	SB-124,I-131
27?	1549.17	774.30	2.1	4509.	787.	30.3	TE131M
28?	1557.52	778.47	2.1	4297.	19408.	2.9	MO-99
29?	1563.80	781.61	2.1	4139.	778.	32.3	
30	1620.84	810.12	2.2	3528.	651.	29.3	I-132,CO-58
31	1734.42	866.90	2.0	4935.	5449.	5.0	
32	1838.36	918.87	2.2	3159.	526.	36.6	
33?	1919.05	959.22	2.2	2436.	868.	24.5	
34?	1927.76	963.57	2.2	2414.	18417.	2.7	EU-152
35?	1934.27	966.83	2.2	2397.	622.	36.9	
36	2009.61	1004.50	2.0	2104.	958.	17.1	
37C	2163.09	1081.26	2.2	1787.	576.	23.0	
38C	2171.34	1085.38	2.2	1831.	12126.	3.1	EU-152
39C	2178.95	1089.19	2.2	1871.	2293.	8.7	
40?	2215.84	1107.64	2.3	2108.	633.	32.9	
41?	2223.80	1111.62	2.3	2268.	15273.	2.5	TE-129,EU-152
42	2425.52	1212.53	2.1	1312.	1443.	9.8	
43C	2548.85	1274.23	1.8	669.	331.	28.2	NA-22
44	2598.01	1298.83	2.2	557.	1382.	7.6	I-133
45?	2807.45	1403.64	2.5	390.	874.	17.0	
46?	2815.82	1407.83	2.5	603.	19108.	1.7	EU-152,BI-214, SCH-000
47C	2914.99	1457.46	2.4	77.	412.	12.8	I-135
48C	2921.24	1460.59	2.4	67.	281.	15.6	K-40

49	3058.30	1529.20	3.8	88.	494.	11.1	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

15 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.502645E-07*Ch^2 + 4.990701E-01*Ch + 5.515613E-01

New Calibration Coefficients:

Energy = 2.466724E-07*Ch^2 + 4.992438E-01*Ch + 4.585697E-01

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0:♥♠ Daily source check 11/22

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*              G A M M A   S P E C T R U M   A N A L Y S I S          *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 22-NOV-95 09:00:01

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1122
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 22-NOV-95 at 08:56:07

COLLECT Live Time: 60. seconds
Real Time: 75. seconds
Dead Time: 20.00 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 22-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 22-NOV-95 09:00:01

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1?	235.97	118.28	1.6	1941.	464.	43.9	
2?	243.60	122.09	1.6	1640.	9221.	4.3	SE-75,SCL-000, CO-57
3?	248.84	124.70	1.6	1434.	329.	57.2	
4	489.42	244.86	1.5	814.	1688.	7.0	
5$	680.01	340.06	1.7	456.	187.	38.2	CS-136
6$	688.54	344.33	1.7	508.	4384.	4.1	BA-141, SCM-000
7	735.29	367.68	2.3	226.	180.	28.0	
8	822.12	411.06	1.5	323.	307.	21.7	AU-198
9	887.61	443.79	2.0	292.	401.	16.7	
10	1557.36	778.56	1.8	301.	950.	8.7	MO-99
11	1733.91	866.84	2.2	231.	277.	21.4	
12	1927.34	963.59	2.0	189.	892.	8.3	EU-152
13	2170.88	1085.42	1.7	258.	550.	13.0	EU-152
14	2223.52	1111.76	2.1	171.	770.	9.0	TE-129,EU-152
15	2597.85	1299.09	2.1	36.	82.	32.9	I-133
16C	2815.16	1407.87	2.4	18.	924.	6.9	EU-152,BI-214, SCH-000
17	2913.70	1457.20	2.8	8.	33.	44.8	I-135
18	3058.84	1529.87	2.0	0.	32.	34.6	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

3 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 22-NOV-95 09:00:01

Sample: Eu-152 Standard
Data collected on 22-NOV-95 at 08:56:07
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<9.59E+01		LLD<9.59E+01	
TH-234	LLD<7.16E+02		LLD<7.16E+02	
TH-230	LLD<5.71E+03		LLD<5.71E+03	
XE-133	LLD<4.18E+01		LLD<4.18E+01	
CD-109	LLD<3.45E+02		LLD<3.45E+02	
SCL-000	9.72E+02	+- 4.33E+01	9.72E+02	+- 4.33E+01
CO-57	3.23E+02	+- 1.44E+01	3.23E+02	+- 1.44E+01
PA-234	LLD<3.00E+01		LLD<3.00E+01	
CE-144	LLD<5.02E+01		LLD<5.02E+01	
TC-99M	LLD<6.24E+00		LLD<6.24E+00	
U-235	LLD<5.02E+01		LLD<5.02E+01	
CE-141	LLD<1.14E+01		LLD<1.14E+01	
KR-85M	LLD<7.31E+00		LLD<7.31E+00	
XE-131M	LLD<2.87E+02		LLD<2.87E+02	
BA-139	LLD<3.09E+01		LLD<3.09E+01	
[illegible]-139	LLD<6.53E+00		LLD<6.53E+00	
[illegible]-226	LLD<1.70E+02		LLD<1.70E+02	
BA-141	LLD<1.22E+01		LLD<1.22E+01	
KR-89	LLD<3.47E+01		LLD<3.47E+01	
TE-132	LLD<7.02E+00		LLD<7.02E+00	
XE-133M	LLD<6.07E+01		LLD<6.07E+01	
TH-227	LLD<4.44E+01		LLD<4.44E+01	
PB-212	LLD<1.53E+01		LLD<1.53E+01	
RA-224	LLD<3.15E+02		LLD<3.15E+02	
XE-135	LLD<1.36E+01		LLD<1.36E+01	
XE-138	LLD<2.00E+01		LLD<2.00E+01	
SE-75	LLD<1.07E+01		LLD<1.07E+01	
NP-239	LLD<4.37E+01		LLD<4.37E+01	
HG-203	LLD<8.12E+00		LLD<8.12E+00	
IR-192	LLD<7.28E+00		LLD<7.28E+00	
CR-51	LLD<6.33E+01		LLD<6.33E+01	
SCM-000	9.23E+02	+- 4.04E+01	9.23E+02	+- 4.04E+01
BI-211	LLD<9.55E+01		LLD<9.55E+01	
PB-214	LLD<2.09E+01		LLD<2.09E+01	
BA-133	LLD<1.03E+01		LLD<1.03E+01	
I-131	LLD<9.09E+00		LLD<9.09E+00	
SN-113	LLD<9.32E+00		LLD<9.32E+00	
KR-87	LLD<1.28E+01		LLD<1.28E+01	
PB-211	LLD<2.48E+02		LLD<2.48E+02	
AU-198	2.15E+01	+- 4.68E+00	2.15E+01	+- 4.68E+00
SB-125	LLD<2.15E+01		LLD<2.15E+01	
-212	LLD<1.89E+03		LLD<1.89E+03	
BE-7	LLD<6.51E+01		LLD<6.51E+01	
HF-181	LLD<9.28E+00		LLD<9.28E+00	
RU-103	LLD<8.64E+00		LLD<8.64E+00	
KR-85	LLD<1.91E+03		LLD<1.91E+03	

SR-85	LLD<8.34E+00		LLD<8.34E+00		
I-133	LLD<9.88E+00		LLD<9.88E+00		
BA-140	LLD<3.23E+01		LLD<3.23E+01		
Y-91M	LLD<8.65E+00		LLD<8.65E+00		
[illegible]-207	LLD<9.67E+00		LLD<9.67E+00		
TL-208	LLD<1.28E+01		LLD<1.28E+01		
SB-124	LLD<9.05E+00		LLD<9.05E+00		
CS-134	LLD<8.86E+00		LLD<8.86E+00		
BI-214	LLD<1.90E+01		LLD<1.90E+01		
RU-106	LLD<9.56E+01		LLD<9.56E+01		
LA-142	LLD<1.73E+01		LLD<1.73E+01		
AG-110M	LLD<1.06E+01		LLD<1.06E+01		
NB-97	LLD<1.01E+01		LLD<1.01E+01		
CS-137	LLD<1.08E+01		LLD<1.08E+01		
I-132	LLD<9.25E+00		LLD<9.25E+00		
W-187	LLD<3.46E+01		LLD<3.46E+01		
ZR-97	LLD<1.12E+01		LLD<1.12E+01		
ZR-95	LLD<2.04E+01		LLD<2.04E+01		
NB-95	LLD<1.05E+01		LLD<1.05E+01		
TL-210	LLD<1.59E+01		LLD<1.59E+01		
CO-58	LLD<1.06E+01		LLD<1.06E+01		
CS-136	LLD<1.07E+01		LLD<1.07E+01		
MN-54	LLD<1.15E+01		LLD<1.15E+01		
CO-56	LLD<1.22E+01		LLD<1.22E+01		
I-134	LLD<1.28E+01		LLD<1.28E+01		
TL-207	LLD<4.88E+03		LLD<4.88E+03		
Y-88	LLD<1.25E+01		LLD<1.25E+01		
AC-228	LLD<3.95E+01		LLD<3.95E+01		
EU-152	9.56E+02	+- 8.29E+01	9.56E+02	+-	8.29E+01
[illegible]-234M	LLD<2.89E+01		LLD<2.89E+01		
[illegible]-91	LLD<2.91E+01		LLD<2.91E+01		
RB-89	LLD<1.81E+01		LLD<1.81E+01		
FE-59	LLD<1.79E+01		LLD<1.79E+01		
ZN-65	LLD<4.98E+01		LLD<4.98E+01		
SC-46	LLD<1.26E+01		LLD<1.26E+01		
TA-182	LLD<3.37E+01		LLD<3.37E+01		
I-135	LLD<2.69E+01		LLD<2.69E+01		
CL-39	LLD<1.78E+01		LLD<1.78E+01		
NA-22	LLD<7.23E+00		LLD<7.23E+00		
AR-41	LLD<1.35E+01		LLD<1.35E+01		
CO-60	LLD<3.99E+00		LLD<3.99E+00		
NA-24	LLD<4.38E+00		LLD<4.38E+00		
SR-92	LLD<4.60E+00		LLD<4.60E+00		
SCH-000	9.03E+02	+- 6.83E+01	9.03E+02	+-	6.83E+01
CS-138	LLD<3.29E+00		LLD<3.29E+00		
K-40	LLD<4.96E+01		LLD<4.96E+01		
KR-88	LLD<4.43E+01		LLD<4.43E+01		
TL-209	LLD<3.14E+00		LLD<3.14E+00		
LA-140	LLD<6.14E-01		LLD<6.14E-01		
AL-26	LLD<6.17E-01		LLD<6.17E-01		
MN-56	LLD<2.27E+00		LLD<2.27E+00		
RB-88	LLD<8.06E+00		LLD<8.06E+00		
Total	4.10E+03	+- 1.24E+02	4.10E+03	+-	1.24E+02

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1122

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
235.97	118.28	464.	43.9	4.71E+02
248.84	124.70	329.	57.2	3.18E+02
489.42	244.86	1688.	7.0	2.31E+03
680.01	340.06	187.	38.2	3.41E+02
735.29	367.68	180.	28.0	3.53E+02
887.61	443.79	401.	16.7	9.52E+02
1557.36	778.56	950.	8.7	3.97E+03
1733.91	866.84	277.	21.4	1.28E+03
2597.85	1299.09	82.	32.9	5.21E+02
2913.70	1457.20	33.	44.8	2.25E+02
3058.84	1529.87	32.	34.6	2.23E+02

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GAMMA SPECTROSCOPY RESULTS FROM 11/22/95

FOR

CELLS 23,BACKGROUND,20,24,49,25

11/27

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*        G A M M A   S P E C T R U M   R E C A L I B R A T I O N      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 27-NOV-95 10:04:12

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 27-NOV-95 at 09:26:10

COLLECT Live Time: 1200. sec.

hgtrw 27-NOV-95 10:04:12

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.19	40.00	1.8	33119.	5392.	14.5	
2C	91.02	45.90	1.8	26954.	2222.	20.3	
3$	149.28	74.99	1.6	36071.	1615.	39.4	PB-214
4$	168.66	84.67	3.0	76748.	2985.	21.9	
5$	175.42	88.04	3.0	85211.	2992.	21.9	PB-214,CD-109
6?	235.10	117.84	1.7	39142.	9179.	51.7	
7?	243.53	122.05	1.7	36453.	183887.	2.7	SE-75,SCL-000, CO-57
8?	480.83	240.57	1.7	14762.	1491.	45.4	RA-224
9?	489.43	244.86	1.7	14024.	35482.	4.0	
10?	494.66	247.48	1.7	13575.	1581.	43.2	
11	592.10	296.15	1.7	8586.	1752.	16.2	PB-214
12	658.14	329.14	1.4	8420.	243.	114.5	LA-140
13?	679.87	340.00	1.7	9303.	3312.	39.9	CS-136
14?	688.57	344.34	1.7	10522.	90322.	1.7	BA-141, SCM-000
15	735.40	367.73	1.8	7239.	2630.	11.0	
16	822.23	411.12	1.6	6450.	5685.	5.1	AU-198
17	887.93	443.95	1.6	6472.	7684.	4.0	
18	977.31	488.61	1.8	4411.	798.	25.4	
19	1127.61	563.72	1.6	5166.	1010.	22.4	CS-134,SB-122
20	1172.41	586.11	2.1	4713.	870.	24.7	
21	1356.75	678.26	1.6	4644.	526.	41.0	I-134,AG110M
22	1377.25	688.51	2.1	5070.	1398.	17.4	
23C	1438.60	719.18	1.8	4237.	476.	40.6	
24C	1446.12	722.94	1.8	4160.	358.	43.3	SB-124,I-131
25?	1549.14	774.45	2.0	4481.	727.	31.8	TE131M
26?	1557.68	778.72	2.0	4653.	19292.	2.5	MO-99
27	1620.79	810.27	1.3	4263.	413.	52.3	I-132,CO-58
28	1734.59	867.18	2.0	4706.	5441.	4.9	
29	1838.90	919.35	1.6	2838.	608.	29.5	
30?	1919.48	959.66	2.1	2672.	809.	25.7	
31?	1927.91	963.87	2.1	2935.	18116.	2.3	EU-152
32	2010.11	1004.99	2.2	1761.	983.	14.9	
33C	2163.33	1081.64	2.3	1942.	613.	16.0	
34C	2171.44	1085.70	2.3	1918.	12097.	2.8	EU-152
35C	2179.05	1089.51	2.3	1895.	2347.	6.3	
36?	2216.12	1108.05	2.3	1984.	904.	24.0	
37?	2223.90	1111.95	2.3	2158.	15355.	2.5	TE-129,EU-152
38	2426.00	1213.08	2.3	1284.	1495.	9.4	
39	2598.13	1299.22	2.0	548.	1445.	7.4	I-133
40?	2807.29	1403.92	2.4	423.	841.	19.5	
41?	2815.88	1408.23	2.4	652.	19127.	1.7	EU-152,BI-214, SCH-000
42C	2915.05	1457.87	2.5	97.	451.	13.2	I-135
43C	2921.27	1460.99	2.5	89.	298.	16.9	K-40
4	3058.91	1529.91	3.1	110.	474.	11.9	KR-88
45	3211.11	1606.13	2.3	18.	19.	90.8	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

12 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.466724E-07*Ch^2 + 4.992438E-01*Ch + 4.585697E-01

New Calibration Coefficients:

Energy = 2.506734E-07*Ch^2 + 4.992493E-01*Ch + 3.714042E-01

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*            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 27-NOV-95 10:12:52

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1127
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 27-NOV-95 at 10:08:39

COLLECT Live Time: 60. seconds
Real Time: 75. seconds
Dead Time: 20.00 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 27-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 27-NOV-95 10:12:52

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1?	233.69	117.05	1.6	1896.	419.	62.9	
2?	243.50	121.96	1.6	1823.	9122.	4.3	SE-75,SCL-000, CO-57
3	489.41	244.77	1.6	817.	1653.	7.1	
4$	678.96	339.46	1.8	475.	169.	39.3	
5$	688.46	344.20	1.8	577.	4434.	4.1	BA-141, SCM-000
6	822.24	411.04	1.6	222.	309.	17.7	AU-198
7	887.84	443.82	1.9	273.	398.	16.2	
8	1557.54	778.58	2.2	257.	932.	8.4	MO-99
9	1734.30	866.97	2.1	233.	276.	21.5	
10	1927.75	963.73	2.0	198.	849.	8.5	EU-152
11	2170.99	1085.42	2.4	246.	515.	13.5	EU-152
12	2223.33	1111.61	2.5	157.	795.	8.7	TE-129,EU-152
13N	2718.27	1359.32	3.9	5.	9.	107.9	
14C	2805.75	1403.11	2.4	22.	37.	36.1	
15C	2815.24	1407.87	2.4	34.	987.	6.8	EU-152,BI-214, SCH-000

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

3 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 27-NOV-95 10:12:52

Sample: Eu-152 Standard
Data collected on 27-NOV-95 at 10:08:39
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<9.27E+01		LLD<9.27E+01	
TH-234	LLD<7.13E+02		LLD<7.13E+02	
TH-230	LLD<5.81E+03		LLD<5.81E+03	
XE-133	LLD<4.07E+01		LLD<4.07E+01	
CD-109	LLD<3.47E+02		LLD<3.47E+02	
SCL-000	9.61E+02	+- 4.34E+01	9.61E+02	+- 4.34E+01
CO-57	3.19E+02	+- 1.44E+01	3.19E+02	+- 1.44E+01
PA-234	LLD<3.00E+01		LLD<3.00E+01	
CE-144	LLD<5.31E+01		LLD<5.31E+01	
TC-99M	LLD<6.20E+00		LLD<6.20E+00	
U-235	LLD<4.97E+01		LLD<4.97E+01	
CE-141	LLD<1.16E+01		LLD<1.16E+01	
KR-85M	LLD<7.39E+00		LLD<7.39E+00	
XE-131M	LLD<2.88E+02		LLD<2.88E+02	
BA-139	LLD<3.22E+01		LLD<3.22E+01	
[illegible]-139	LLD<6.82E+00		LLD<6.82E+00	
[illegible]-226	LLD<1.63E+02		LLD<1.63E+02	
BA-141	LLD<1.05E+01		LLD<1.05E+01	
KR-89	LLD<3.39E+01		LLD<3.39E+01	
TE-132	LLD<6.60E+00		LLD<6.60E+00	
XE-133M	LLD<6.16E+01		LLD<6.16E+01	
TH-227	LLD<4.47E+01		LLD<4.47E+01	
PB-212	LLD<1.55E+01		LLD<1.55E+01	
RA-224	LLD<3.09E+02		LLD<3.09E+02	
XE-135	LLD<1.34E+01		LLD<1.34E+01	
XE-138	LLD<2.12E+01		LLD<2.12E+01	
SE-75	LLD<1.01E+01		LLD<1.01E+01	
NP-239	LLD<4.30E+01		LLD<4.30E+01	
HG-203	LLD<7.95E+00		LLD<7.95E+00	
IR-192	LLD<7.50E+00		LLD<7.50E+00	
CR-51	LLD<6.39E+01		LLD<6.39E+01	
SCM-000	9.34E+02	+- 4.10E+01	9.34E+02	+- 4.10E+01
BI-211	LLD<8.38E+01		LLD<8.38E+01	
PB-214	LLD<2.23E+01		LLD<2.23E+01	
BA-133	LLD<1.06E+01		LLD<1.06E+01	
I-131	LLD<9.11E+00		LLD<9.11E+00	
SN-113	LLD<1.03E+01		LLD<1.03E+01	
KR-87	LLD<1.28E+01		LLD<1.28E+01	
PB-211	LLD<2.35E+02		LLD<2.35E+02	
AU-198	2.17E+01	+- 3.86E+00	2.17E+01	+- 3.86E+00
SB-125	LLD<2.27E+01		LLD<2.27E+01	
[illegible]-212	LLD<1.87E+03		LLD<1.87E+03	
BE-7	LLD<7.06E+01		LLD<7.06E+01	
HF-181	LLD<8.81E+00		LLD<8.81E+00	
RU-103	LLD<8.24E+00		LLD<8.24E+00	
KR-85	LLD<1.85E+03		LLD<1.85E+03	

SR-85	LLD<8.08E+00	LLD<8.08E+00
I-133	LLD<9.19E+00	LLD<9.19E+00
BA-140	LLD<3.48E+01	LLD<3.48E+01
Y-91M	LLD<9.22E+00	LLD<9.22E+00
[illegible]-207	LLD<9.54E+00	LLD<9.54E+00
TL-208	LLD<1.37E+01	LLD<1.37E+01
SB-124	LLD<9.13E+00	LLD<9.13E+00
CS-134	LLD<8.89E+00	LLD<8.89E+00
BI-214	LLD<1.99E+01	LLD<1.99E+01
RU-106	LLD<9.12E+01	LLD<9.12E+01
LA-142	LLD<1.76E+01	LLD<1.76E+01
AG-110M	LLD<1.04E+01	LLD<1.04E+01
NB-97	LLD<9.95E+00	LLD<9.95E+00
CS-137	LLD<1.07E+01	LLD<1.07E+01
I-132	LLD<9.57E+00	LLD<9.57E+00
W-187	LLD<3.42E+01	LLD<3.42E+01
ZR-97	LLD<1.16E+01	LLD<1.16E+01
ZR-95	LLD<2.10E+01	LLD<2.10E+01
NB-95	LLD<1.14E+01	LLD<1.14E+01
TL-210	LLD<1.38E+01	LLD<1.38E+01
CO-58	LLD<1.02E+01	LLD<1.02E+01
CS-136	LLD<1.05E+01	LLD<1.05E+01
MN-54	LLD<1.08E+01	LLD<1.08E+01
CO-56	LLD<1.07E+01	LLD<1.07E+01
I-134	LLD<1.21E+01	LLD<1.21E+01
TL-207	LLD<4.97E+03	LLD<4.97E+03
Y-88	LLD<1.19E+01	LLD<1.19E+01
AC-228	LLD<3.92E+01	LLD<3.92E+01
EU-152	9.10E+02 +- 8.07E+01	9.10E+02 +- 8.07E+01
[illegible]-234M	LLD<2.89E+01	LLD<2.89E+01
[illegible]R-91	LLD<3.33E+01	LLD<3.33E+01
RB-89	LLD<1.46E+01	LLD<1.46E+01
FE-59	LLD<1.85E+01	LLD<1.85E+01
ZN-65	LLD<5.57E+01	LLD<5.57E+01
SC-46	LLD<1.23E+01	LLD<1.23E+01
TA-182	LLD<3.20E+01	LLD<3.20E+01
I-135	LLD<2.50E+01	LLD<2.50E+01
CL-39	LLD<1.51E+01	LLD<1.51E+01
NA-22	LLD<6.45E+00	LLD<6.45E+00
AR-41	LLD<1.19E+01	LLD<1.19E+01
CO-60	LLD<5.44E+00	LLD<5.44E+00
NA-24	LLD<3.83E+00	LLD<3.83E+00
SR-92	LLD<6.09E+00	LLD<6.09E+00
SCH-000	9.64E+02 +- 7.26E+01	9.64E+02 +- 7.26E+01
CS-138	LLD<4.10E+00	LLD<4.10E+00
K-40	LLD<5.06E+01	LLD<5.06E+01
KR-88	LLD<5.25E+01	LLD<5.25E+01
TL-209	LLD<2.64E+00	LLD<2.64E+00
LA-140	LLD<2.44E+00	LLD<2.44E+00
AL-26	LLD<6.17E-01	LLD<6.17E-01
MN-56	LLD<2.27E+00	LLD<2.27E+00
RB-88	LLD<2.96E+00	LLD<2.96E+00
Total	4.11E+03 +- 1.25E+02	4.11E+03 +- 1.25E+02

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1127

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
233.69	117.05	419.	62.9	4.30E+02
489.41	244.77	1653.	7.1	2.26E+03
678.96	339.46	169.	39.3	3.06E+02
887.84	443.82	398.	16.2	9.44E+02
1557.54	778.58	932.	8.4	3.90E+03
1734.30	866.97	276.	21.5	1.28E+03
2718.27	1359.32	9.	107.9	5.72E+01
2805.75	1403.11	37.	36.1	2.46E+02

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C-23

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 27-NOV-95 10:44:54

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0009
Measured by: dlv

Sample Description: C-23 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.6000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 27-NOV-95 at 10:29:31

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 27-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 27-NOV-95 10:44:54

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.36	238.75	1.9	62.	102.	31.2	PB-212
2	676.75	338.35	1.1	29.	23.	86.0	AC-228
3	704.09	352.01	1.0	21.	41.	46.2	BI-211,PB-214
4C	1166.13	582.90	1.3	2.	38.	37.3	TL-208
5	1218.79	609.22	1.2	5.	41.	34.9	BI-214
6	1822.15	910.91	2.7	6.	21.	56.0	AC-228
7	2921.51	1461.07	1.4	7.	58.	30.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 27-NOV-95 10:44:54

Sample: C-23 Soil
ta collected on 27-NOV-95 at 10:29:31
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.85E+00		LLD<2.85E+00	
TH-234	LLD<2.16E+01		LLD<2.16E+01	
TH-230	LLD<1.88E+02		LLD<1.88E+02	
XE-133	LLD<1.50E+00		LLD<1.50E+00	
CD-109	LLD<9.50E+00		LLD<9.50E+00	
SCL-000	LLD<7.06E-01		LLD<7.06E-01	
CO-57	LLD<2.34E-01		LLD<2.34E-01	
PA-234	LLD<9.88E-01		LLD<9.88E-01	
CE-144	LLD<1.76E+00		LLD<1.76E+00	
TC-99M	LLD<1.88E-01		LLD<1.88E-01	
U-235	LLD<1.53E+00		LLD<1.53E+00	
CE-141	LLD<3.73E-01		LLD<3.73E-01	
KR-85M	LLD<2.53E-01		LLD<2.53E-01	
XE-131M	LLD<7.61E+00		LLD<7.61E+00	
BA-139	LLD<8.77E-01		LLD<8.77E-01	
[illegible]-139	LLD<1.78E-01		LLD<1.78E-01	
[illegible]-226	LLD<5.20E+00		LLD<5.20E+00	
BA-141	LLD<4.53E-01		LLD<4.53E-01	
KR-89	LLD<2.21E+00		LLD<2.21E+00	
TE-132	LLD<1.70E-01		LLD<1.70E-01	
XE-133M	LLD<2.51E+00		LLD<2.51E+00	
TH-227	LLD<1.55E+00		LLD<1.55E+00	
PB-212	1.23E+00	+- 3.84E-01	1.23E+00	+- 3.84E-01
RA-224	LLD<5.06E+00		LLD<5.06E+00	
XE-135	LLD<2.22E-01		LLD<2.22E-01	
XE-138	LLD<7.95E-01		LLD<7.95E-01	
SE-75	LLD<3.59E-01		LLD<3.59E-01	
NP-239	LLD<1.73E+00		LLD<1.73E+00	
HG-203	LLD<2.79E-01		LLD<2.79E-01	
IR-192	LLD<2.46E-01		LLD<2.46E-01	
CR-51	LLD<1.80E+00		LLD<1.80E+00	
SCM-000	LLD<1.17E+00		LLD<1.17E+00	
BI-211	8.26E+00	+- 3.82E+00	8.26E+00	+- 3.82E+00
PB-214	9.64E-01	+- 4.46E-01	9.64E-01	+- 4.46E-01
BA-133	LLD<5.86E-01		LLD<5.86E-01	
I-131	LLD<2.43E-01		LLD<2.43E-01	
SN-113	LLD<3.36E-01		LLD<3.36E-01	
KR-87	LLD<3.60E-01		LLD<3.60E-01	
PB-211	LLD<7.89E+00		LLD<7.89E+00	
AU-198	LLD<1.83E-01		LLD<1.83E-01	
SB-125	LLD<7.56E-01		LLD<7.56E-01	
-212	LLD<6.75E+01		LLD<6.75E+01	
BE-7	LLD<2.83E+00		LLD<2.83E+00	
HF-181	LLD<2.92E-01		LLD<2.92E-01	
RU-103	LLD<2.83E-01		LLD<2.83E-01	
KR-85	LLD<6.14E+01		LLD<6.14E+01	

SR-85	LLD<2.69E-01		LLD<2.69E-01		
I-133	LLD<2.60E-01		LLD<2.60E-01		
BA-140	LLD<9.27E-01		LLD<9.27E-01		
Y-91M	LLD<3.16E-01		LLD<3.16E-01		
[illegible]-207	LLD<2.23E-01		LLD<2.23E-01		
TL-208	LLD<1.09E+00		LLD<1.09E+00		
SB-124	LLD<3.66E-01		LLD<3.66E-01		
CS-134	LLD<5.34E-01		LLD<5.34E-01		
BI-214	1.43E+00	+- 4.99E-01	1.43E+00	+-	4.99E-01
RU-106	LLD<2.45E+00		LLD<2.45E+00		
LA-142	LLD<6.00E-01		LLD<6.00E-01		
AG-110M	LLD<4.75E-01		LLD<4.75E-01		
NB-97	LLD<4.78E-01		LLD<4.78E-01		
CS-137	LLD<4.60E-01		LLD<4.60E-01		
I-132	LLD<4.15E-01		LLD<4.15E-01		
W-187	LLD<1.08E+00		LLD<1.08E+00		
ZR-97	LLD<3.44E-01		LLD<3.44E-01		
ZR-95	LLD<6.37E-01		LLD<6.37E-01		
NB-95	LLD<3.95E-01		LLD<3.95E-01		
TL-210	LLD<1.35E+00		LLD<1.35E+00		
CO-58	LLD<3.68E-01		LLD<3.68E-01		
CS-136	LLD<3.01E-01		LLD<3.01E-01		
MN-54	LLD<3.07E-01		LLD<3.07E-01		
CO-56	LLD<2.62E-01		LLD<2.62E-01		
I-134	LLD<3.34E-01		LLD<3.34E-01		
TL-207	LLD<3.22E+02		LLD<3.22E+02		
Y-88	LLD<4.73E-01		LLD<4.73E-01		
AC-228	1.50E+00	+- 8.41E-01	1.50E+00	+-	8.41E-01
EU-152	LLD<2.70E+00		LLD<2.70E+00		
[illegible]-234M	LLD<3.11E+00		LLD<3.11E+00		
[illegible]-91	LLD<1.05E+00		LLD<1.05E+00		
RB-89	LLD<9.03E-01		LLD<9.03E-01		
FE-59	LLD<5.78E-01		LLD<5.78E-01		
ZN-65	LLD<1.04E+00		LLD<1.04E+00		
SC-46	LLD<5.00E-01		LLD<5.00E-01		
TA-182	LLD<1.38E+00		LLD<1.38E+00		
I-135	LLD<1.45E+00		LLD<1.45E+00		
CL-39	LLD<9.49E-01		LLD<9.49E-01		
NA-22	LLD<4.93E-01		LLD<4.93E-01		
AR-41	LLD<3.68E-01		LLD<3.68E-01		
CO-60	LLD<2.46E-01		LLD<2.46E-01		
NA-24	LLD<2.81E-01		LLD<2.81E-01		
SR-92	LLD<5.07E-01		LLD<5.07E-01		
SCH-000	LLD<1.79E+00		LLD<1.79E+00		
CS-138	LLD<2.42E-01		LLD<2.42E-01		
K-40	1.53E+01	+- 4.62E+00	1.53E+01	+-	4.62E+00
KR-88	LLD<1.97E+00		LLD<1.97E+00		
TL-209	LLD<1.26E+00		LLD<1.26E+00		
LA-140	LLD<2.84E-01		LLD<2.84E-01		
AL-26	LLD<8.31E-02		LLD<8.31E-02		
MN-56	LLD<1.26E+00		LLD<1.26E+00		
RB-88	LLD<2.01E+00		LLD<2.01E+00		
	---		---		
Total	2.87E+01	+- 6.10E+00	2.87E+01	+-	6.10E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0009

Background

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 27-NOV-95 11:01:14

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0007
Measured by: dlv

Sample Description: Background Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 27-NOV-95 at 10:45:51

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 27-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 27-NOV-95 11:01:14

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.58	238.86	1.4	106.	153.	25.7	PB-212
2	591.06	295.54	1.6	41.	53.	46.5	PB-214 ~~U-234~~ RN-222
3	676.41	338.18	0.7	26.	45.	46.4	AC-228
4	704.23	352.08	2.3	18.	110.	22.3	PB-214 · RN222
5	944.68	472.23	0.8	9.	13.	85.5	
6	961.60	480.68	1.3	8.	15.	79.3	
7	1166.65	583.16	1.3	28.	30.	64.8	TL-208
8	1219.09	609.37	1.9	10.	55.	31.4	BI-214 · RN 222
9	1322.86	661.25	1.6	18.	48.	39.4	CS-137
10	1821.89	910.78	1.3	1.	29.	38.7	AC-228
11	1936.55	968.13	1.3	9.	19.	71.0	AC-228
12	2921.40	1461.02	1.4	4.	73.	25.0	K-40

TH232

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

- Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 27-NOV-95 11:01:14

Sample: Background Soil
Data collected on 27-NOV-95 at 10:45:51
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.61E+00		LLD<3.61E+00	
TH-234	LLD<2.60E+01		LLD<2.60E+01	
TH-230	LLD<2.48E+02		LLD<2.48E+02	
XE-133	LLD<1.81E+00		LLD<1.81E+00	
CD-109	LLD<1.21E+01		LLD<1.21E+01	
SCL-000	LLD<7.06E-01		LLD<7.06E-01	
CO-57	LLD<2.34E-01		LLD<2.34E-01	
PA-234	LLD<9.58E-01		LLD<9.58E-01	
CE-144	LLD<2.12E+00		LLD<2.12E+00	
TC-99M	LLD<2.40E-01		LLD<2.40E-01	
U-235	LLD<1.71E+00		LLD<1.71E+00	
CE-141	LLD<4.15E-01		LLD<4.15E-01	
KR-85M	LLD<2.74E-01		LLD<2.74E-01	
XE-131M	LLD<9.82E+00		LLD<9.82E+00	
BA-139	LLD<1.01E+00		LLD<1.01E+00	
[illegible]-139	LLD<2.05E-01		LLD<2.05E-01	
[illegible]-226	LLD<5.88E+00		LLD<5.88E+00	
BA-141	LLD<5.22E-01		LLD<5.22E-01	
KR-89	LLD<2.66E+00		LLD<2.66E+00	
TE-132	LLD<2.29E-01		LLD<2.29E-01	
XE-133M	LLD<3.02E+00		LLD<3.02E+00	
TH-227	LLD<2.02E+00		LLD<2.02E+00	
PB-212	1.72E+00	+- 4.47E-01	1.72E+00	+- 4.47E-01
RA-224	LLD<6.74E+00		LLD<6.74E+00	
XE-135	LLD<2.48E-01		LLD<2.48E-01	
XE-138	LLD<8.07E-01		LLD<8.07E-01	
SE-75	LLD<3.43E-01		LLD<3.43E-01	
NP-239	LLD<1.43E+00		LLD<1.43E+00	
HG-203	LLD<2.82E-01		LLD<2.82E-01	
IR-192	LLD<2.82E-01		LLD<2.82E-01	
CR-51	LLD<2.64E+00		LLD<2.64E+00	
SCM-000	LLD<1.06E+00		LLD<1.06E+00	
BI-211	LLD<8.65E+00		LLD<8.65E+00	
PB-214	2.43E+00	+- 5.43E-01	2.43E+00	+- 5.43E-01
BA-133	LLD<7.59E-01		LLD<7.59E-01	
I-131	LLD<3.18E-01		LLD<3.18E-01	
SN-113	LLD<3.89E-01		LLD<3.89E-01	
KR-87	LLD<5.28E-01		LLD<5.28E-01	
PB-211	LLD<1.13E+01		LLD<1.13E+01	
AU-198	LLD<2.64E-01		LLD<2.64E-01	
SB-125	LLD<8.86E-01		LLD<8.86E-01	
[illegible]-212	LLD<9.01E+01		LLD<9.01E+01	
BE-7	LLD<2.87E+00		LLD<2.87E+00	
HF-181	LLD<2.99E-01		LLD<2.99E-01	
RU-103	LLD<3.30E-01		LLD<3.30E-01	
KR-85	LLD<8.00E+01		LLD<8.00E+01	

SR-85	LLD<3.50E-01		LLD<3.50E-01		
I-133	LLD<2.93E-01		LLD<2.93E-01		
BA-140	LLD<1.07E+00		LLD<1.07E+00		
Y-91M	LLD<3.23E-01		LLD<3.23E-01		
[illegible]-207	LLD<3.10E-01		LLD<3.10E-01		
[illegible]-208	LLD<1.37E+00		LLD<1.37E+00		
SB-124	LLD<3.52E-01		LLD<3.52E-01		
CS-134	LLD<5.82E-01		LLD<5.82E-01		
BI-214	1.77E+00	+- 5.58E-01	1.77E+00	+-	5.58E-01
RU-106	LLD<3.43E+00		LLD<3.43E+00		
LA-142	LLD<4.92E-01		LLD<4.92E-01		
AG-110M	LLD<7.15E-01		LLD<7.15E-01		
NB-97	LLD<7.20E-01		LLD<7.20E-01		
CS-137	7.30E-01	+- 2.88E-01	7.30E-01	+-	2.88E-01
I-132	LLD<4.13E-01		LLD<4.13E-01		
W-187	LLD<1.17E+00		LLD<1.17E+00		
ZR-97	LLD<3.32E-01		LLD<3.32E-01		
ZR-95	LLD<5.97E-01		LLD<5.97E-01		
NB-95	LLD<3.48E-01		LLD<3.48E-01		
TL-210	LLD<2.52E+00		LLD<2.52E+00		
CO-58	LLD<3.23E-01		LLD<3.23E-01		
CS-136	LLD<2.62E-01		LLD<2.62E-01		
MN-54	LLD<3.63E-01		LLD<3.63E-01		
CO-56	LLD<3.46E-01		LLD<3.46E-01		
I-134	LLD<4.23E-01		LLD<4.23E-01		
TL-207	LLD<2.19E+02		LLD<2.19E+02		
Y-88	LLD<2.72E-01		LLD<2.72E-01		
AC-228	1.92E+00	+- 7.43E-01	1.92E+00	+-	7.43E-01
EU-152	LLD<4.87E+00		LLD<4.87E+00		
[illegible]-234M	LLD<4.34E+00		LLD<4.34E+00		
[illegible]-91	LLD<1.06E+00		LLD<1.06E+00		
RB-89	LLD<7.86E-01		LLD<7.86E-01		
FE-59	LLD<8.14E-01		LLD<8.14E-01		
ZN-65	LLD<9.77E-01		LLD<9.77E-01		
SC-46	LLD<4.21E-01		LLD<4.21E-01		
TA-182	LLD<1.01E+00		LLD<1.01E+00		
I-135	LLD<1.36E+00		LLD<1.36E+00		
CL-39	LLD<6.42E-01		LLD<6.42E-01		
NA-22	LLD<3.03E-01		LLD<3.03E-01		
AR-41	LLD<4.22E-01		LLD<4.22E-01		
CO-60	LLD<4.68E-01		LLD<4.68E-01		
NA-24	LLD<1.86E-01		LLD<1.86E-01		
SR-92	LLD<4.64E-01		LLD<4.64E-01		
SCH-000	LLD<1.65E+00		LLD<1.65E+00		
CS-138	LLD<2.78E-01		LLD<2.78E-01		
K-40	1.78E+01	+- 4.51E+00	1.78E+01	+-	4.51E+00
KR-88	LLD<4.00E+00		LLD<4.00E+00		
TL-209	LLD<1.54E+00		LLD<1.54E+00		
LA-140	LLD<3.61E-01		LLD<3.61E-01		
AL-26	LLD<4.39E-01		LLD<4.39E-01		
MN-56	LLD<1.37E+00		LLD<1.37E+00		
RB-88	LLD<2.16E+00		LLD<2.16E+00		
	---		---		
Total	2.64E+01	+- 4.66E+00	2.64E+01	+-	4.66E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0007

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.06	295.54	53.	46.5	8.54E+00
676.41	338.18	45.	46.4	8.15E+00
944.68	472.23	13.	85.5	3.28E+00
961.60	480.68	15.	79.3	3.83E+00
1166.65	583.16	30.	64.8	9.57E+00
1936.55	968.13	19.	71.0	9.49E+00

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C-20

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 27-NOV-95 14:04:12

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0010
Measured by: dlv

Sample Description: C-20 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.1100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 27-NOV-95 at 13:41:29

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 27-NOV-95
Efficiency Calibration performed 21-NOV-95

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
676.84	338.43	38.	42.6	6.93E+00
1167.25	583.48	24.	49.4	7.57E+00

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C-38

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 13:17:40

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0032
Measured by: dlv

Sample Description: C-38 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.5200E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 13:04:13

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

SR-85	LLD<3.39E-01		LLD<3.39E-01		
I-133	LLD<4.01E-01		LLD<4.01E-01		
BA-140	LLD<1.38E+00		LLD<1.38E+00		
[illegible]91M	LLD<3.95E-01		LLD<3.95E-01		
[illegible]-207	LLD<2.84E-01		LLD<2.84E-01		
TL-208	LLD<1.08E+00		LLD<1.08E+00		
SB-124	LLD<3.24E-01		LLD<3.24E-01		
CS-134	LLD<6.48E-01		LLD<6.48E-01		
BI-214	1.44E+00	+- 5.59E-01	1.44E+00	+-	5.59E-01
RU-106	LLD<2.58E+00		LLD<2.58E+00		
LA-142	LLD<6.79E-01		LLD<6.79E-01		
AG-110M	LLD<6.93E-01		LLD<6.93E-01		
NB-97	LLD<6.99E-01		LLD<6.99E-01		
CS-137	4.38E-01	+- 2.26E-01	4.38E-01	+-	2.26E-01
I-132	LLD<4.30E-01		LLD<4.30E-01		
W-187	LLD<1.18E+00		LLD<1.18E+00		
ZR-97	LLD<3.80E-01		LLD<3.80E-01		
ZR-95	LLD<6.12E-01		LLD<6.12E-01		
NB-95	LLD<3.28E-01		LLD<3.28E-01		
TL-210	LLD<2.05E+00		LLD<2.05E+00		
CO-58	LLD<4.63E-01		LLD<4.63E-01		
CS-136	LLD<3.58E-01		LLD<3.58E-01		
MN-54	LLD<4.97E-01		LLD<4.97E-01		
CO-56	LLD<3.14E-01		LLD<3.14E-01		
I-134	LLD<3.96E-01		LLD<3.96E-01		
TL-207	LLD<3.00E+02		LLD<3.00E+02		
Y-88	LLD<4.53E-01		LLD<4.53E-01		
AC-228	2.21E+00	+- 8.90E-01	2.21E+00	+-	8.90E-01
[illegible]-152	LLD<3.67E+00		LLD<3.67E+00		
[illegible]-234M	LLD<4.24E+00		LLD<4.24E+00		
SR-91	LLD<1.33E+00		LLD<1.33E+00		
RB-89	LLD<8.67E-01		LLD<8.67E-01		
FE-59	LLD<8.95E-01		LLD<8.95E-01		
ZN-65	LLD<1.02E+00		LLD<1.02E+00		
SC-46	LLD<5.31E-01		LLD<5.31E-01		
TA-182	LLD<1.54E+00		LLD<1.54E+00		
I-135	LLD<1.73E+00		LLD<1.73E+00		
CL-39	LLD<1.19E+00		LLD<1.19E+00		
NA-22	LLD<5.52E-01		LLD<5.52E-01		
AR-41	LLD<5.34E-01		LLD<5.34E-01		
CO-60	LLD<3.78E-01		LLD<3.78E-01		
NA-24	LLD<2.62E-01		LLD<2.62E-01		
SR-92	LLD<6.09E-01		LLD<6.09E-01		
SCH-000	LLD<1.96E+00		LLD<1.96E+00		
CS-138	LLD<5.19E-01		LLD<5.19E-01		
K-40	2.37E+01	+- 5.50E+00	2.37E+01	+-	5.50E+00
KR-88	LLD<4.95E+00		LLD<4.95E+00		
TL-209	LLD<1.27E+00		LLD<1.27E+00		
LA-140	LLD<3.83E-01		LLD<3.83E-01		
AL-26	LLD<2.99E-01		LLD<2.99E-01		
MN-56	LLD<2.04E+00		LLD<2.04E+00		
RB-88	LLD<1.87E+00		LLD<1.87E+00		
	---		---		
Total	3.06E+01	+- 5.65E+00	3.06E+01	+-	5.65E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0018

hgt.rw 28-NOV-95 13:03:19

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.97	239.09	1.2	80.	92.	36.8	PB-212
2	676.84	338.43	2.2	14.	38.	42.6	AC-228
3	704.27	352.13	2.8	19.	55.	36.1	PB-214
4	1167.25	583.48	1.7	5.	24.	49.4	TL-208
5	1218.79	609.24	1.8	6.	36.	38.9	BI-214
6	1324.28	661.97	0.9	7.	23.	51.7	CS-137
7	1822.50	911.09	1.8	1.	27.	40.2	AC-228
8	2921.85	1461.19	1.7	2.	78.	22.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

N - Multiplet Analysis did NOT converge

hgtrw 28-NOV-95 13:03:19

mple: C-26 Soil
Data collected on 28-NOV-95 at 12:41:06
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.93E+00		LLD<3.93E+00	
TH-234	LLD<3.15E+01		LLD<3.15E+01	
TH-230	LLD<2.27E+02		LLD<2.27E+02	
XE-133	LLD<1.72E+00		LLD<1.72E+00	
CD-109	LLD<1.22E+01		LLD<1.22E+01	
SCL-000	LLD<8.89E-01		LLD<8.89E-01	
CO-57	LLD<2.95E-01		LLD<2.95E-01	
PA-234	LLD<1.16E+00		LLD<1.16E+00	
CE-144	LLD<2.10E+00		LLD<2.10E+00	
TC-99M	LLD<2.58E-01		LLD<2.58E-01	
U-235	LLD<1.87E+00		LLD<1.87E+00	
CE-141	LLD<4.41E-01		LLD<4.41E-01	
KR-85M	LLD<2.71E-01		LLD<2.71E-01	
XE-131M	LLD<1.04E+01		LLD<1.04E+01	
[illegible]-139	LLD<1.20E+00		LLD<1.20E+00	
[illegible]-139	LLD<2.43E-01		LLD<2.43E-01	
RA-226	LLD<6.19E+00		LLD<6.19E+00	
BA-141	LLD<5.19E-01		LLD<5.19E-01	
KR-89	LLD<2.97E+00		LLD<2.97E+00	
TE-132	LLD<2.52E-01		LLD<2.52E-01	
XE-133M	LLD<2.82E+00		LLD<2.82E+00	
TH-227	LLD<2.15E+00		LLD<2.15E+00	
PB-212	1.29E+00	+- 4.75E-01	1.29E+00	+- 4.75E-01
RA-224	LLD<6.58E+00		LLD<6.58E+00	
XE-135	LLD<2.64E-01		LLD<2.64E-01	
XE-138	LLD<8.64E-01		LLD<8.64E-01	
SE-75	LLD<3.70E-01		LLD<3.70E-01	
NP-239	LLD<1.66E+00		LLD<1.66E+00	
HG-203	LLD<3.21E-01		LLD<3.21E-01	
IR-192	LLD<3.00E-01		LLD<3.00E-01	
CR-51	LLD<2.56E+00		LLD<2.56E+00	
SCM-000	LLD<1.48E+00		LLD<1.48E+00	
BI-211	LLD<9.33E+00		LLD<9.33E+00	
PB-214	1.51E+00	+- 5.46E-01	1.51E+00	+- 5.46E-01
BA-133	LLD<6.72E-01		LLD<6.72E-01	
I-131	LLD<3.20E-01		LLD<3.20E-01	
SN-113	LLD<4.19E-01		LLD<4.19E-01	
KR-87	LLD<5.50E-01		LLD<5.50E-01	
PB-211	LLD<1.00E+01		LLD<1.00E+01	
AU-198	LLD<2.80E-01		LLD<2.80E-01	
[illegible]-125	LLD<9.84E-01		LLD<9.84E-01	
BI-212	LLD<8.81E+01		LLD<8.81E+01	
BE-7	LLD<2.74E+00		LLD<2.74E+00	
HF-181	LLD<3.78E-01		LLD<3.78E-01	
RU-103	LLD<3.29E-01		LLD<3.29E-01	
KR-85	LLD<7.75E+01		LLD<7.75E+01	

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
127.62	64.12	120.	31.0	5.19E+01
150.13	75.36	47.	92.6	1.20E+01
186.28	93.41	449.	14.1	6.64E+01
591.61	295.85	19.	111.3	3.04E+00
677.57	338.79	18.	104.5	3.22E+00
1166.62	583.17	24.	63.5	7.49E+00
2001.52	1000.63	22.	50.6	1.17E+01
2021.67	1010.71	6.	80.0	3.17E+00

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C-26

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 13:03:19

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0018
Measured by: dlv

Sample Description: C-26 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.6900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 12:41:06

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

SR-85	LLD<3.42E-01		LLD<3.42E-01		
I-133	LLD<3.10E-01		LLD<3.10E-01		
BA-140	5.19E-01	+- 4.07E-01	5.19E-01	+- 4.07E-01	
[illegible]91M	LLD<4.17E-01		LLD<4.17E-01		
[illegible]-207	LLD<3.42E-01		LLD<3.42E-01		
TL-208	LLD<1.28E+00		LLD<1.28E+00		
SB-124	LLD<3.90E-01		LLD<3.90E-01		
CS-134	LLD<6.72E-01		LLD<6.72E-01		
BI-214	1.20E+00	+- 7.22E-01	1.20E+00	+- 7.22E-01	
RU-106	LLD<3.47E+00		LLD<3.47E+00		
LA-142	LLD<6.07E-01		LLD<6.07E-01		
AG-110M	LLD<7.98E-01		LLD<7.98E-01		
NB-97	LLD<8.04E-01		LLD<8.04E-01		
CS-137	8.69E-01	+- 2.76E-01	8.69E-01	+- 2.76E-01	
I-132	LLD<4.66E-01		LLD<4.66E-01		
W-187	LLD<1.11E+00		LLD<1.11E+00		
ZR-97	LLD<4.09E-01		LLD<4.09E-01		
ZR-95	LLD<5.65E-01		LLD<5.65E-01		
NB-95	LLD<4.50E-01		LLD<4.50E-01		
TL-210	LLD<2.52E+00		LLD<2.52E+00		
CO-58	LLD<3.82E-01		LLD<3.82E-01		
CS-136	LLD<3.97E-01		LLD<3.97E-01		
MN-54	LLD<3.72E-01		LLD<3.72E-01		
CO-56	LLD<3.25E-01		LLD<3.25E-01		
I-134	LLD<3.53E-01		LLD<3.53E-01		
TL-207	LLD<2.77E+02		LLD<2.77E+02		
Y-88	LLD<3.87E-01		LLD<3.87E-01		
AC-228	1.32E+00	+- 7.95E-01	1.32E+00	+- 7.95E-01	
[illegible]-152	LLD<3.32E+00		LLD<3.32E+00		
[illegible]-234M	LLD<4.78E+00		LLD<4.78E+00		
SR-91	LLD<1.30E+00		LLD<1.30E+00		
RB-89	LLD<6.21E-01		LLD<6.21E-01		
FE-59	LLD<8.04E-01		LLD<8.04E-01		
ZN-65	LLD<1.26E+00		LLD<1.26E+00		
SC-46	LLD<4.29E-01		LLD<4.29E-01		
TA-182	LLD<1.32E+00		LLD<1.32E+00		
I-135	LLD<1.67E+00		LLD<1.67E+00		
CL-39	LLD<6.66E-01		LLD<6.66E-01		
NA-22	LLD<4.70E-01		LLD<4.70E-01		
AR-41	LLD<5.45E-01		LLD<5.45E-01		
CO-60	LLD<3.93E-01		LLD<3.93E-01		
NA-24	LLD<2.79E-01		LLD<2.79E-01		
SR-92	LLD<5.43E-01		LLD<5.43E-01		
SCH-000	LLD<1.56E+00		LLD<1.56E+00		
CS-138	LLD<5.31E-01		LLD<5.31E-01		
K-40	2.19E+01	+- 4.92E+00	2.19E+01	+- 4.92E+00	
KR-88	LLD<3.28E+00		LLD<3.28E+00		
TL-209	LLD<1.40E+00		LLD<1.40E+00		
LA-140	LLD<3.95E-01		LLD<3.95E-01		
AL-26	LLD<2.42E-01		LLD<2.42E-01		
MN-56	LLD<7.40E-01		LLD<7.40E-01		
RB-88	LLD<1.37E+00		LLD<1.37E+00		
	---		---		
Total	6.52E+01	+- 7.50E+00	6.52E+01	+- 7.50E+00	

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0015

rw 28-NOV-95 12:39:46

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	127.62	64.12	1.5	106.	120.	31.0	TH-234
2	150.13	75.36	1.2	190.	47.	92.6	PB-214
3	186.28	93.41	1.4	226.	449.	14.1	TH-234
4	372.68	186.50	1.5	76.	287.	14.9	U-235,RA-226
5C	478.38	239.29	1.4	56.	104.	37.3	PB-212
6	591.61	295.85	1.2	39.	19.	111.3	PB-214
7	677.57	338.79	1.0	30.	18.	104.5	AC-228
8	704.87	352.43	1.3	24.	67.	33.0	PB-214
9	1074.19	536.97	2.7	3.	10.	78.3	BA-140
10	1166.62	583.17	1.8	15.	24.	63.5	TL-208
11	1218.97	609.33	0.7	24.	32.	60.3	BI-214
12	1322.99	661.33	1.4	6.	50.	31.6	CS-137
13	1821.50	910.59	2.5	4.	17.	60.2	AC-228
14	2001.52	1000.63	1.6	4.	22.	50.6	PA234M
15	2021.67	1010.71	1.2	0.	6.	80.0	
16	2920.34	1460.43	1.1	0.	78.	22.2	K-40

ror Quotation at 1.96 sigma
ak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 28-NOV-95 12:39:46

Sample: C-14 Soil
Data collected on 28-NOV-95 at 12:25:48
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<6.35E+00		LLD<6.35E+00	
TH-234	LLD<3.60E+01		LLD<3.60E+01	
TH-230	LLD<3.58E+02		LLD<3.58E+02	
XE-133	LLD<2.35E+00		LLD<2.35E+00	
CD-109	LLD<2.26E+01		LLD<2.26E+01	
SCL-000	LLD<9.88E-01		LLD<9.88E-01	
CO-57	LLD<3.28E-01		LLD<3.28E-01	
PA-234	LLD<1.24E+00		LLD<1.24E+00	
CE-144	LLD<2.43E+00		LLD<2.43E+00	
TC-99M	LLD<3.11E-01		LLD<3.11E-01	
U-235	LLD<2.25E+00		LLD<2.25E+00	
CE-141	LLD<5.09E-01		LLD<5.09E-01	
KR-85M	LLD<3.54E-01		LLD<3.54E-01	
XE-131M	LLD<1.08E+01		LLD<1.08E+01	
[illegible]-139	LLD<1.34E+00		LLD<1.34E+00	
[illegible]-139	LLD<2.73E-01		LLD<2.73E-01	
RA-226	3.64E+01	+- 5.49E+00	3.64E+01	+- 5.49E+00
BA-141	LLD<9.78E-01		LLD<9.78E-01	
KR-89	LLD<2.91E+00		LLD<2.91E+00	
TE-132	LLD<2.75E-01		LLD<2.75E-01	
XE-133M	LLD<2.86E+00		LLD<2.86E+00	
TH-227	LLD<2.00E+00		LLD<2.00E+00	
PB-212	1.33E+00	+- 4.99E-01	1.33E+00	+- 4.99E-01
RA-224	LLD<6.91E+00		LLD<6.91E+00	
XE-135	LLD<3.02E-01		LLD<3.02E-01	
XE-138	LLD<1.21E+00		LLD<1.21E+00	
SE-75	LLD<3.76E-01		LLD<3.76E-01	
NP-239	LLD<1.80E+00		LLD<1.80E+00	
HG-203	LLD<3.34E-01		LLD<3.34E-01	
IR-192	LLD<2.86E-01		LLD<2.86E-01	
CR-51	LLD<2.50E+00		LLD<2.50E+00	
SCM-000	LLD<1.34E+00		LLD<1.34E+00	
BI-211	LLD<8.51E+00		LLD<8.51E+00	
PB-214	1.69E+00	+- 5.57E-01	1.69E+00	+- 5.57E-01
BA-133	LLD<6.58E-01		LLD<6.58E-01	
I-131	LLD<3.06E-01		LLD<3.06E-01	
SN-113	LLD<4.07E-01		LLD<4.07E-01	
KR-87	LLD<5.71E-01		LLD<5.71E-01	
PB-211	LLD<1.08E+01		LLD<1.08E+01	
AU-198	LLD<2.85E-01		LLD<2.85E-01	
[illegible]-125	LLD<8.28E-01		LLD<8.28E-01	
BI-212	LLD<8.92E+01		LLD<8.92E+01	
BE-7	LLD<3.01E+00		LLD<3.01E+00	
HF-181	LLD<3.18E-01		LLD<3.18E-01	
RU-103	LLD<3.04E-01		LLD<3.04E-01	
KR-85	LLD<7.83E+01		LLD<7.83E+01	

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.43	295.76	51.	38.2	8.23E+00
676.85	338.43	21.	82.5	3.85E+00
1022.24	511.01	20.	65.5	5.55E+00

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C-14

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 12:39:46

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0015
Measured by: dlv

Sample Description: C-14 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.1600E+02 gm, / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 12:25:48

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

SR-85	LLD<3.37E-01	LLD<3.37E-01
I-133	LLD<2.69E-01	LLD<2.69E-01
BA-140	LLD<1.08E+00	LLD<1.08E+00
[illegible]91M	LLD<2.95E-01	LLD<2.95E-01
[illegible]-207	LLD<2.84E-01	LLD<2.84E-01
TL-208	LLD<1.18E+00	LLD<1.18E+00
SB-124	LLD<3.23E-01	LLD<3.23E-01
CS-134	LLD<5.07E-01	LLD<5.07E-01
BI-214	LLD<1.10E+00	LLD<1.10E+00
RU-106	LLD<3.27E+00	LLD<3.27E+00
LA-142	LLD<5.69E-01	LLD<5.69E-01
AG-110M	LLD<3.91E-01	LLD<3.91E-01
NB-97	LLD<3.93E-01	LLD<3.93E-01
CS-137	LLD<3.58E-01	LLD<3.58E-01
I-132	LLD<3.54E-01	LLD<3.54E-01
W-187	LLD<9.60E-01	LLD<9.60E-01
ZR-97	LLD<3.17E-01	LLD<3.17E-01
ZR-95	LLD<6.12E-01	LLD<6.12E-01
NB-95	LLD<3.25E-01	LLD<3.25E-01
TL-210	LLD<1.69E+00	LLD<1.69E+00
CO-58	LLD<3.26E-01	LLD<3.26E-01
CS-136	LLD<3.83E-01	LLD<3.83E-01
MN-54	LLD<2.86E-01	LLD<2.86E-01
CO-56	LLD<3.64E-01	LLD<3.64E-01
I-134	LLD<4.23E-01	LLD<4.23E-01
TL-207	LLD<2.93E+02	LLD<2.93E+02
Y-88	LLD<4.09E-01	LLD<4.09E-01
AC-228	LLD<1.94E+00	LLD<1.94E+00
[illegible]N-152	LLD<3.75E+00	LLD<3.75E+00
[illegible]-234M	LLD<3.12E+00	LLD<3.12E+00
SR-91	LLD<1.28E+00	LLD<1.28E+00
RB-89	LLD<7.66E-01	LLD<7.66E-01
FE-59	LLD<9.95E-01	LLD<9.95E-01
ZN-65	LLD<1.27E+00	LLD<1.27E+00
SC-46	LLD<6.07E-01	LLD<6.07E-01
TA-182	LLD<1.74E+00	LLD<1.74E+00
I-135	LLD<1.92E+00	LLD<1.92E+00
CL-39	LLD<7.11E-01	LLD<7.11E-01
NA-22	LLD<4.55E-01	LLD<4.55E-01
AR-41	LLD<4.56E-01	LLD<4.56E-01
CO-60	LLD<3.22E-01	LLD<3.22E-01
NA-24	LLD<4.97E-01	LLD<4.97E-01
SR-92	LLD<3.33E-01	LLD<3.33E-01
SCH-000	LLD<1.86E+00	LLD<1.86E+00
CS-138	LLD<4.90E-01	LLD<4.90E-01
K-40	1.84E+01 +- 4.64E+00	1.84E+01 +- 4.64E+00
KR-88	LLD<2.04E+00	LLD<2.04E+00
TL-209	LLD<1.62E+00	LLD<1.62E+00
LA-140	LLD<2.95E-01	LLD<2.95E-01
AL-26	LLD<3.99E-01	LLD<3.99E-01
MN-56	LLD<1.82E+00	LLD<1.82E+00
RB-88	LLD<1.67E+00	LLD<1.67E+00
	---	---
Total	2.18E+01 +- 4.68E+00	2.18E+01 +- 4.68E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0016

hat.rw 28-NOV-95 12:05:52

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.39	239.30	1.2	55.	130.	24.0	PB-212
2	591.43	295.76	2.9	21.	51.	38.2	PB-214
3	676.85	338.43	1.2	25.	21.	82.5	AC-228
4	704.53	352.26	2.2	10.	71.	27.1	PB-214
5	1022.24	511.01	2.7	10.	20.	65.5	TL-208,NA-22, ANN-RD
6	2921.33	1460.93	1.8	2.	68.	24.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 28-NOV-95 12:05:52

Sample: C-22 Soil
Data collected on 28-NOV-95 at 11:51:44
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.52E+00		LLD<3.52E+00	
TH-234	LLD<2.68E+01		LLD<2.68E+01	
TH-230	LLD<2.30E+02		LLD<2.30E+02	
XE-133	LLD<1.71E+00		LLD<1.71E+00	
CD-109	LLD<1.11E+01		LLD<1.11E+01	
SCL-000	LLD<7.54E-01		LLD<7.54E-01	
CO-57	LLD<2.50E-01		LLD<2.50E-01	
PA-234	LLD<1.05E+00		LLD<1.05E+00	
CE-144	LLD<1.92E+00		LLD<1.92E+00	
TC-99M	LLD<2.17E-01		LLD<2.17E-01	
U-235	LLD<1.60E+00		LLD<1.60E+00	
CE-141	LLD<3.71E-01		LLD<3.71E-01	
KR-85M	LLD<2.69E-01		LLD<2.69E-01	
XE-131M	LLD<8.77E+00		LLD<8.77E+00	
[illegible]-139	LLD<8.49E-01		LLD<8.49E-01	
[illegible]-139	LLD<1.72E-01		LLD<1.72E-01	
RA-226	LLD<5.86E+00		LLD<5.86E+00	
BA-141	LLD<5.51E-01		LLD<5.51E-01	
KR-89	LLD<2.41E+00		LLD<2.41E+00	
TE-132	LLD<2.26E-01		LLD<2.26E-01	
XE-133M	LLD<2.70E+00		LLD<2.70E+00	
TH-227	LLD<2.07E+00		LLD<2.07E+00	
PB-212	1.62E+00	+- 3.92E-01	1.62E+00	+- 3.92E-01
RA-224	LLD<6.84E+00		LLD<6.84E+00	
XE-135	LLD<2.74E-01		LLD<2.74E-01	
XE-138	LLD<7.85E-01		LLD<7.85E-01	
SE-75	LLD<3.32E-01		LLD<3.32E-01	
NP-239	LLD<1.71E+00		LLD<1.71E+00	
HG-203	LLD<3.09E-01		LLD<3.09E-01	
IR-192	LLD<2.69E-01		LLD<2.69E-01	
CR-51	LLD<2.07E+00		LLD<2.07E+00	
SCM-000	LLD<1.19E+00		LLD<1.19E+00	
BI-211	LLD<7.97E+00		LLD<7.97E+00	
PB-214	1.74E+00	+- 4.74E-01	1.74E+00	+- 4.74E-01
BA-133	LLD<6.30E-01		LLD<6.30E-01	
I-131	LLD<2.88E-01		LLD<2.88E-01	
SN-113	LLD<3.65E-01		LLD<3.65E-01	
KR-87	LLD<5.03E-01		LLD<5.03E-01	
PB-211	LLD<7.86E+00		LLD<7.86E+00	
[illegible]U-198	LLD<2.76E-01		LLD<2.76E-01	
[illegible]-125	LLD<8.18E-01		LLD<8.18E-01	
BI-212	LLD<7.14E+01		LLD<7.14E+01	
BE-7	LLD<2.62E+00		LLD<2.62E+00	
HF-181	LLD<2.78E-01		LLD<2.78E-01	
RU-103	LLD<2.98E-01		LLD<2.98E-01	
KR-85	LLD<7.70E+01		LLD<7.70E+01	

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
483.85	242.02	31.	61.5	4.12E+00
590.99	295.54	32.	56.3	5.16E+00
1454.62	727.13	17.	65.2	6.66E+00

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C-22

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 12:05:52

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0016
Measured by: dlv

Sample Description: C-22 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.3600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 11:51:44

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

SR-85	LLD<3.17E-01		LLD<3.17E-01		
I-133	LLD<2.61E-01		LLD<2.61E-01		
[illegible]-140	LLD<8.45E-01		LLD<8.45E-01		
[illegible]91M	LLD<2.62E-01		LLD<2.62E-01		
[illegible]-207	LLD<2.32E-01		LLD<2.32E-01		
TL-208	1.02E+00	+- 5.32E-01	1.02E+00	+-	5.32E-01
SB-124	LLD<3.16E-01		LLD<3.16E-01		
CS-134	LLD<5.74E-01		LLD<5.74E-01		
BI-214	1.87E+00	+- 5.20E-01	1.87E+00	+-	5.20E-01
RU-106	LLD<2.74E+00		LLD<2.74E+00		
LA-142	LLD<4.58E-01		LLD<4.58E-01		
AG-110M	LLD<4.12E-01		LLD<4.12E-01		
NB-97	LLD<4.15E-01		LLD<4.15E-01		
CS-137	LLD<4.46E-01		LLD<4.46E-01		
I-132	LLD<3.54E-01		LLD<3.54E-01		
W-187	LLD<9.25E-01		LLD<9.25E-01		
ZR-97	LLD<3.98E-01		LLD<3.98E-01		
ZR-95	LLD<4.12E-01		LLD<4.12E-01		
NB-95	LLD<3.01E-01		LLD<3.01E-01		
TL-210	LLD<2.21E+00		LLD<2.21E+00		
CO-58	LLD<3.01E-01		LLD<3.01E-01		
CS-136	LLD<2.52E-01		LLD<2.52E-01		
MN-54	LLD<3.45E-01		LLD<3.45E-01		
CO-56	LLD<2.78E-01		LLD<2.78E-01		
I-134	LLD<3.63E-01		LLD<3.63E-01		
TL-207	LLD<2.84E+02		LLD<2.84E+02		
Y-88	LLD<4.01E-01		LLD<4.01E-01		
AC-228	LLD<1.44E+00		LLD<1.44E+00		
[illegible]-152	LLD<3.04E+00		LLD<3.04E+00		
[illegible]-234M	LLD<3.47E+00		LLD<3.47E+00		
SR-91	LLD<1.27E+00		LLD<1.27E+00		
RB-89	LLD<6.81E-01		LLD<6.81E-01		
FE-59	LLD<9.00E-01		LLD<9.00E-01		
ZN-65	LLD<1.03E+00		LLD<1.03E+00		
SC-46	LLD<4.24E-01		LLD<4.24E-01		
TA-182	LLD<1.17E+00		LLD<1.17E+00		
I-135	LLD<1.44E+00		LLD<1.44E+00		
CL-39	LLD<7.21E-01		LLD<7.21E-01		
NA-22	LLD<4.37E-01		LLD<4.37E-01		
AR-41	LLD<4.51E-01		LLD<4.51E-01		
CO-60	LLD<3.83E-01		LLD<3.83E-01		
NA-24	LLD<3.08E-01		LLD<3.08E-01		
SR-92	LLD<4.69E-01		LLD<4.69E-01		
SCH-000	LLD<1.79E+00		LLD<1.79E+00		
CS-138	LLD<5.42E-01		LLD<5.42E-01		
K-40	1.86E+01	+- 4.47E+00	1.86E+01	+-	4.47E+00
KR-88	LLD<6.21E-01		LLD<6.21E-01		
TL-209	LLD<8.29E-01		LLD<8.29E-01		
LA-140	LLD<2.43E-01		LLD<2.43E-01		
AL-26	LLD<2.99E-01		LLD<2.99E-01		
MN-56	LLD<2.67E-01		LLD<2.67E-01		
RB-88	LLD<1.89E+00		LLD<1.89E+00		
	---		---		
[illegible]tal	2.30E+01	+- 4.55E+00	2.30E+01	+-	4.55E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0014

hgtrw

28-NOV-95 11:16:42

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	477.68	238.94	1.4	50.	140.	26.9	PB-212
2C	483.85	242.02	1.4	47.	31.	61.5	PB-214
3	590.99	295.54	1.1	24.	32.	56.3	PB-214
4	1021.81	510.79	1.3	14.	22.	65.3	TL-208,NA-22, ANN-RD
5	1165.62	582.67	1.3	15.	31.	51.9	TL-208
6	1218.87	609.28	1.6	6.	63.	27.7	BI-214
7	1454.62	727.13	0.6	6.	17.	65.2	BI-212
8	2920.04	1460.28	2.5	6.	83.	23.7	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 28-NOV-95 11:16:42

Sample: C-28 Soil
Data collected on 28-NOV-95 at 10:49:36
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.56E+00		LLD<3.56E+00	
TH-234	LLD<2.55E+01		LLD<2.55E+01	
TH-230	LLD<2.27E+02		LLD<2.27E+02	
XE-133	LLD<1.51E+00		LLD<1.51E+00	
CD-109	LLD<1.08E+01		LLD<1.08E+01	
SCL-000	LLD<7.19E-01		LLD<7.19E-01	
CO-57	LLD<2.39E-01		LLD<2.39E-01	
PA-234	LLD<9.43E-01		LLD<9.43E-01	
CE-144	LLD<1.74E+00		LLD<1.74E+00	
TC-99M	LLD<2.04E-01		LLD<2.04E-01	
U-235	LLD<1.66E+00		LLD<1.66E+00	
CE-141	LLD<3.61E-01		LLD<3.61E-01	
KR-85M	LLD<2.51E-01		LLD<2.51E-01	
XE-131M	LLD<8.20E+00		LLD<8.20E+00	
[illegible]-139	LLD<1.10E+00		LLD<1.10E+00	
[illegible]-139	LLD<2.23E-01		LLD<2.23E-01	
RA-226	LLD<4.79E+00		LLD<4.79E+00	
BA-141	LLD<4.33E-01		LLD<4.33E-01	
KR-89	LLD<2.46E+00		LLD<2.46E+00	
TE-132	LLD<2.20E-01		LLD<2.20E-01	
XE-133M	LLD<2.33E+00		LLD<2.33E+00	
TH-227	LLD<1.75E+00		LLD<1.75E+00	
PB-212	1.44E+00	+- 3.91E-01	1.44E+00	+- 3.91E-01
RA-224	LLD<5.40E+00		LLD<5.40E+00	
XE-135	LLD<2.42E-01		LLD<2.42E-01	
XE-138	LLD<7.24E-01		LLD<7.24E-01	
SE-75	LLD<2.80E-01		LLD<2.80E-01	
NP-239	LLD<1.37E+00		LLD<1.37E+00	
HG-203	LLD<2.41E-01		LLD<2.41E-01	
IR-192	LLD<2.36E-01		LLD<2.36E-01	
CR-51	LLD<1.92E+00		LLD<1.92E+00	
SCM-000	LLD<1.14E+00		LLD<1.14E+00	
BI-211	LLD<7.18E+00		LLD<7.18E+00	
PB-214	LLD<8.44E-01		LLD<8.44E-01	
BA-133	LLD<5.32E-01		LLD<5.32E-01	
I-131	LLD<2.77E-01		LLD<2.77E-01	
SN-113	LLD<3.71E-01		LLD<3.71E-01	
KR-87	LLD<4.87E-01		LLD<4.87E-01	
PB-211	LLD<8.26E+00		LLD<8.26E+00	
[illegible]-198	LLD<2.23E-01		LLD<2.23E-01	
[illegible]-125	LLD<7.73E-01		LLD<7.73E-01	
BI-212	LLD<5.47E+01		LLD<5.47E+01	
BE-7	LLD<2.56E+00		LLD<2.56E+00	
HF-181	LLD<2.89E-01		LLD<2.89E-01	
RU-103	LLD<2.48E-01		LLD<2.48E-01	
KR-85	LLD<7.25E+01		LLD<7.25E+01	

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
79.23	39.96	2199.	22.6	8.48E+03
90.59	45.63	1131.	27.3	2.15E+03
239.50	119.99	6271.	51.0	6.27E+02
485.56	242.88	1262.	33.7	1.70E+02
489.52	244.85	16774.	4.7	2.30E+03
592.00	296.04	829.	29.6	1.33E+02
682.67	341.34	2694.	39.0	4.92E+02
694.15	347.08	1533.	59.4	2.85E+02
735.54	367.75	1352.	14.2	2.66E+02
887.85	443.85	3886.	5.6	9.21E+02
977.01	488.41	458.	34.0	1.20E+02
1127.89	563.81	742.	25.5	2.25E+02
1172.56	586.14	373.	43.9	1.18E+02
1356.71	678.19	295.	58.6	1.08E+02
1377.28	688.47	675.	24.0	2.51E+02
1552.00	775.82	467.	34.6	1.95E+02
1557.40	778.52	9489.	3.3	3.97E+03
1734.33	866.99	2757.	6.7	1.27E+03
1837.91	918.79	247.	46.0	1.20E+02
1921.21	960.46	636.	29.1	3.22E+02
2009.48	1004.61	432.	27.1	2.27E+02
2178.51	1089.16	1138.	15.4	6.38E+02
2425.27	1212.63	705.	14.6	4.28E+02
2597.46	1298.81	742.	11.0	4.72E+02
2808.74	1404.56	577.	20.7	3.85E+02
2914.58	1457.55	292.	16.3	1.99E+02
3054.71	1527.71	125.	23.7	8.74E+01
3059.10	1529.90	129.	23.2	9.03E+01

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C-28

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 11:16:42

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0014
Measured by: dlv

Sample Description: C-28 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.7000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 10:49:36

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

SR-85	LLD<2.46E+00	LLD<2.46E+00
I-133	LLD<3.11E+00	LLD<3.11E+00
BA-140	LLD<1.06E+01	LLD<1.06E+01
91M	LLD<3.06E+00	LLD<3.06E+00
BI-207	LLD<2.96E+00	LLD<2.96E+00
TL-208	LLD<1.04E+01	LLD<1.04E+01
SB-124	LLD<2.67E+00	LLD<2.67E+00
CS-134	LLD<2.74E+00	LLD<2.74E+00
BI-214	LLD<7.72E+00	LLD<7.72E+00
RU-106	LLD<2.96E+01	LLD<2.96E+01
LA-142	LLD<5.49E+00	LLD<5.49E+00
AG-110M	LLD<3.16E+00	LLD<3.16E+00
NB-97	LLD<3.23E+00	LLD<3.23E+00
CS-137	LLD<3.27E+00	LLD<3.27E+00
I-132	LLD<3.17E+00	LLD<3.17E+00
W-187	LLD<1.11E+01	LLD<1.11E+01
ZR-97	LLD<3.36E+00	LLD<3.36E+00
ZR-95	LLD<6.03E+00	LLD<6.03E+00
NB-95	LLD<3.36E+00	LLD<3.36E+00
TL-210	LLD<2.26E+01	LLD<2.26E+01
CO-58	4.55E+00 +- 1.58E+00	4.55E+00 +- 1.58E+00
CS-136	LLD<3.34E+00	LLD<3.34E+00
MN-54	LLD<3.41E+00	LLD<3.41E+00
CO-56	LLD<3.55E+00	LLD<3.55E+00
I-134	LLD<4.24E+00	LLD<4.24E+00
TL-207	LLD<3.22E+03	LLD<3.22E+03
Y-88	LLD<3.97E+00	LLD<3.97E+00
AC-228	LLD<1.23E+01	LLD<1.23E+01
EU-152	9.86E+02 +- 3.98E+01	9.86E+02 +- 3.98E+01
PA-234M	LLD<4.51E+01	LLD<4.51E+01
SR-91	LLD<8.54E+00	LLD<8.54E+00
RB-89	LLD<6.54E+00	LLD<6.54E+00
FE-59	LLD<5.26E+00	LLD<5.26E+00
ZN-65	LLD<1.75E+01	LLD<1.75E+01
SC-46	LLD<3.33E+00	LLD<3.33E+00
TA-182	LLD<9.21E+00	LLD<9.21E+00
I-135	LLD<8.12E+00	LLD<8.12E+00
CL-39	LLD<5.38E+00	LLD<5.38E+00
NA-22	LLD<2.26E+00	LLD<2.26E+00
AR-41	LLD<4.04E+00	LLD<4.04E+00
CO-60	LLD<1.46E+00	LLD<1.46E+00
NA-24	LLD<1.42E+00	LLD<1.42E+00
SR-92	LLD<1.31E+00	LLD<1.31E+00
SCH-000	9.14E+02 +- 3.62E+01	9.14E+02 +- 3.62E+01
CS-138	LLD<1.46E+00	LLD<1.46E+00
K-40	LLD<1.21E+01	LLD<1.21E+01
KR-88	LLD<7.43E+00	LLD<7.43E+00
TL-209	LLD<1.56E+00	LLD<1.56E+00
LA-140	LLD<5.53E-01	LLD<5.53E-01
AL-26	LLD<4.35E-01	LLD<4.35E-01
MN-56	LLD<9.27E-01	LLD<9.27E-01
RB-88	LLD<1.26E+00	LLD<1.26E+00
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Total	4.11E+03 +- 7.45E+01	4.11E+03 +- 7.45E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1128

hstrw 28-NOV-95 09:12:01

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.23	39.96	1.8	15666.	2199.	22.6	
2C	90.59	45.63	1.8	13264.	1131.	27.3	
3?	239.50	119.99	1.4	16586.	6271.	51.0	
4?	243.66	122.07	1.4	16017.	87697.	3.8	SE-75,SCL-000, CO-57
5?	485.56	242.88	1.5	6389.	1262.	33.7	PB-214
6?	489.52	244.85	1.5	6224.	16774.	4.7	
7	592.00	296.04	1.6	5645.	829.	29.6	PB-214
8?	682.67	341.34	1.7	3623.	2694.	39.0	CS-136
9?	688.54	344.27	1.7	3449.	45262.	3.2	BA-141, SCM-000
10?	694.15	347.08	1.7	3283.	1533.	59.4	
11	735.54	367.75	1.6	3307.	1352.	14.2	
12	822.25	411.08	1.6	3088.	2882.	7.0	AU-198
13	887.85	443.85	1.5	3180.	3886.	5.6	
14	977.01	488.41	1.6	2464.	458.	34.0	
15	1127.89	563.81	1.6	3115.	742.	25.5	CS-134,SB-122
16	1172.56	586.14	1.6	2653.	373.	43.9	
17	1356.71	678.19	1.6	2714.	295.	58.6	I-134,AG110M
18	1377.28	688.47	1.8	2350.	675.	24.0	
19$	1552.00	775.82	1.9	2092.	467.	34.6	BR-82
20$	1557.40	778.52	1.9	2141.	9489.	3.3	MO-99
21	1620.61	810.13	2.5	1464.	342.	34.5	I-132,CO-58
22	1734.33	866.99	2.0	2266.	2757.	6.7	
23	1837.91	918.79	1.9	1249.	247.	46.0	
24?	1921.21	960.46	2.0	1105.	636.	29.1	
25?	1927.50	963.60	2.0	1185.	9195.	3.3	EU-152
26	2009.48	1004.61	2.4	1095.	432.	27.1	
27?	2170.99	1085.40	2.2	1008.	6335.	4.1	EU-152
28?	2178.51	1089.16	2.2	917.	1138.	15.4	
29	2223.52	1111.69	2.2	1254.	8119.	2.6	TE-129,EU-152
30	2425.27	1212.63	2.1	682.	705.	14.6	
31	2597.46	1298.81	1.9	319.	742.	11.0	I-133
32C	2808.74	1404.56	2.3	197.	577.	20.7	
33C	2815.23	1407.81	2.3	276.	9355.	2.4	EU-152,BI-214, SCH-000
34	2914.58	1457.55	2.3	96.	292.	16.3	I-135
35C	3054.71	1527.71	2.2	36.	125.	23.7	
36C	3059.10	1529.90	2.2	31.	129.	23.2	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

9 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 28-NOV-95 09:12:01

mple: Eu-152 Standard
Data collected on 28-NOV-95 at 08:41:04
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.87E+01		LLD<2.87E+01	
TH-234	LLD<2.19E+02		LLD<2.19E+02	
TH-230	LLD<1.83E+03		LLD<1.83E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	LLD<1.10E+02		LLD<1.10E+02	
SCL-000	9.24E+02	+- 3.66E+01	9.24E+02	+- 3.66E+01
CO-57	3.07E+02	+- 1.21E+01	3.07E+02	+- 1.21E+01
PA-234	LLD<9.37E+00		LLD<9.37E+00	
CE-144	LLD<1.63E+01		LLD<1.63E+01	
TC-99M	LLD<1.97E+00		LLD<1.97E+00	
U-235	LLD<1.57E+01		LLD<1.57E+01	
CE-141	LLD<3.59E+00		LLD<3.59E+00	
KR-85M	LLD<2.36E+00		LLD<2.36E+00	
XE-131M	LLD<8.79E+01		LLD<8.79E+01	
-139	LLD<1.07E+01		LLD<1.07E+01	
-139	LLD<2.15E+00		LLD<2.15E+00	
RA-226	LLD<5.32E+01		LLD<5.32E+01	
BA-141	LLD<4.48E+00		LLD<4.48E+00	
KR-89	LLD<2.77E+01		LLD<2.77E+01	
TE-132	LLD<2.19E+00		LLD<2.19E+00	
XE-133M	LLD<1.90E+01		LLD<1.90E+01	
TH-227	LLD<1.41E+01		LLD<1.41E+01	
PB-212	LLD<4.98E+00		LLD<4.98E+00	
RA-224	LLD<9.89E+01		LLD<9.89E+01	
XE-135	LLD<4.27E+00		LLD<4.27E+00	
XE-138	LLD<8.35E+00		LLD<8.35E+00	
SE-75	LLD<3.05E+00		LLD<3.05E+00	
NP-239	LLD<1.39E+01		LLD<1.39E+01	
HG-203	LLD<2.53E+00		LLD<2.53E+00	
IR-192	LLD<2.43E+00		LLD<2.43E+00	
CR-51	LLD<1.92E+01		LLD<1.92E+01	
SCM-000	9.53E+02	+- 3.40E+01	9.53E+02	+- 3.40E+01
BI-211	LLD<8.21E+01		LLD<8.21E+01	
PB-214	LLD<7.54E+00		LLD<7.54E+00	
BA-133	LLD<3.14E+00		LLD<3.14E+00	
I-131	LLD<2.79E+00		LLD<2.79E+00	
SN-113	LLD<3.03E+00		LLD<3.03E+00	
KR-87	LLD<4.27E+00		LLD<4.27E+00	
PB-211	LLD<8.14E+01		LLD<8.14E+01	
AU-198	2.02E+01	+- 1.47E+00	2.02E+01	+- 1.47E+00
-125	LLD<7.10E+00		LLD<7.10E+00	
I-212	LLD<6.58E+02		LLD<6.58E+02	
BE-7	LLD<2.16E+01		LLD<2.16E+01	
HF-181	LLD<2.74E+00		LLD<2.74E+00	
RU-103	LLD<2.66E+00		LLD<2.66E+00	
KR-85	LLD<5.62E+02		LLD<5.62E+02	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

10 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.506734E-07*Ch^2 + 4.992493E-01*Ch + 3.714042E-01

New Calibration Coefficients:

Energy = 2.388365E-07*Ch^2 + 4.992538E-01*Ch + 4.032655E-01

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11/28 Daily Source check

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 09:12:01

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1128
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 08:41:04

COLLECT Live Time: 600. seconds
Real Time: 757. seconds
Dead Time: 20.74 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

11/28

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*                                                                   *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N      *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 08:23:17

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 28-NOV-95 at 07:56:07

COLLECT Live Time: 1200. sec.

hstrw 28-NOV-95 08:23:17

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.06	39.84	1.7	30073.	4481.	16.5	
2C	90.93	45.77	1.7	25061.	2151.	21.7	
3$	148.22	74.37	4.2	43401.	2053.	36.8	PB-214
4N	168.85	84.68	3.6	90485.	4284.	11.8	
5N	174.62	87.56	3.6	97696.	4277.	11.9	PB-214,CD-109
6N	180.97	90.73	3.6	105638.	2117.	15.3	
7?	237.40	118.91	1.5	35907.	10346.	53.4	
8?	243.45	121.93	1.5	34289.	179928.	3.1	SE-75,SCL-000, CO-57
9?	485.31	242.72	1.5	12725.	2264.	34.9	PB-214
10?	489.40	244.76	1.5	12326.	34070.	3.9	
11?	494.20	247.16	1.5	11859.	1524.	40.9	
12	591.95	295.99	1.5	11329.	1417.	24.4	PB-214
13	658.79	329.38	1.7	9081.	432.	69.0	LA-140
14?	682.08	341.02	1.7	7486.	4937.	35.4	CS-136
15?	688.51	344.23	1.7	7140.	91092.	2.7	BA-141, SCM-000
16?	693.91	346.92	1.7	6850.	3194.	52.3	
17	735.49	367.70	1.9	6576.	2740.	9.9	
18	822.22	411.03	1.7	6265.	5906.	4.9	AU-198
19	887.95	443.88	1.7	6255.	8051.	3.8	
20	977.30	488.53	1.9	4888.	1037.	21.3	
21	1127.97	563.83	1.3	6585.	931.	29.1	CS-134,SB-122
22	1172.51	586.09	1.8	5185.	802.	28.7	
23	1357.01	678.32	1.6	5227.	578.	41.5	I-134,AG110M
24	1377.03	688.33	1.8	5063.	1399.	17.3	
25	1438.24	718.93	1.0	4450.	331.	63.3	
26?	1551.47	775.55	2.0	3855.	1251.	23.0	BR-82
27?	1557.63	778.63	2.0	3858.	19244.	2.9	MO-99
28?	1563.37	781.50	2.0	3860.	663.	41.3	
29	1620.72	810.17	1.7	3640.	334.	56.9	I-132,CO-58
30	1734.57	867.11	1.9	4686.	5469.	4.9	
31	1838.07	918.87	2.1	2613.	598.	28.3	
32?	1921.88	960.80	2.0	2476.	1047.	28.6	
33?	1927.91	963.81	2.0	2621.	17933.	2.5	EU-152
34	2010.27	1005.01	2.0	1886.	964.	15.9	
35?	2171.46	1085.65	2.2	2251.	12023.	3.0	EU-152
36?	2179.11	1089.48	2.2	1988.	2239.	10.7	
37?	2217.51	1108.69	2.1	1660.	1145.	18.7	
38?	2223.90	1111.89	2.1	1708.	15226.	2.8	TE-129,EU-152
39?	2229.67	1114.78	2.1	1752.	480.	43.9	ZN-65
40	2425.66	1212.85	2.2	1316.	1451.	9.9	
41	2499.85	1249.98	1.7	956.	229.	47.6	
42	2548.70	1274.44	2.4	596.	426.	21.3	NA-22
43	2597.99	1299.11	2.0	570.	1500.	7.3	I-133
44	2815.99	1408.24	2.3	652.	19862.	1.5	EU-152,BI-214, SCH-000
45C	2915.00	1457.81	2.3	80.	456.	11.3	I-135
46C	2921.66	1461.15	2.3	68.	330.	13.1	K-40
47	3059.08	1529.96	3.2	67.	507.	10.4	KR-88

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
590.67	295.35	36.	48.1	5.78E+00
676.56	338.26	39.	45.2	7.09E+00
1166.37	583.02	28.	53.3	8.78E+00
1454.96	727.29	14.	75.7	5.38E+00

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GAMMA SPECTROSCOPY RESULTS FROM 11/28/95

FOR

CELLS 28,22,14,26,38,27,28,48,9,19,6,12,18,13,15,BACKGROUND

SR-85	LLD<4.82E-01	LLD<4.82E-01
I-133	LLD<4.43E-01	LLD<4.43E-01
BA-140	LLD<1.45E+00	LLD<1.45E+00
K-91M	LLD<4.48E-01	LLD<4.48E-01
[illegible]-207	LLD<3.35E-01	LLD<3.35E-01
[illegible]-208	LLD<1.57E+00	LLD<1.57E+00
SB-124	LLD<4.08E-01	LLD<4.08E-01
CS-134	LLD<7.78E-01	LLD<7.78E-01
BI-214	1.60E+00 +- 6.12E-01	1.60E+00 +- 6.12E-01
RU-106	LLD<4.17E+00	LLD<4.17E+00
LA-142	LLD<6.47E-01	LLD<6.47E-01
AG-110M	LLD<8.50E-01	LLD<8.50E-01
NB-97	LLD<8.57E-01	LLD<8.57E-01
CS-137	4.01E-01 +- 3.03E-01	4.01E-01 +- 3.03E-01
I-132	LLD<5.34E-01	LLD<5.34E-01
W-187	LLD<1.55E+00	LLD<1.55E+00
ZR-97	LLD<4.42E-01	LLD<4.42E-01
ZR-95	LLD<5.84E-01	LLD<5.84E-01
NB-95	LLD<3.04E-01	LLD<3.04E-01
TL-210	LLD<2.34E+00	LLD<2.34E+00
CO-58	LLD<4.56E-01	LLD<4.56E-01
CS-136	LLD<3.84E-01	LLD<3.84E-01
MN-54	LLD<4.20E-01	LLD<4.20E-01
CO-56	LLD<5.07E-01	LLD<5.07E-01
I-134	LLD<5.90E-01	LLD<5.90E-01
TL-207	LLD<2.68E+02	LLD<2.68E+02
Y-88	LLD<3.53E-01	LLD<3.53E-01
AC-228	LLD<2.33E+00	LLD<2.33E+00
EU-152	LLD<4.86E+00	LLD<4.86E+00
[illegible]-234M	LLD<5.08E+00	LLD<5.08E+00
[illegible]-91	LLD<1.26E+00	LLD<1.26E+00
RB-89	LLD<8.96E-01	LLD<8.96E-01
FE-59	LLD<1.12E+00	LLD<1.12E+00
ZN-65	LLD<1.11E+00	LLD<1.11E+00
SC-46	LLD<5.24E-01	LLD<5.24E-01
TA-182	LLD<1.46E+00	LLD<1.46E+00
I-135	LLD<1.99E+00	LLD<1.99E+00
CL-39	LLD<8.53E-01	LLD<8.53E-01
NA-22	LLD<3.55E-01	LLD<3.55E-01
AR-41	LLD<5.05E-01	LLD<5.05E-01
CO-60	LLD<6.72E-01	LLD<6.72E-01
NA-24	LLD<3.85E-01	LLD<3.85E-01
SR-92	LLD<3.54E-01	LLD<3.54E-01
SCH-000	LLD<2.50E+00	LLD<2.50E+00
CS-138	LLD<8.43E-01	LLD<8.43E-01
K-40	1.77E+01 +- 5.49E+00	1.77E+01 +- 5.49E+00
KR-88	LLD<3.95E+00	LLD<3.95E+00
TL-209	LLD<1.42E+00	LLD<1.42E+00
LA-140	LLD<4.22E-01	LLD<4.22E-01
AL-26	LLD<4.54E-01	LLD<4.54E-01
MN-56	LLD<2.67E+00	LLD<2.67E+00
RB-88	LLD<3.03E+00	LLD<3.03E+00
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Total	3.05E+01 +- 7.61E+00	3.05E+01 +- 7.61E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0013

hgtrw 27-NOV-95 15:00:30

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.97	239.05	1.6	65.	102.	31.7	PB-212
2	590.67	295.35	2.1	18.	36.	48.1	PB-214
3	676.56	338.26	1.4	18.	39.	45.2	AC-228
4$	703.50	351.72	1.4	11.	30.	63.0	BI-211,PB-214
5	1166.37	583.02	1.1	12.	28.	53.3	TL-208
6	1218.24	608.95	1.3	4.	34.	38.2	XE-135,BI-214
7	1323.53	661.58	2.0	12.	18.	75.4	CS-137
8	1454.96	727.29	0.6	5.	14.	75.7	BI-212
9	2919.34	1459.99	2.1	4.	49.	30.8	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 27-NOV-95 15:00:30

Sample: C-25 Soil
Data collected on 27-NOV-95 at 14:42:17
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.39E+00		LLD<4.39E+00	
TH-234	LLD<3.14E+01		LLD<3.14E+01	
TH-230	LLD<2.66E+02		LLD<2.66E+02	
XE-133	LLD<1.99E+00		LLD<1.99E+00	
CD-109	LLD<1.43E+01		LLD<1.43E+01	
SCL-000	LLD<9.00E-01		LLD<9.00E-01	
CO-57	LLD<2.99E-01		LLD<2.99E-01	
PA-234	LLD<1.05E+00		LLD<1.05E+00	
CE-144	LLD<2.35E+00		LLD<2.35E+00	
TC-99M	LLD<2.81E-01		LLD<2.81E-01	
U-235	LLD<1.89E+00		LLD<1.89E+00	
CE-141	LLD<4.52E-01		LLD<4.52E-01	
KR-85M	LLD<2.73E-01		LLD<2.73E-01	
XE-131M	LLD<9.49E+00		LLD<9.49E+00	
BA-139	LLD<1.31E+00		LLD<1.31E+00	
[illegible]-139	LLD<2.67E-01		LLD<2.67E-01	
[illegible]-226	LLD<6.57E+00		LLD<6.57E+00	
BA-141	LLD<6.10E-01		LLD<6.10E-01	
KR-89	LLD<2.70E+00		LLD<2.70E+00	
TE-132	LLD<2.76E-01		LLD<2.76E-01	
XE-133M	LLD<2.90E+00		LLD<2.90E+00	
TH-227	LLD<2.43E+00		LLD<2.43E+00	
PB-212	1.68E+00	+- 5.35E-01	1.68E+00	+- 5.35E-01
RA-224	LLD<6.94E+00		LLD<6.94E+00	
XE-135	LLD<2.85E-01		LLD<2.85E-01	
XE-138	LLD<1.18E+00		LLD<1.18E+00	
SE-75	LLD<5.20E-01		LLD<5.20E-01	
NP-239	LLD<1.85E+00		LLD<1.85E+00	
HG-203	LLD<4.21E-01		LLD<4.21E-01	
IR-192	LLD<3.15E-01		LLD<3.15E-01	
CR-51	LLD<3.61E+00		LLD<3.61E+00	
SCM-000	LLD<1.65E+00		LLD<1.65E+00	
BI-211	8.20E+00	+- 5.17E+00	8.20E+00	+- 5.17E+00
PB-214	9.58E-01	+- 6.03E-01	9.58E-01	+- 6.03E-01
BA-133	LLD<7.23E-01		LLD<7.23E-01	
I-131	LLD<3.64E-01		LLD<3.64E-01	
SN-113	LLD<5.01E-01		LLD<5.01E-01	
KR-87	LLD<5.94E-01		LLD<5.94E-01	
PB-211	LLD<1.23E+01		LLD<1.23E+01	
AU-198	LLD<3.54E-01		LLD<3.54E-01	
SB-125	LLD<9.92E-01		LLD<9.92E-01	
[illegible]-212	LLD<9.98E+01		LLD<9.98E+01	
BE-7	LLD<3.19E+00		LLD<3.19E+00	
HF-181	LLD<3.56E-01		LLD<3.56E-01	
RU-103	LLD<3.91E-01		LLD<3.91E-01	
KR-85	LLD<1.10E+02		LLD<1.10E+02	

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
676.44	338.20	24.	64.1	4.30E+00

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C-25

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 27-NOV-95 15:00:30

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0013
Measured by: dlv

Sample Description: C-25 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 4.8100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 27-NOV-95 at 14:42:17

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 27-NOV-95
Efficiency Calibration performed 21-NOV-95

SR-85	LLD<4.32E-01	LLD<4.32E-01
I-133	LLD<3.87E-01	LLD<3.87E-01
BA-140	LLD<1.58E+00	LLD<1.58E+00
[illegible] 91M	LLD<3.58E-01	LLD<3.58E-01
[illegible] 207	LLD<3.04E-01	LLD<3.04E-01
[illegible]L-208	LLD<1.27E+00	LLD<1.27E+00
SB-124	LLD<4.22E-01	LLD<4.22E-01
CS-134	LLD<7.79E-01	LLD<7.79E-01
BI-214	1.01E+00 +- 7.90E-01	1.01E+00 +- 7.90E-01
RU-106	LLD<3.10E+00	LLD<3.10E+00
LA-142	LLD<7.07E-01	LLD<7.07E-01
AG-110M	LLD<8.25E-01	LLD<8.25E-01
NB-97	LLD<8.31E-01	LLD<8.31E-01
CS-137	9.95E-01 +- 3.17E-01	9.95E-01 +- 3.17E-01
I-132	LLD<5.01E-01	LLD<5.01E-01
W-187	LLD<1.26E+00	LLD<1.26E+00
ZR-97	LLD<4.99E-01	LLD<4.99E-01
ZR-95	LLD<6.33E-01	LLD<6.33E-01
NB-95	LLD<3.45E-01	LLD<3.45E-01
TL-210	LLD<2.69E+00	LLD<2.69E+00
CO-58	LLD<4.34E-01	LLD<4.34E-01
CS-136	LLD<2.79E-01	LLD<2.79E-01
MN-54	LLD<4.86E-01	LLD<4.86E-01
CO-56	LLD<4.49E-01	LLD<4.49E-01
I-134	LLD<4.95E-01	LLD<4.95E-01
TL-207	LLD<3.25E+02	LLD<3.25E+02
Y-88	LLD<4.94E-01	LLD<4.94E-01
AC-228	LLD<1.95E+00	LLD<1.95E+00
EU-152	LLD<4.88E+00	LLD<4.88E+00
[illegible]-234M	LLD<3.61E+00	LLD<3.61E+00
[illegible]-91	LLD<1.82E+00	LLD<1.82E+00
RB-89	LLD<1.15E+00	LLD<1.15E+00
FE-59	LLD<8.58E-01	LLD<8.58E-01
ZN-65	LLD<1.52E+00	LLD<1.52E+00
SC-46	LLD<6.96E-01	LLD<6.96E-01
TA-182	LLD<1.73E+00	LLD<1.73E+00
I-135	LLD<1.12E+00	LLD<1.12E+00
CL-39	LLD<1.14E+00	LLD<1.14E+00
NA-22	LLD<4.39E-01	LLD<4.39E-01
AR-41	LLD<5.17E-01	LLD<5.17E-01
CO-60	LLD<7.39E-01	LLD<7.39E-01
NA-24	LLD<5.56E-01	LLD<5.56E-01
SR-92	LLD<3.07E-01	LLD<3.07E-01
SCH-000	LLD<1.86E+00	LLD<1.86E+00
CS-138	LLD<5.30E-01	LLD<5.30E-01
K-40	LLD<9.86E+00	LLD<9.86E+00
KR-88	LLD<3.67E+00	LLD<3.67E+00
TL-209	LLD<1.48E+00	LLD<1.48E+00
LA-140	LLD<3.85E-01	LLD<3.85E-01
AL-26	LLD<3.50E-01	LLD<3.50E-01
MN-56	LLD<1.31E+00	LLD<1.31E+00
RB-88	LLD<2.72E+00	LLD<2.72E+00
	---	---
Total	2.04E+01 +- 4.87E+00	2.04E+01 +- 4.87E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0012

hgtrw 27-NOV-95 14:41:17

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.43	238.78	1.7	36.	90.	28.7	PB-212
2	676.44	338.20	1.0	16.	24.	64.1	AC-228
3	704.06	352.00	2.3	10.	55.	31.3	BI-211,PB-214
4N	1218.06	608.86	1.5	19.	22.	77.9	XE-135,BI-214
5	1322.85	661.24	1.9	4.	45.	31.7	CS-137

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

N - Multiplet Analysis did NOT converge

hgtrw 27-NOV-95 14:41:17

Sample: C-49 Soil
Data collected on 27-NOV-95 at 14:28:20
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.33E+00		LLD<4.33E+00	
TH-234	LLD<3.27E+01		LLD<3.27E+01	
TH-230	LLD<2.46E+02		LLD<2.46E+02	
XE-133	LLD<1.92E+00		LLD<1.92E+00	
CD-109	LLD<1.17E+01		LLD<1.17E+01	
SCL-000	LLD<9.28E-01		LLD<9.28E-01	
CO-57	LLD<3.08E-01		LLD<3.08E-01	
PA-234	LLD<1.05E+00		LLD<1.05E+00	
CE-144	LLD<2.07E+00		LLD<2.07E+00	
TC-99M	LLD<2.22E-01		LLD<2.22E-01	
U-235	LLD<2.05E+00		LLD<2.05E+00	
CE-141	LLD<4.63E-01		LLD<4.63E-01	
KR-85M	LLD<3.20E-01		LLD<3.20E-01	
XE-131M	LLD<9.53E+00		LLD<9.53E+00	
BA-139	LLD<1.30E+00		LLD<1.30E+00	
[illegible]-139	LLD<2.63E-01		LLD<2.63E-01	
[illegible]A-226	LLD<5.98E+00		LLD<5.98E+00	
BA-141	LLD<6.14E-01		LLD<6.14E-01	
KR-89	LLD<3.43E+00		LLD<3.43E+00	
TE-132	LLD<3.12E-01		LLD<3.12E-01	
XE-133M	LLD<3.19E+00		LLD<3.19E+00	
TH-227	LLD<2.38E+00		LLD<2.38E+00	
PB-212	1.47E+00	+- 4.24E-01	1.47E+00	+- 4.24E-01
RA-224	LLD<7.10E+00		LLD<7.10E+00	
XE-135	LLD<2.80E-01		LLD<2.80E-01	
XE-138	LLD<1.02E+00		LLD<1.02E+00	
SE-75	LLD<4.86E-01		LLD<4.86E-01	
NP-239	LLD<1.84E+00		LLD<1.84E+00	
HG-203	LLD<3.71E-01		LLD<3.71E-01	
IR-192	LLD<3.15E-01		LLD<3.15E-01	
CR-51	LLD<2.51E+00		LLD<2.51E+00	
SCM-000	LLD<1.38E+00		LLD<1.38E+00	
BI-211	1.51E+01	+- 4.74E+00	1.51E+01	+- 4.74E+00
PB-214	1.76E+00	+- 5.53E-01	1.76E+00	+- 5.53E-01
BA-133	LLD<8.23E-01		LLD<8.23E-01	
I-131	LLD<3.52E-01		LLD<3.52E-01	
SN-113	LLD<4.18E-01		LLD<4.18E-01	
KR-87	LLD<6.70E-01		LLD<6.70E-01	
PB-211	LLD<1.05E+01		LLD<1.05E+01	
AU-198	LLD<3.11E-01		LLD<3.11E-01	
[illegible]B-125	LLD<1.08E+00		LLD<1.08E+00	
[illegible]-212	LLD<1.06E+02		LLD<1.06E+02	
BE-7	LLD<3.43E+00		LLD<3.43E+00	
HF-181	LLD<3.55E-01		LLD<3.55E-01	
RU-103	LLD<3.91E-01		LLD<3.91E-01	
KR-85	LLD<9.88E+01		LLD<9.88E+01	

C-49

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            G A M M A   S P E C T R U M   A N A L Y S I S              *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 27-NOV-95 14:41:17

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0012
Measured by: dlv

Sample Description: C-49 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 4.8700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 27-NOV-95 at 14:28:20

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 27-NOV-95
Efficiency Calibration performed 21-NOV-95

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
601.26	300.43	13.	97.7	2.17E+00
677.54	338.55	20.	78.4	3.58E+00

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Results saved in File SD0011

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.00	295.51	32.	57.9	5.06E+00
1166.37	583.02	39.	35.3	1.24E+01

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hgtrw 27-NOV-95 14:27:30

Sample: C-24 Soil
Data collected on 27-NOV-95 at 14:05:05
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.64E+00		LLD<3.64E+00	
TH-234	LLD<2.60E+01		LLD<2.60E+01	
TH-230	LLD<2.39E+02		LLD<2.39E+02	
XE-133	LLD<1.68E+00		LLD<1.68E+00	
CD-109	LLD<1.08E+01		LLD<1.08E+01	
SCL-000	LLD<6.72E-01		LLD<6.72E-01	
CO-57	LLD<2.23E-01		LLD<2.23E-01	
PA-234	LLD<9.61E-01		LLD<9.61E-01	
CE-144	LLD<2.06E+00		LLD<2.06E+00	
TC-99M	LLD<2.27E-01		LLD<2.27E-01	
U-235	LLD<1.66E+00		LLD<1.66E+00	
CE-141	LLD<3.80E-01		LLD<3.80E-01	
KR-85M	LLD<2.24E-01		LLD<2.24E-01	
XE-131M	LLD<7.68E+00		LLD<7.68E+00	
BA-139	LLD<1.08E+00		LLD<1.08E+00	
[illegible]-139	LLD<2.19E-01		LLD<2.19E-01	
[illegible]A-226	LLD<5.99E+00		LLD<5.99E+00	
BA-141	LLD<4.82E-01		LLD<4.82E-01	
KR-89	LLD<2.54E+00		LLD<2.54E+00	
TE-132	LLD<2.23E-01		LLD<2.23E-01	
XE-133M	LLD<2.83E+00		LLD<2.83E+00	
TH-227	LLD<1.79E+00		LLD<1.79E+00	
PB-212	1.44E+00	+- 3.74E-01	1.44E+00	+- 3.74E-01
RA-224	LLD<5.80E+00		LLD<5.80E+00	
XE-135	LLD<2.29E-01		LLD<2.29E-01	
XE-138	LLD<7.75E-01		LLD<7.75E-01	
SE-75	LLD<4.19E-01		LLD<4.19E-01	
NP-239	LLD<1.30E+00		LLD<1.30E+00	
HG-203	LLD<2.85E-01		LLD<2.85E-01	
IR-192	LLD<2.35E-01		LLD<2.35E-01	
CR-51	LLD<2.02E+00		LLD<2.02E+00	
SCM-000	LLD<1.18E+00		LLD<1.18E+00	
BI-211	1.04E+01	+- 3.43E+00	1.04E+01	+- 3.43E+00
PB-214	1.22E+00	+- 4.00E-01	1.22E+00	+- 4.00E-01
BA-133	LLD<5.95E-01		LLD<5.95E-01	
I-131	LLD<2.69E-01		LLD<2.69E-01	
SN-113	LLD<4.02E-01		LLD<4.02E-01	
KR-87	LLD<5.05E-01		LLD<5.05E-01	
PB-211	LLD<8.98E+00		LLD<8.98E+00	
AU-198	LLD<2.13E-01		LLD<2.13E-01	
[illegible]-125	LLD<8.81E-01		LLD<8.81E-01	
[illegible]-212	LLD<7.59E+01		LLD<7.59E+01	
BE-7	LLD<2.33E+00		LLD<2.33E+00	
HF-181	LLD<2.76E-01		LLD<2.76E-01	
RU-103	LLD<2.75E-01		LLD<2.75E-01	
KR-85	LLD<8.25E+01		LLD<8.25E+01	

SR-85	LLD<3.61E-01		LLD<3.61E-01		
I-133	LLD<3.03E-01		LLD<3.03E-01		
BA-140	LLD<9.79E-01		LLD<9.79E-01		
Y-91M	LLD<3.05E-01		LLD<3.05E-01		
[illegible]-207	LLD<3.17E-01		LLD<3.17E-01		
TL-208	LLD<1.07E+00		LLD<1.07E+00		
SB-124	LLD<3.33E-01		LLD<3.33E-01		
CS-134	LLD<5.86E-01		LLD<5.86E-01		
BI-214	1.11E+00	+- 6.22E-01	1.11E+00	+-	6.22E-01
RU-106	LLD<3.13E+00		LLD<3.13E+00		
LA-142	LLD<5.98E-01		LLD<5.98E-01		
AG-110M	LLD<4.86E-01		LLD<4.86E-01		
NB-97	LLD<4.90E-01		LLD<4.90E-01		
CS-137	4.18E-01	+- 2.25E-01	4.18E-01	+-	2.25E-01
I-132	LLD<2.99E-01		LLD<2.99E-01		
W-187	LLD<1.24E+00		LLD<1.24E+00		
ZR-97	LLD<2.68E-01		LLD<2.68E-01		
ZR-95	LLD<7.37E-01		LLD<7.37E-01		
NB-95	LLD<3.35E-01		LLD<3.35E-01		
TL-210	LLD<1.74E+00		LLD<1.74E+00		
CO-58	LLD<3.55E-01		LLD<3.55E-01		
CS-136	LLD<3.63E-01		LLD<3.63E-01		
MN-54	LLD<3.20E-01		LLD<3.20E-01		
CO-56	LLD<3.04E-01		LLD<3.04E-01		
I-134	LLD<3.76E-01		LLD<3.76E-01		
TL-207	LLD<3.62E+02		LLD<3.62E+02		
Y-88	LLD<4.99E-01		LLD<4.99E-01		
AC-228	LLD<1.25E+00		LLD<1.25E+00		
EU-152	LLD<3.61E+00		LLD<3.61E+00		
[illegible]A-234M	LLD<4.66E+00		LLD<4.66E+00		
[illegible]R-91	LLD<1.19E+00		LLD<1.19E+00		
RB-89	LLD<7.88E-01		LLD<7.88E-01		
FE-59	LLD<6.12E-01		LLD<6.12E-01		
ZN-65	LLD<9.38E-01		LLD<9.38E-01		
SC-46	LLD<4.77E-01		LLD<4.77E-01		
TA-182	LLD<1.27E+00		LLD<1.27E+00		
I-135	LLD<1.68E+00		LLD<1.68E+00		
CL-39	LLD<8.02E-01		LLD<8.02E-01		
NA-22	LLD<4.58E-01		LLD<4.58E-01		
AR-41	LLD<4.52E-01		LLD<4.52E-01		
CO-60	LLD<2.61E-01		LLD<2.61E-01		
NA-24	LLD<3.09E-01		LLD<3.09E-01		
SR-92	LLD<3.87E-01		LLD<3.87E-01		
SCH-000	LLD<1.51E+00		LLD<1.51E+00		
CS-138	LLD<6.20E-01		LLD<6.20E-01		
K-40	2.07E+01	+- 5.14E+00	2.07E+01	+-	5.14E+00
KR-88	LLD<2.64E+00		LLD<2.64E+00		
TL-209	LLD<7.89E-01		LLD<7.89E-01		
LA-140	LLD<4.24E-01		LLD<4.24E-01		
AL-26	LLD<8.15E-02		LLD<8.15E-02		
MN-56	LLD<3.06E-01		LLD<3.06E-01		
RB-88	LLD<1.97E+00		LLD<1.97E+00		
	---		---		
Total	3.53E+01	+- 6.23E+00	3.53E+01	+-	6.23E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

C-24

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*              G A M M A   S P E C T R U M   A N A L Y S I S          *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 27-NOV-95 14:27:30

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0011
Measured by: dlv

Sample Description: C-24 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.7300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 27-NOV-95 at 14:05:05

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 27-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 27-NOV-95 14:27:30

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.24	238.69	1.6	58.	122.	25.8	PB-212
2	591.00	295.51	1.4	23.	32.	57.9	PB-214
3	704.18	352.06	1.7	11.	53.	32.8	BI-211,PB-214
4	1166.37	583.02	1.9	4.	39.	35.3	TL-208
5	1218.38	609.02	1.4	21.	33.	56.0	XE-135,BI-214
6	1322.71	661.17	1.2	10.	26.	53.8	CS-137
7	2920.01	1460.32	2.8	7.	80.	24.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

Results saved in File SD0010

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
589.89	294.96	19.	96.0	3.06E+00
676.73	338.34	21.	77.7	3.90E+00
1020.98	510.36	25.	52.7	6.77E+00

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hgtrw 27-NOV-95 14:04:12

Sample: C-20 Soil
Data collected on 27-NOV-95 at 13:41:29
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.42E+00		LLD<3.42E+00	
TH-234	LLD<2.58E+01		LLD<2.58E+01	
TH-230	LLD<2.05E+02		LLD<2.05E+02	
XE-133	LLD<1.78E+00		LLD<1.78E+00	
CD-109	LLD<1.15E+01		LLD<1.15E+01	
SCL-000	LLD<7.55E-01		LLD<7.55E-01	
CO-57	LLD<2.51E-01		LLD<2.51E-01	
PA-234	LLD<1.06E+00		LLD<1.06E+00	
CE-144	LLD<2.17E+00		LLD<2.17E+00	
TC-99M	LLD<2.36E-01		LLD<2.36E-01	
U-235	LLD<1.76E+00		LLD<1.76E+00	
CE-141	LLD<3.86E-01		LLD<3.86E-01	
KR-85M	LLD<2.58E-01		LLD<2.58E-01	
XE-131M	LLD<8.34E+00		LLD<8.34E+00	
BA-139	LLD<1.05E+00		LLD<1.05E+00	
[illegible]-139	LLD<2.13E-01		LLD<2.13E-01	
[illegible]A-226	LLD<5.62E+00		LLD<5.62E+00	
BA-141	LLD<4.90E-01		LLD<4.90E-01	
KR-89	LLD<2.43E+00		LLD<2.43E+00	
TE-132	LLD<2.05E-01		LLD<2.05E-01	
XE-133M	LLD<2.88E+00		LLD<2.88E+00	
TH-227	LLD<1.80E+00		LLD<1.80E+00	
PB-212	1.53E+00	+- 4.02E-01	1.53E+00	+- 4.02E-01
RA-224	LLD<6.56E+00		LLD<6.56E+00	
XE-135	LLD<2.73E-01		LLD<2.73E-01	
XE-138	LLD<9.96E-01		LLD<9.96E-01	
SE-75	LLD<3.42E-01		LLD<3.42E-01	
NP-239	LLD<1.49E+00		LLD<1.49E+00	
HG-203	LLD<2.84E-01		LLD<2.84E-01	
IR-192	LLD<2.74E-01		LLD<2.74E-01	
CR-51	LLD<2.29E+00		LLD<2.29E+00	
SCM-000	LLD<1.22E+00		LLD<1.22E+00	
BI-211	LLD<8.17E+00		LLD<8.17E+00	
PB-214	LLD<9.45E-01		LLD<9.45E-01	
BA-133	LLD<5.86E-01		LLD<5.86E-01	
I-131	LLD<2.77E-01		LLD<2.77E-01	
SN-113	LLD<3.91E-01		LLD<3.91E-01	
KR-87	LLD<5.20E-01		LLD<5.20E-01	
PB-211	LLD<9.32E+00		LLD<9.32E+00	
AU-198	LLD<2.33E-01		LLD<2.33E-01	
[illegible]B-125	LLD<8.48E-01		LLD<8.48E-01	
[illegible]-212	LLD<7.91E+01		LLD<7.91E+01	
BE-7	LLD<2.90E+00		LLD<2.90E+00	
HF-181	LLD<3.56E-01		LLD<3.56E-01	
RU-103	LLD<2.47E-01		LLD<2.47E-01	
KR-85	LLD<8.41E+01		LLD<8.41E+01	

SR-85	LLD<3.68E-01		LLD<3.68E-01		
I-133	LLD<3.25E-01		LLD<3.25E-01		
BA-140	LLD<1.31E+00		LLD<1.31E+00		
[illegible]91M	LLD<2.87E-01		LLD<2.87E-01		
[illegible]-207	LLD<2.68E-01		LLD<2.68E-01		
TL-208	LLD<1.16E+00		LLD<1.16E+00		
SB-124	LLD<3.16E-01		LLD<3.16E-01		
CS-134	LLD<5.48E-01		LLD<5.48E-01		
BI-214	9.52E-01	+- 5.43E-01	9.52E-01	+-	5.43E-01
RU-106	LLD<2.96E+00		LLD<2.96E+00		
LA-142	LLD<5.28E-01		LLD<5.28E-01		
AG-110M	LLD<5.96E-01		LLD<5.96E-01		
NB-97	LLD<6.00E-01		LLD<6.00E-01		
CS-137	4.78E-01	+- 2.46E-01	4.78E-01	+-	2.46E-01
I-132	LLD<4.76E-01		LLD<4.76E-01		
W-187	LLD<1.00E+00		LLD<1.00E+00		
ZR-97	LLD<3.65E-01		LLD<3.65E-01		
ZR-95	LLD<6.49E-01		LLD<6.49E-01		
NB-95	LLD<3.51E-01		LLD<3.51E-01		
TL-210	LLD<1.84E+00		LLD<1.84E+00		
CO-58	LLD<3.59E-01		LLD<3.59E-01		
CS-136	LLD<2.75E-01		LLD<2.75E-01		
MN-54	LLD<3.87E-01		LLD<3.87E-01		
CO-56	LLD<2.41E-01		LLD<2.41E-01		
I-134	LLD<3.16E-01		LLD<3.16E-01		
TL-207	LLD<2.86E+02		LLD<2.86E+02		
Y-88	LLD<3.81E-01		LLD<3.81E-01		
AC-228	LLD<1.65E+00		LLD<1.65E+00		
EU-152	LLD<3.98E+00		LLD<3.98E+00		
[illegible]-234M	LLD<3.01E+00		LLD<3.01E+00		
SR-91	LLD<1.11E+00		LLD<1.11E+00		
RB-89	LLD<8.49E-01		LLD<8.49E-01		
FE-59	LLD<9.24E-01		LLD<9.24E-01		
ZN-65	LLD<9.46E-01		LLD<9.46E-01		
SC-46	LLD<5.55E-01		LLD<5.55E-01		
TA-182	LLD<1.48E+00		LLD<1.48E+00		
I-135	LLD<1.57E+00		LLD<1.57E+00		
CL-39	LLD<1.11E+00		LLD<1.11E+00		
NA-22	LLD<3.64E-01		LLD<3.64E-01		
AR-41	LLD<5.50E-01		LLD<5.50E-01		
CO-60	LLD<4.93E-01		LLD<4.93E-01		
NA-24	LLD<4.90E-01		LLD<4.90E-01		
SR-92	LLD<3.08E-01		LLD<3.08E-01		
SCH-000	LLD<2.01E+00		LLD<2.01E+00		
CS-138	LLD<6.15E-01		LLD<6.15E-01		
K-40	2.46E+01	+- 5.24E+00	2.46E+01	+-	5.24E+00
KR-88	LLD<2.13E+00		LLD<2.13E+00		
TL-209	LLD<1.18E+00		LLD<1.18E+00		
LA-140	LLD<3.57E-01		LLD<3.57E-01		
AL-26	LLD<4.22E-01		LLD<4.22E-01		
MN-56	LLD<1.65E+00		LLD<1.65E+00		
RB-88	LLD<2.78E+00		LLD<2.78E+00		
	---		---		
Total	2.76E+01	+- 5.29E+00	2.76E+01	+-	5.29E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
676.75	338.35	23.	86.0	4.12E+00
1166.13	582.90	38.	37.3	1.20E+01

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hgtrw 27-NOV-95 14:04:12

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.71	238.93	1.2	49.	118.	26.0	PB-212
2	589.89	294.96	0.9	29.	19.	96.0	PB-214
3	676.73	338.34	2.1	19.	21.	77.7	AC-228
4	1020.98	510.36	1.2	8.	25.	52.7	TL-208,NA-22, ANN-RD
5	1218.12	608.89	1.1	11.	26.	57.0	XE-135,BI-214
6	1323.77	661.70	1.0	9.	27.	51.5	CS-137
7	2919.87	1460.25	2.7	0.	87.	21.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

N - Multiplet Analysis did NOT converge

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.61	295.85	43.	49.5	6.89E+00
677.02	338.52	24.	87.8	4.40E+00
926.37	463.10	17.	80.0	4.12E+00
1937.40	968.55	21.	63.1	1.08E+01
1968.02	983.87	6.	80.0	3.10E+00

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C-27 (#1)

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 13:32:20

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0044
Measured by: dlv

Sample Description: C-27 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 4.5300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 13:18:43

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

SR-85	LLD<3.58E-01		LLD<3.58E-01		
I-133	LLD<3.50E-01		LLD<3.50E-01		
[illegible]-140	LLD<1.16E+00		LLD<1.16E+00		
[illegible]91M	LLD<2.85E-01		LLD<2.85E-01		
[illegible]-207	LLD<2.83E-01		LLD<2.83E-01		
TL-208	LLD<1.11E+00		LLD<1.11E+00		
SB-124	LLD<2.25E-01		LLD<2.25E-01		
CS-134	LLD<5.31E-01		LLD<5.31E-01		
BI-214	1.59E+00	+- 5.53E-01	1.59E+00	+-	5.53E-01
RU-106	LLD<2.99E+00		LLD<2.99E+00		
LA-142	LLD<6.17E-01		LLD<6.17E-01		
AG-110M	LLD<4.00E-01		LLD<4.00E-01		
NB-97	LLD<4.03E-01		LLD<4.03E-01		
CS-137	LLD<3.38E-01		LLD<3.38E-01		
I-132	LLD<3.18E-01		LLD<3.18E-01		
W-187	LLD<1.18E+00		LLD<1.18E+00		
ZR-97	LLD<3.63E-01		LLD<3.63E-01		
ZR-95	LLD<6.18E-01		LLD<6.18E-01		
NB-95	LLD<3.46E-01		LLD<3.46E-01		
TL-210	LLD<2.43E+00		LLD<2.43E+00		
CO-58	LLD<3.61E-01		LLD<3.61E-01		
CS-136	LLD<3.80E-01		LLD<3.80E-01		
MN-54	LLD<2.95E-01		LLD<2.95E-01		
CO-56	LLD<3.22E-01		LLD<3.22E-01		
I-134	LLD<4.03E-01		LLD<4.03E-01		
TL-207	LLD<2.96E+02		LLD<2.96E+02		
Y-88	LLD<4.03E-01		LLD<4.03E-01		
AC-228	2.61E+00	+- 9.16E-01	2.61E+00	+-	9.16E-01
[illegible]-152	LLD<5.39E+00		LLD<5.39E+00		
[illegible]-234M	LLD<3.57E+00		LLD<3.57E+00		
SR-91	LLD<1.22E+00		LLD<1.22E+00		
RB-89	LLD<7.86E-01		LLD<7.86E-01		
FE-59	LLD<6.67E-01		LLD<6.67E-01		
ZN-65	LLD<1.34E+00		LLD<1.34E+00		
SC-46	LLD<5.62E-01		LLD<5.62E-01		
TA-182	LLD<1.45E+00		LLD<1.45E+00		
I-135	LLD<1.54E+00		LLD<1.54E+00		
CL-39	LLD<9.80E-01		LLD<9.80E-01		
NA-22	LLD<5.07E-01		LLD<5.07E-01		
AR-41	LLD<4.23E-01		LLD<4.23E-01		
CO-60	LLD<4.62E-01		LLD<4.62E-01		
NA-24	LLD<3.84E-01		LLD<3.84E-01		
SR-92	LLD<2.89E-01		LLD<2.89E-01		
SCH-000	LLD<2.35E+00		LLD<2.35E+00		
CS-138	LLD<4.78E-01		LLD<4.78E-01		
K-40	1.80E+01	+- 4.86E+00	1.80E+01	+-	4.86E+00
KR-88	LLD<1.63E+00		LLD<1.63E+00		
TL-209	LLD<7.13E-01		LLD<7.13E-01		
LA-140	LLD<3.33E-01		LLD<3.33E-01		
AL-26	LLD<1.86E-01		LLD<1.86E-01		
MN-56	LLD<6.99E-01		LLD<6.99E-01		
RB-88	LLD<1.29E+00		LLD<1.29E+00		
	---		---		
[illegible]otal	2.51E+01	+- 5.02E+00	2.51E+01	+-	5.02E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0032

b~~ak~~rw 28-NOV-95 13:17:40

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.38	239.29	1.2	97.	95.	38.5	PB-212
2	591.61	295.85	1.9	30.	43.	49.5	PB-214
3	677.02	338.52	1.9	36.	24.	87.8	AC-228
4	704.93	352.46	1.3	15.	71.	28.6	PB-214
5	926.37	463.10	2.1	12.	17.	80.0	CS-138
6	1219.49	609.59	2.5	8.	46.	34.6	BI-214
7	1822.23	910.95	1.6	2.	36.	35.0	AC-228
8	1937.40	968.55	2.0	10.	21.	63.1	AC-228,RU-105
9	1968.02	983.87	0.7	0.	6.	80.0	
10	2920.85	1460.69	1.2	6.	68.	26.7	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 28-NOV-95 13:17:40

mple: C-38 Soil
Data collected on 28-NOV-95 at 13:04:13
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.49E+00		LLD<3.49E+00	
TH-234	LLD<2.44E+01		LLD<2.44E+01	
TH-230	LLD<2.19E+02		LLD<2.19E+02	
XE-133	LLD<1.62E+00		LLD<1.62E+00	
CD-109	LLD<1.12E+01		LLD<1.12E+01	
SCL-000	LLD<8.20E-01		LLD<8.20E-01	
CO-57	LLD<2.72E-01		LLD<2.72E-01	
PA-234	LLD<9.47E-01		LLD<9.47E-01	
CE-144	LLD<2.22E+00		LLD<2.22E+00	
TC-99M	LLD<2.13E-01		LLD<2.13E-01	
U-235	LLD<2.03E+00		LLD<2.03E+00	
CE-141	LLD<3.54E-01		LLD<3.54E-01	
KR-85M	LLD<2.92E-01		LLD<2.92E-01	
XE-131M	LLD<8.95E+00		LLD<8.95E+00	
[illegible]-139	LLD<1.06E+00		LLD<1.06E+00	
[illegible]-139	LLD<2.14E-01		LLD<2.14E-01	
RA-226	LLD<6.13E+00		LLD<6.13E+00	
BA-141	LLD<4.83E-01		LLD<4.83E-01	
KR-89	LLD<2.39E+00		LLD<2.39E+00	
TE-132	LLD<2.63E-01		LLD<2.63E-01	
XE-133M	LLD<2.31E+00		LLD<2.31E+00	
TH-227	LLD<2.02E+00		LLD<2.02E+00	
PB-212	1.16E+00	+- 4.48E-01	1.16E+00	+- 4.48E-01
RA-224	LLD<5.91E+00		LLD<5.91E+00	
XE-135	LLD<2.46E-01		LLD<2.46E-01	
XE-138	LLD<8.72E-01		LLD<8.72E-01	
SE-75	LLD<3.97E-01		LLD<3.97E-01	
NP-239	LLD<1.66E+00		LLD<1.66E+00	
HG-203	LLD<2.66E-01		LLD<2.66E-01	
IR-192	LLD<2.68E-01		LLD<2.68E-01	
CR-51	LLD<2.02E+00		LLD<2.02E+00	
SCM-000	LLD<1.31E+00		LLD<1.31E+00	
BI-211	LLD<8.16E+00		LLD<8.16E+00	
PB-214	1.69E+00	+- 4.83E-01	1.69E+00	+- 4.83E-01
BA-133	LLD<5.94E-01		LLD<5.94E-01	
I-131	LLD<3.13E-01		LLD<3.13E-01	
SN-113	LLD<3.83E-01		LLD<3.83E-01	
KR-87	LLD<6.08E-01		LLD<6.08E-01	
PB-211	LLD<1.09E+01		LLD<1.09E+01	
[illegible]U-198	LLD<2.37E-01		LLD<2.37E-01	
[illegible]-125	LLD<8.29E-01		LLD<8.29E-01	
BI-212	LLD<7.10E+01		LLD<7.10E+01	
BE-7	LLD<2.43E+00		LLD<2.43E+00	
HF-181	LLD<3.25E-01		LLD<3.25E-01	
RU-103	LLD<2.45E-01		LLD<2.45E-01	
KR-85	LLD<8.19E+01		LLD<8.19E+01	

[redacted]rw 28-NOV-95 13:32:20

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.24	239.22	1.1	49.	102.	28.4	PB-212
2	1021.51	510.65	2.3	8.	13.	89.0	TL-208,NA-22, ANN-RD
3	1167.25	583.48	1.6	4.	41.	34.3	TL-208
4	1324.35	662.01	1.3	7.	26.	48.9	CS-137
5	2921.57	1461.05	2.2	0.	64.	24.5	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 28-NOV-95 13:32:20

Sample: C-27 Soil
Data collected on 28-NOV-95 at 13:18:43
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.31E+00		LLD<4.31E+00	
TH-234	LLD<2.98E+01		LLD<2.98E+01	
TH-230	LLD<2.88E+02		LLD<2.88E+02	
XE-133	LLD<2.06E+00		LLD<2.06E+00	
CD-109	LLD<1.23E+01		LLD<1.23E+01	
SCL-000	LLD<7.72E-01		LLD<7.72E-01	
CO-57	LLD<2.56E-01		LLD<2.56E-01	
PA-234	LLD<1.13E+00		LLD<1.13E+00	
CE-144	LLD<2.26E+00		LLD<2.26E+00	
TC-99M	LLD<2.28E-01		LLD<2.28E-01	
U-235	LLD<1.98E+00		LLD<1.98E+00	
CE-141	LLD<4.68E-01		LLD<4.68E-01	
KR-85M	LLD<2.73E-01		LLD<2.73E-01	
XE-131M	LLD<1.16E+01		LLD<1.16E+01	
[illegible]-139	LLD<1.38E+00		LLD<1.38E+00	
[illegible]E-139	LLD<2.79E-01		LLD<2.79E-01	
RA-226	LLD<6.87E+00		LLD<6.87E+00	
BA-141	LLD<6.81E-01		LLD<6.81E-01	
KR-89	LLD<2.99E+00		LLD<2.99E+00	
TE-132	LLD<2.55E-01		LLD<2.55E-01	
XE-133M	LLD<3.28E+00		LLD<3.28E+00	
TH-227	LLD<2.45E+00		LLD<2.45E+00	
PB-212	1.79E+00	+- 5.11E-01	1.79E+00	+- 5.11E-01
RA-224	LLD<7.50E+00		LLD<7.50E+00	
XE-135	LLD<2.62E-01		LLD<2.62E-01	
XE-138	LLD<9.47E-01		LLD<9.47E-01	
SE-75	LLD<3.69E-01		LLD<3.69E-01	
NP-239	LLD<2.10E+00		LLD<2.10E+00	
HG-203	LLD<3.40E-01		LLD<3.40E-01	
IR-192	LLD<2.98E-01		LLD<2.98E-01	
CR-51	LLD<2.77E+00		LLD<2.77E+00	
SCM-000	LLD<1.27E+00		LLD<1.27E+00	
BI-211	LLD<1.03E+01		LLD<1.03E+01	
PB-214	LLD<1.27E+00		LLD<1.27E+00	
BA-133	LLD<7.67E-01		LLD<7.67E-01	
I-131	LLD<3.93E-01		LLD<3.93E-01	
SN-113	LLD<4.46E-01		LLD<4.46E-01	
KR-87	LLD<6.52E-01		LLD<6.52E-01	
PB-211	LLD<1.22E+01		LLD<1.22E+01	
[illegible]-198	LLD<2.88E-01		LLD<2.88E-01	
[illegible]-125	LLD<8.68E-01		LLD<8.68E-01	
BI-212	LLD<9.30E+01		LLD<9.30E+01	
BE-7	LLD<3.18E+00		LLD<3.18E+00	
HF-181	LLD<4.80E-01		LLD<4.80E-01	
RU-103	LLD<3.58E-01		LLD<3.58E-01	
KR-85	LLD<9.42E+01		LLD<9.42E+01	

SR-85	LLD<4.12E-01	LLD<4.12E-01
I-133	LLD<5.00E-01	LLD<5.00E-01
[illegible]-140	LLD<1.50E+00	LLD<1.50E+00
[illegible]1M	LLD<4.53E-01	LLD<4.53E-01
[illegible]-207	LLD<4.32E-01	LLD<4.32E-01
TL-208	2.34E+00 +- 8.04E-01	2.34E+00 +- 8.04E-01
SB-124	LLD<4.54E-01	LLD<4.54E-01
CS-134	LLD<8.14E-01	LLD<8.14E-01
BI-214	LLD<1.54E+00	LLD<1.54E+00
RU-106	LLD<3.72E+00	LLD<3.72E+00
LA-142	LLD<5.53E-01	LLD<5.53E-01
AG-110M	LLD<9.63E-01	LLD<9.63E-01
NB-97	LLD<9.70E-01	LLD<9.70E-01
CS-137	6.18E-01 +- 3.02E-01	6.18E-01 +- 3.02E-01
I-132	LLD<5.89E-01	LLD<5.89E-01
W-187	LLD<1.29E+00	LLD<1.29E+00
ZR-97	LLD<3.88E-01	LLD<3.88E-01
ZR-95	LLD<7.70E-01	LLD<7.70E-01
NB-95	LLD<3.60E-01	LLD<3.60E-01
TL-210	LLD<2.85E+00	LLD<2.85E+00
CO-58	LLD<5.03E-01	LLD<5.03E-01
CS-136	LLD<4.49E-01	LLD<4.49E-01
MN-54	LLD<4.95E-01	LLD<4.95E-01
CO-56	LLD<3.96E-01	LLD<3.96E-01
I-134	LLD<5.04E-01	LLD<5.04E-01
TL-207	LLD<3.39E+02	LLD<3.39E+02
Y-88	LLD<4.71E-01	LLD<4.71E-01
AC-228	LLD<2.01E+00	LLD<2.01E+00
[illegible]-152	LLD<4.76E+00	LLD<4.76E+00
[illegible]-234M	LLD<3.51E+00	LLD<3.51E+00
SR-91	LLD<1.73E+00	LLD<1.73E+00
RB-89	LLD<1.48E+00	LLD<1.48E+00
FE-59	LLD<9.35E-01	LLD<9.35E-01
ZN-65	LLD<1.57E+00	LLD<1.57E+00
SC-46	LLD<6.44E-01	LLD<6.44E-01
TA-182	LLD<1.76E+00	LLD<1.76E+00
I-135	LLD<1.48E+00	LLD<1.48E+00
CL-39	LLD<1.47E+00	LLD<1.47E+00
NA-22	LLD<5.79E-01	LLD<5.79E-01
AR-41	LLD<6.25E-01	LLD<6.25E-01
CO-60	LLD<3.58E-01	LLD<3.58E-01
NA-24	LLD<5.14E-01	LLD<5.14E-01
SR-92	LLD<5.88E-01	LLD<5.88E-01
SCH-000	LLD<2.13E+00	LLD<2.13E+00
CS-138	LLD<6.88E-01	LLD<6.88E-01
K-40	2.44E+01 +- 6.04E+00	2.44E+01 +- 6.04E+00
KR-88	LLD<6.38E+00	LLD<6.38E+00
TL-209	LLD<1.29E+00	LLD<1.29E+00
LA-140	LLD<6.08E-01	LLD<6.08E-01
AL-26	LLD<5.08E-01	LLD<5.08E-01
MN-56	LLD<1.84E+00	LLD<1.84E+00
RB-88	LLD<1.86E+00	LLD<1.86E+00
	---	---
[illegible]tal	2.91E+01 +- 6.13E+00	2.91E+01 +- 6.13E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0044

ALL PEAKS USED IN ANALYSIS

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C-27 #2

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 13:59:51

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0035
Measured by: dlv

Sample Description: C-27
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.4800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 13:33:25

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hstrw 28-NOV-95 13:59:51

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1$	478.18	239.19	1.2	32.	87.	36.6	PB-212
2	704.79	352.39	0.9	31.	52.	43.4	PB-214
3	1323.89	661.78	3.2	12.	22.	64.2	CS-137
4	1823.17	911.42	1.1	3.	13.	65.8	AC-228
5	2921.85	1461.18	2.2	2.	67.	24.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 28-NOV-95 13:59:51

mple: C-27
ata collected on 28-NOV-95 at 13:33:25
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.08E+00		LLD<4.08E+00	
TH-234	LLD<2.73E+01		LLD<2.73E+01	
TH-230	LLD<2.52E+02		LLD<2.52E+02	
XE-133	LLD<1.96E+00		LLD<1.96E+00	
CD-109	LLD<1.11E+01		LLD<1.11E+01	
SCL-000	LLD<7.43E-01		LLD<7.43E-01	
CO-57	LLD<2.47E-01		LLD<2.47E-01	
PA-234	LLD<1.05E+00		LLD<1.05E+00	
CE-144	LLD<2.04E+00		LLD<2.04E+00	
TC-99M	LLD<2.26E-01		LLD<2.26E-01	
U-235	LLD<2.09E+00		LLD<2.09E+00	
CE-141	LLD<4.53E-01		LLD<4.53E-01	
KR-85M	LLD<2.79E-01		LLD<2.79E-01	
XE-131M	LLD<9.69E+00		LLD<9.69E+00	
[illegible]-139	LLD<1.12E+00		LLD<1.12E+00	
[illegible]-139	LLD<2.28E-01		LLD<2.28E-01	
RA-226	LLD<6.10E+00		LLD<6.10E+00	
BA-141	LLD<5.91E-01		LLD<5.91E-01	
KR-89	LLD<3.01E+00		LLD<3.01E+00	
TE-132	LLD<2.44E-01		LLD<2.44E-01	
XE-133M	LLD<2.84E+00		LLD<2.84E+00	
TH-227	LLD<1.80E+00		LLD<1.80E+00	
PB-212	1.25E+00	+- 4.60E-01	1.25E+00	+- 4.60E-01
RA-224	LLD<6.73E+00		LLD<6.73E+00	
XE-135	LLD<2.74E-01		LLD<2.74E-01	
XE-138	LLD<9.27E-01		LLD<9.27E-01	
SE-75	LLD<3.49E-01		LLD<3.49E-01	
NP-239	LLD<1.65E+00		LLD<1.65E+00	
HG-203	LLD<3.07E-01		LLD<3.07E-01	
IR-192	LLD<2.67E-01		LLD<2.67E-01	
CR-51	LLD<2.53E+00		LLD<2.53E+00	
SCM-000	LLD<1.08E+00		LLD<1.08E+00	
BI-211	LLD<9.92E+00		LLD<9.92E+00	
PB-214	1.48E+00	+- 6.41E-01	1.48E+00	+- 6.41E-01
BA-133	LLD<6.53E-01		LLD<6.53E-01	
I-131	LLD<2.79E-01		LLD<2.79E-01	
SN-113	LLD<4.43E-01		LLD<4.43E-01	
KR-87	LLD<6.32E-01		LLD<6.32E-01	
PB-211	LLD<9.81E+00		LLD<9.81E+00	
[illegible]U-198	LLD<2.82E-01		LLD<2.82E-01	
[illegible]-125	LLD<1.00E+00		LLD<1.00E+00	
[illegible]-212	LLD<8.61E+01		LLD<8.61E+01	
BE-7	LLD<2.93E+00		LLD<2.93E+00	
HF-181	LLD<3.45E-01		LLD<3.45E-01	
RU-103	LLD<2.62E-01		LLD<2.62E-01	
KR-85	LLD<7.85E+01		LLD<7.85E+01	

SR-85	LLD<3.43E-01		LLD<3.43E-01		
I-133	LLD<3.44E-01		LLD<3.44E-01		
LA-140	LLD<1.37E+00		LLD<1.37E+00		
[illegible]91M	LLD<2.87E-01		LLD<2.87E-01		
BI-207	LLD<4.04E-01		LLD<4.04E-01		
TL-208	LLD<1.34E+00		LLD<1.34E+00		
SB-124	LLD<3.89E-01		LLD<3.89E-01		
CS-134	LLD<6.43E-01		LLD<6.43E-01		
BI-214	LLD<1.16E+00		LLD<1.16E+00		
RU-106	LLD<3.94E+00		LLD<3.94E+00		
LA-142	LLD<6.68E-01		LLD<6.68E-01		
AG-110M	LLD<6.79E-01		LLD<6.79E-01		
NB-97	LLD<6.84E-01		LLD<6.84E-01		
CS-137	4.30E-01	+- 2.76E-01	4.30E-01	+-	2.76E-01
I-132	LLD<4.69E-01		LLD<4.69E-01		
W-187	LLD<1.20E+00		LLD<1.20E+00		
ZR-97	LLD<3.45E-01		LLD<3.45E-01		
ZR-95	LLD<8.87E-01		LLD<8.87E-01		
NB-95	LLD<3.92E-01		LLD<3.92E-01		
TL-210	LLD<2.17E+00		LLD<2.17E+00		
CO-58	LLD<3.05E-01		LLD<3.05E-01		
CS-136	LLD<3.18E-01		LLD<3.18E-01		
MN-54	LLD<3.13E-01		LLD<3.13E-01		
CO-56	LLD<3.65E-01		LLD<3.65E-01		
I-134	LLD<4.02E-01		LLD<4.02E-01		
TL-207	LLD<2.97E+02		LLD<2.97E+02		
Y-88	LLD<3.90E-01		LLD<3.90E-01		
AC-228	1.14E+00	+- 7.51E-01	1.14E+00	+-	7.51E-01
[illegible]-152	LLD<4.27E+00		LLD<4.27E+00		
[illegible]A-234M	LLD<4.65E+00		LLD<4.65E+00		
SR-91	LLD<1.44E+00		LLD<1.44E+00		
RB-89	LLD<9.78E-01		LLD<9.78E-01		
FE-59	LLD<5.78E-01		LLD<5.78E-01		
ZN-65	LLD<1.38E+00		LLD<1.38E+00		
SC-46	LLD<4.37E-01		LLD<4.37E-01		
TA-182	LLD<1.25E+00		LLD<1.25E+00		
I-135	LLD<1.87E+00		LLD<1.87E+00		
CL-39	LLD<1.01E+00		LLD<1.01E+00		
NA-22	LLD<5.83E-01		LLD<5.83E-01		
AR-41	LLD<5.42E-01		LLD<5.42E-01		
CO-60	LLD<4.35E-01		LLD<4.35E-01		
NA-24	LLD<5.82E-01		LLD<5.82E-01		
SR-92	LLD<4.76E-01		LLD<4.76E-01		
SCH-000	LLD<1.95E+00		LLD<1.95E+00		
CS-138	LLD<7.40E-01		LLD<7.40E-01		
K-40	2.12E+01	+- 5.28E+00	2.12E+01	+-	5.28E+00
KR-88	LLD<2.37E+00		LLD<2.37E+00		
TL-209	LLD<8.48E-01		LLD<8.48E-01		
LA-140	LLD<4.84E-01		LLD<4.84E-01		
AL-26	LLD<3.11E-01		LLD<3.11E-01		
MN-56	LLD<2.05E+00		LLD<2.05E+00		
RB-88	LLD<1.25E+00		LLD<1.25E+00		
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[illegible]tal	2.55E+01	+- 5.40E+00	2.55E+01	+-	5.40E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0035

ALL PEAKS USED IN ANALYSIS

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C-28 #2)

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 14:14:24

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0046
Measured by: dlv

Sample Description: C-28
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.7800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 14:00:44

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 28-NOV-95 14:14:24

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.80	239.00	0.9	84.	131.	28.0	PB-212
2	590.90	295.50	2.2	31.	50.	44.8	PB-214
3	704.23	352.11	1.4	30.	70.	33.4	PB-214
4C	1166.21	582.97	1.6	14.	29.	52.7	TL-208
5	1219.16	609.43	1.9	10.	50.	34.6	BI-214
6	1323.04	661.35	0.9	10.	22.	60.9	CS-137
7	1538.95	769.29	0.6	2.	9.	77.2	BI-214
8N	1937.48	968.59	0.5	7.	10.	105.7	AC-228,RU-105
9	2922.25	1461.39	1.8	0.	100.	19.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge

hgtrw 28-NOV-95 14:14:24

Sample: C-28
Data collected on 28-NOV-95 at 14:00:44
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.00E+00		LLD<3.00E+00	
TH-234	LLD<2.39E+01		LLD<2.39E+01	
TH-230	LLD<2.05E+02		LLD<2.05E+02	
XE-133	LLD<1.51E+00		LLD<1.51E+00	
CD-109	LLD<1.01E+01		LLD<1.01E+01	
SCL-000	LLD<7.22E-01		LLD<7.22E-01	
CO-57	LLD<2.40E-01		LLD<2.40E-01	
PA-234	LLD<8.94E-01		LLD<8.94E-01	
CE-144	LLD<1.76E+00		LLD<1.76E+00	
TC-99M	LLD<1.90E-01		LLD<1.90E-01	
U-235	LLD<1.50E+00		LLD<1.50E+00	
CE-141	LLD<3.28E-01		LLD<3.28E-01	
KR-85M	LLD<2.45E-01		LLD<2.45E-01	
XE-131M	LLD<9.09E+00		LLD<9.09E+00	
[illegible]-139	LLD<1.05E+00		LLD<1.05E+00	
[illegible]-139	LLD<2.13E-01		LLD<2.13E-01	
RA-226	LLD<4.99E+00		LLD<4.99E+00	
BA-141	LLD<4.51E-01		LLD<4.51E-01	
KR-89	LLD<1.94E+00		LLD<1.94E+00	
TE-132	LLD<1.99E-01		LLD<1.99E-01	
XE-133M	LLD<2.38E+00		LLD<2.38E+00	
TH-227	LLD<1.52E+00		LLD<1.52E+00	
PB-212	1.34E+00	+- 3.77E-01	1.34E+00	+- 3.77E-01
RA-224	LLD<5.02E+00		LLD<5.02E+00	
XE-135	LLD<1.93E-01		LLD<1.93E-01	
XE-138	LLD<8.19E-01		LLD<8.19E-01	
SE-75	LLD<3.03E-01		LLD<3.03E-01	
NP-239	LLD<1.39E+00		LLD<1.39E+00	
HG-203	LLD<2.32E-01		LLD<2.32E-01	
IR-192	LLD<2.19E-01		LLD<2.19E-01	
CR-51	LLD<1.96E+00		LLD<1.96E+00	
SCM-000	LLD<1.14E+00		LLD<1.14E+00	
BI-211	LLD<6.82E+00		LLD<6.82E+00	
PB-214	1.39E+00	+- 4.66E-01	1.39E+00	+- 4.66E-01
BA-133	LLD<5.90E-01		LLD<5.90E-01	
I-131	LLD<2.10E-01		LLD<2.10E-01	
SN-113	LLD<2.94E-01		LLD<2.94E-01	
KR-87	LLD<4.37E-01		LLD<4.37E-01	
PB-211	LLD<7.77E+00		LLD<7.77E+00	
[illegible]U-198	LLD<1.98E-01		LLD<1.98E-01	
[illegible]-125	LLD<8.21E-01		LLD<8.21E-01	
BI-212	LLD<7.30E+01		LLD<7.30E+01	
BE-7	LLD<1.84E+00		LLD<1.84E+00	
HF-181	LLD<2.52E-01		LLD<2.52E-01	
RU-103	LLD<2.29E-01		LLD<2.29E-01	
KR-85	LLD<6.22E+01		LLD<6.22E+01	

SR-85	LLD<2.72E-01		LLD<2.72E-01		
I-133	LLD<2.71E-01		LLD<2.71E-01		
[illegible]-140	LLD<9.04E-01		LLD<9.04E-01		
[illegible]1M	LLD<2.47E-01		LLD<2.47E-01		
[illegible]I-207	LLD<2.16E-01		LLD<2.16E-01		
TL-208	LLD<9.73E-01		LLD<9.73E-01		
SB-124	LLD<2.87E-01		LLD<2.87E-01		
CS-134	LLD<5.01E-01		LLD<5.01E-01		
BI-214	1.47E+00	+- 5.11E-01	1.47E+00	+-	5.11E-01
RU-106	LLD<2.71E+00		LLD<2.71E+00		
LA-142	LLD<4.48E-01		LLD<4.48E-01		
AG-110M	LLD<4.78E-01		LLD<4.78E-01		
NB-97	LLD<4.82E-01		LLD<4.82E-01		
CS-137	3.06E-01	+- 1.87E-01	3.06E-01	+-	1.87E-01
I-132	LLD<2.86E-01		LLD<2.86E-01		
W-187	LLD<1.09E+00		LLD<1.09E+00		
ZR-97	LLD<3.12E-01		LLD<3.12E-01		
ZR-95	LLD<5.25E-01		LLD<5.25E-01		
NB-95	LLD<3.16E-01		LLD<3.16E-01		
TL-210	LLD<2.11E+00		LLD<2.11E+00		
CO-58	LLD<2.42E-01		LLD<2.42E-01		
CS-136	LLD<2.89E-01		LLD<2.89E-01		
MN-54	LLD<2.94E-01		LLD<2.94E-01		
CO-56	LLD<3.59E-01		LLD<3.59E-01		
I-134	LLD<4.32E-01		LLD<4.32E-01		
TL-207	LLD<2.77E+02		LLD<2.77E+02		
Y-88	LLD<4.11E-01		LLD<4.11E-01		
AC-228	LLD<1.61E+00		LLD<1.61E+00		
[illegible]-152	LLD<2.56E+00		LLD<2.56E+00		
[illegible]-234M	LLD<3.43E+00		LLD<3.43E+00		
SR-91	LLD<1.05E+00		LLD<1.05E+00		
RB-89	LLD<7.99E-01		LLD<7.99E-01		
FE-59	LLD<9.11E-01		LLD<9.11E-01		
ZN-65	LLD<8.34E-01		LLD<8.34E-01		
SC-46	LLD<3.75E-01		LLD<3.75E-01		
TA-182	LLD<1.21E+00		LLD<1.21E+00		
I-135	LLD<1.57E+00		LLD<1.57E+00		
CL-39	LLD<8.05E-01		LLD<8.05E-01		
NA-22	LLD<3.28E-01		LLD<3.28E-01		
AR-41	LLD<4.32E-01		LLD<4.32E-01		
CO-60	LLD<3.27E-01		LLD<3.27E-01		
NA-24	LLD<3.76E-01		LLD<3.76E-01		
SR-92	LLD<5.41E-01		LLD<5.41E-01		
SCH-000	LLD<1.49E+00		LLD<1.49E+00		
CS-138	LLD<3.68E-01		LLD<3.68E-01		
K-40	2.22E+01	+- 4.42E+00	2.22E+01	+-	4.42E+00
KR-88	LLD<2.86E+00		LLD<2.86E+00		
TL-209	LLD<2.20E-01		LLD<2.20E-01		
LA-140	LLD<2.61E-01		LLD<2.61E-01		
AL-26	LLD<2.95E-01		LLD<2.95E-01		
MN-56	LLD<1.07E+00		LLD<1.07E+00		
RB-88	LLD<1.24E+00		LLD<1.24E+00		
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[illegible]tal	2.67E+01	+- 4.50E+00	2.67E+01	+-	4.50E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0046

PEAKS NOT USED IN ANALYSIS

troid annel	Energy keV	Net Area counts	Error %	Gammas/sec
590.90	295.50	50.	44.8	8.02E+00
1166.21	582.97	29.	52.7	9.18E+00
1538.95	769.29	9.	77.2	3.88E+00
1937.48	968.59	10.	105.7	5.35E+00

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C-48

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*          G A M M A   S P E C T R U M   A N A L Y S I S              *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 14:28:33

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0033
Measured by: dlv

Sample Description: C-48 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.9300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 14:15:31

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 28-NOV-95 14:28:33

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.58	238.89	1.6	91.	117.	31.6	PB-212
2$	590.73	295.41	1.4	26.	44.	45.4	PB-214
3C	677.44	338.73	2.3	21.	34.	55.2	AC-228
4	704.60	352.30	1.8	36.	43.	53.1	PB-214
5	901.27	450.56	1.8	4.	7.	107.9	
6	1166.58	583.15	1.1	13.	36.	45.6	TL-208
7	1218.16	608.93	0.9	10.	50.	34.0	XE-135,BI-214
8	1420.05	709.85	0.9	2.	6.	110.6	
9$	1823.16	911.41	1.3	1.	21.	44.5	AC-228
10	1939.17	969.44	1.0	11.	11.	108.6	AC-228,RU-105
11	2921.49	1461.01	1.3	4.	83.	23.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

- Multiplet Analysis converged normally
- Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 28-NOV-95 14:28:33

mple: C-48 Soil
Data collected on 28-NOV-95 at 14:15:31
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.37E+00		LLD<3.37E+00	
TH-234	LLD<2.37E+01		LLD<2.37E+01	
TH-230	LLD<2.49E+02		LLD<2.49E+02	
XE-133	LLD<1.59E+00		LLD<1.59E+00	
CD-109	LLD<1.02E+01		LLD<1.02E+01	
SCL-000	LLD<7.30E-01		LLD<7.30E-01	
CO-57	LLD<2.42E-01		LLD<2.42E-01	
PA-234	LLD<1.06E+00		LLD<1.06E+00	
CE-144	LLD<1.63E+00		LLD<1.63E+00	
TC-99M	LLD<2.18E-01		LLD<2.18E-01	
U-235	LLD<1.83E+00		LLD<1.83E+00	
CE-141	LLD<3.65E-01		LLD<3.65E-01	
KR-85M	LLD<2.75E-01		LLD<2.75E-01	
XE-131M	LLD<8.68E+00		LLD<8.68E+00	
[illegible]-139	LLD<1.06E+00		LLD<1.06E+00	
[illegible]-139	LLD<2.15E-01		LLD<2.15E-01	
RA-226	LLD<4.95E+00		LLD<4.95E+00	
BA-141	LLD<4.93E-01		LLD<4.93E-01	
KR-89	LLD<2.47E+00		LLD<2.47E+00	
TE-132	LLD<2.30E-01		LLD<2.30E-01	
XE-133M	LLD<2.59E+00		LLD<2.59E+00	
TH-227	LLD<1.80E+00		LLD<1.80E+00	
PB-212	1.34E+00	+- 4.25E-01	1.34E+00	+- 4.25E-01
RA-224	LLD<5.63E+00		LLD<5.63E+00	
XE-135	LLD<2.05E-01		LLD<2.05E-01	
XE-138	LLD<8.20E-01		LLD<8.20E-01	
SE-75	LLD<3.78E-01		LLD<3.78E-01	
NP-239	LLD<1.54E+00		LLD<1.54E+00	
HG-203	LLD<2.69E-01		LLD<2.69E-01	
IR-192	LLD<2.80E-01		LLD<2.80E-01	
CR-51	LLD<2.17E+00		LLD<2.17E+00	
SCM-000	LLD<1.19E+00		LLD<1.19E+00	
BI-211	LLD<7.83E+00		LLD<7.83E+00	
PB-214	9.69E-01	+- 5.14E-01	9.69E-01	+- 5.14E-01
BA-133	LLD<5.38E-01		LLD<5.38E-01	
I-131	LLD<2.33E-01		LLD<2.33E-01	
SN-113	LLD<2.85E-01		LLD<2.85E-01	
KR-87	LLD<4.83E-01		LLD<4.83E-01	
PB-211	LLD<9.31E+00		LLD<9.31E+00	
AU-198	LLD<2.44E-01		LLD<2.44E-01	
[illegible]-125	LLD<8.12E-01		LLD<8.12E-01	
[illegible]-212	LLD<5.59E+01		LLD<5.59E+01	
BE-7	LLD<2.35E+00		LLD<2.35E+00	
HF-181	LLD<2.94E-01		LLD<2.94E-01	
RU-103	LLD<3.03E-01		LLD<3.03E-01	
KR-85	LLD<7.80E+01		LLD<7.80E+01	

SR-85	LLD<3.41E-01	LLD<3.41E-01
I-133	LLD<2.72E-01	LLD<2.72E-01
BA-140	LLD<1.03E+00	LLD<1.03E+00
91M	LLD<2.64E-01	LLD<2.64E-01
-207	LLD<2.54E-01	LLD<2.54E-01
TL-208	LLD<1.11E+00	LLD<1.11E+00
SB-124	LLD<2.84E-01	LLD<2.84E-01
CS-134	LLD<5.69E-01	LLD<5.69E-01
BI-214	1.65E+00 +- 5.64E-01	1.65E+00 +- 5.64E-01
RU-106	LLD<2.65E+00	LLD<2.65E+00
LA-142	LLD<5.83E-01	LLD<5.83E-01
AG-110M	LLD<4.47E-01	LLD<4.47E-01
NB-97	LLD<4.50E-01	LLD<4.50E-01
CS-137	LLD<3.71E-01	LLD<3.71E-01
I-132	LLD<3.94E-01	LLD<3.94E-01
W-187	LLD<9.82E-01	LLD<9.82E-01
ZR-97	LLD<3.22E-01	LLD<3.22E-01
ZR-95	LLD<5.89E-01	LLD<5.89E-01
NB-95	LLD<3.84E-01	LLD<3.84E-01
TL-210	LLD<1.92E+00	LLD<1.92E+00
CO-58	LLD<3.05E-01	LLD<3.05E-01
CS-136	LLD<3.58E-01	LLD<3.58E-01
MN-54	LLD<4.03E-01	LLD<4.03E-01
CO-56	LLD<3.22E-01	LLD<3.22E-01
I-134	LLD<3.72E-01	LLD<3.72E-01
TL-207	LLD<2.58E+02	LLD<2.58E+02
Y-88	LLD<3.62E-01	LLD<3.62E-01
AC-228	1.43E+00 +- 6.35E-01	1.43E+00 +- 6.35E-01
EU-152	LLD<4.20E+00	LLD<4.20E+00
-234M	LLD<4.28E+00	LLD<4.28E+00
R-91	LLD<8.57E-01	LLD<8.57E-01
RB-89	LLD<7.90E-01	LLD<7.90E-01
FE-59	LLD<7.73E-01	LLD<7.73E-01
ZN-65	LLD<1.58E+00	LLD<1.58E+00
SC-46	LLD<4.87E-01	LLD<4.87E-01
TA-182	LLD<1.28E+00	LLD<1.28E+00
I-135	LLD<1.51E+00	LLD<1.51E+00
CL-39	LLD<1.08E+00	LLD<1.08E+00
NA-22	LLD<4.18E-01	LLD<4.18E-01
AR-41	LLD<5.71E-01	LLD<5.71E-01
CO-60	LLD<3.37E-01	LLD<3.37E-01
NA-24	LLD<6.93E-02	LLD<6.93E-02
SR-92	LLD<4.40E-01	LLD<4.40E-01
SCH-000	LLD<1.26E+00	LLD<1.26E+00
CS-138	LLD<4.50E-01	LLD<4.50E-01
K-40	2.06E+01 +- 4.84E+00	2.06E+01 +- 4.84E+00
KR-88	LLD<1.53E+00	LLD<1.53E+00
TL-209	LLD<2.47E-01	LLD<2.47E-01
LA-140	LLD<3.98E-01	LLD<3.98E-01
AL-26	LLD<2.94E-01	LLD<2.94E-01
MN-56	LLD<1.72E+00	LLD<1.72E+00
RB-88	LLD<2.45E+00	LLD<2.45E+00
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Total	2.60E+01 +- 4.96E+00	2.60E+01 +- 4.96E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0033

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
590.73	295.41	44.	45.4	7.00E+00
677.44	338.73	34.	55.2	6.17E+00
901.27	450.56	7.	107.9	1.81E+00
1166.58	583.15	36.	45.6	1.13E+01
1420.05	709.85	6.	110.6	2.20E+00
1939.17	969.44	11.	108.6	5.61E+00

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C-9

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*            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 14:44:23

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0017
Measured by: dlv

Sample Description: C-9 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 4.0300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 14:29:26

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 28-NOV-95 14:44:23

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.99	239.10	1.4	70.	70.	44.5	PB-212
2	677.54	338.78	1.6	8.	34.	43.0	AC-228
3	704.65	352.32	1.4	16.	21.	71.0	PB-214
4	1021.72	510.75	1.0	11.	14.	88.7	TL-208,NA-22, ANN-RD
5	1123.20	561.47	1.8	3.	7.	109.9	Y-92
6	1167.45	583.58	2.3	4.	32.	39.9	TL-208
7$	1323.65	661.66	1.3	13.	31.	51.0	CS-137
8E	1639.67	819.66	0.7	4.	7.	114.8	
9	1822.66	911.17	1.0	5.	25.	48.0	AC-228
10	2921.62	1461.07	1.7	4.	37.	36.5	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

E - Multiplet Analysis ERROR
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 28-NOV-95 14:44:23

mple: C-9 Soil
ata collected on 28-NOV-95 at 14:29:26
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<5.45E+00		LLD<5.45E+00	
TH-234	LLD<3.25E+01		LLD<3.25E+01	
TH-230	LLD<3.24E+02		LLD<3.24E+02	
XE-133	LLD<2.48E+00		LLD<2.48E+00	
CD-109	LLD<1.58E+01		LLD<1.58E+01	
SCL-000	LLD<9.70E-01		LLD<9.70E-01	
CO-57	LLD<3.22E-01		LLD<3.22E-01	
PA-234	LLD<1.36E+00		LLD<1.36E+00	
CE-144	LLD<2.92E+00		LLD<2.92E+00	
TC-99M	LLD<2.73E-01		LLD<2.73E-01	
U-235	LLD<2.32E+00		LLD<2.32E+00	
CE-141	LLD<4.74E-01		LLD<4.74E-01	
KR-85M	LLD<3.54E-01		LLD<3.54E-01	
XE-131M	LLD<1.13E+01		LLD<1.13E+01	
BA-139	LLD<1.31E+00		LLD<1.31E+00	
[illegible]-139	LLD<2.67E-01		LLD<2.67E-01	
RA-226	LLD<8.08E+00		LLD<8.08E+00	
BA-141	LLD<6.33E-01		LLD<6.33E-01	
KR-89	LLD<3.34E+00		LLD<3.34E+00	
TE-132	LLD<3.44E-01		LLD<3.44E-01	
XE-133M	LLD<3.50E+00		LLD<3.50E+00	
TH-227	LLD<2.41E+00		LLD<2.41E+00	
PB-212	1.38E+00	+- 6.15E-01	1.38E+00	+- 6.15E-01
RA-224	LLD<1.12E+01		LLD<1.12E+01	
XE-135	LLD<3.10E-01		LLD<3.10E-01	
XE-138	LLD<1.17E+00		LLD<1.17E+00	
SE-75	LLD<4.46E-01		LLD<4.46E-01	
NP-239	LLD<2.08E+00		LLD<2.08E+00	
HG-203	LLD<3.70E-01		LLD<3.70E-01	
IR-192	LLD<3.75E-01		LLD<3.75E-01	
CR-51	LLD<2.70E+00		LLD<2.70E+00	
SCM-000	LLD<1.85E+00		LLD<1.85E+00	
BI-211	LLD<1.08E+01		LLD<1.08E+01	
PB-214	8.28E-01	+- 5.88E-01	8.28E-01	+- 5.88E-01
BA-133	LLD<7.05E-01		LLD<7.05E-01	
I-131	LLD<3.84E-01		LLD<3.84E-01	
SN-113	LLD<5.73E-01		LLD<5.73E-01	
KR-87	LLD<7.35E-01		LLD<7.35E-01	
PB-211	LLD<1.40E+01		LLD<1.40E+01	
AU-198	LLD<3.37E-01		LLD<3.37E-01	
[illegible]-125	LLD<1.00E+00		LLD<1.00E+00	
[illegible]-212	LLD<1.20E+02		LLD<1.20E+02	
BE-7	LLD<3.45E+00		LLD<3.45E+00	
HF-181	LLD<4.68E-01		LLD<4.68E-01	
RU-103	LLD<4.31E-01		LLD<4.31E-01	
KR-85	LLD<1.16E+02		LLD<1.16E+02	

SR-85	LLD<5.09E-01		LLD<5.09E-01		
I-133	LLD<4.67E-01		LLD<4.67E-01		
BA-140	LLD<1.32E+00		LLD<1.32E+00		
91M	LLD<3.99E-01		LLD<3.99E-01		
207	LLD<4.61E-01		LLD<4.61E-01		
TL-208	2.06E+00	+- 8.23E-01	2.06E+00	+-	8.23E-01
SB-124	LLD<4.89E-01		LLD<4.89E-01		
CS-134	LLD<5.65E-01		LLD<5.65E-01		
BI-214	LLD<1.39E+00		LLD<1.39E+00		
RU-106	LLD<4.17E+00		LLD<4.17E+00		
LA-142	LLD<8.39E-01		LLD<8.39E-01		
AG-110M	LLD<1.10E+00		LLD<1.10E+00		
NB-97	LLD<1.11E+00		LLD<1.11E+00		
CS-137	8.24E-01	+- 4.21E-01	8.24E-01	+-	4.21E-01
I-132	LLD<6.19E-01		LLD<6.19E-01		
W-187	LLD<1.58E+00		LLD<1.58E+00		
ZR-97	LLD<4.25E-01		LLD<4.25E-01		
ZR-95	LLD<8.27E-01		LLD<8.27E-01		
NB-95	LLD<4.94E-01		LLD<4.94E-01		
TL-210	LLD<3.16E+00		LLD<3.16E+00		
CO-58	LLD<4.54E-01		LLD<4.54E-01		
CS-136	LLD<5.17E-01		LLD<5.17E-01		
MN-54	LLD<5.77E-01		LLD<5.77E-01		
CO-56	LLD<4.29E-01		LLD<4.29E-01		
I-134	LLD<4.87E-01		LLD<4.87E-01		
TL-207	LLD<3.34E+02		LLD<3.34E+02		
Y-88	LLD<3.80E-01		LLD<3.80E-01		
AC-228	2.94E+00	+- 1.41E+00	2.94E+00	+-	1.41E+00
EU-152	LLD<5.01E+00		LLD<5.01E+00		
234M	LLD<5.18E+00		LLD<5.18E+00		
91	LLD<1.53E+00		LLD<1.53E+00		
RB-89	LLD<8.80E-01		LLD<8.80E-01		
FE-59	LLD<1.05E+00		LLD<1.05E+00		
ZN-65	LLD<1.07E+00		LLD<1.07E+00		
SC-46	LLD<5.78E-01		LLD<5.78E-01		
TA-182	LLD<1.65E+00		LLD<1.65E+00		
I-135	LLD<1.47E+00		LLD<1.47E+00		
CL-39	LLD<1.07E+00		LLD<1.07E+00		
NA-22	LLD<5.52E-01		LLD<5.52E-01		
AR-41	LLD<6.03E-01		LLD<6.03E-01		
CO-60	LLD<6.12E-01		LLD<6.12E-01		
NA-24	LLD<4.89E-01		LLD<4.89E-01		
SR-92	LLD<8.78E-01		LLD<8.78E-01		
SCH-000	LLD<2.83E+00		LLD<2.83E+00		
CS-138	LLD<3.96E-01		LLD<3.96E-01		
K-40	1.60E+01	+- 5.85E+00	1.60E+01	+-	5.85E+00
KR-88	LLD<3.23E+00		LLD<3.23E+00		
TL-209	LLD<4.24E-01		LLD<4.24E-01		
LA-140	LLD<4.21E-01		LLD<4.21E-01		
AL-26	LLD<3.70E-01		LLD<3.70E-01		
MN-56	LLD<1.39E+00		LLD<1.39E+00		
RB-88	LLD<2.39E+00		LLD<2.39E+00		
	---		---		
Total	2.40E+01	+- 6.15E+00	2.40E+01	+-	6.15E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0017

PEAKS NOT USED IN ANALYSIS

ntroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
677.54	338.78	34.	43.0	6.15E+00
1123.20	561.47	7.	109.9	2.00E+00
1639.67	819.66	7.	114.8	3.18E+00

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C-19

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 14:58:17

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0019
Measured by: dlv

Sample Description: C-19 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.4800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 14:45:20

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

28-NOV-95 14:58:17

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	185.83	93.19	0.7	87.	42.	75.2	TH-234,TH-234
2	477.90	239.05	2.2	75.	108.	31.6	PB-212
3	676.55	338.28	1.3	10.	21.	61.6	AC-228
4	704.16	352.07	1.1	34.	58.	41.1	PB-214
5	1165.54	582.63	3.2	7.	36.	39.9	TL-208
6	1189.09	594.40	0.6	1.	13.	61.9	I-134
7	1218.53	609.11	2.4	13.	42.	40.3	BI-214
8	1323.05	661.36	1.0	12.	20.	72.5	CS-137
9	1571.29	785.47	0.7	1.	7.	86.8	BI-212,PB-214, PA234M
10	1823.60	911.63	1.6	9.	15.	80.0	AC-228
11	2922.11	1461.32	2.8	2.	89.	21.4	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 28-NOV-95 14:58:17

Sample: C-19 Soil
Data collected on 28-NOV-95 at 14:45:20
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.32E+00		LLD<3.32E+00	
TH-234	LLD<2.67E+01		LLD<2.67E+01	
TH-230	LLD<2.03E+02		LLD<2.03E+02	
XE-133	LLD<1.60E+00		LLD<1.60E+00	
CD-109	LLD<1.07E+01		LLD<1.07E+01	
SCL-000	LLD<7.47E-01		LLD<7.47E-01	
CO-57	LLD<2.48E-01		LLD<2.48E-01	
PA-234	LLD<9.62E-01		LLD<9.62E-01	
CE-144	LLD<1.91E+00		LLD<1.91E+00	
TC-99M	LLD<2.41E-01		LLD<2.41E-01	
U-235	LLD<1.77E+00		LLD<1.77E+00	
CE-141	LLD<4.08E-01		LLD<4.08E-01	
KR-85M	LLD<2.69E-01		LLD<2.69E-01	
XE-131M	LLD<8.91E+00		LLD<8.91E+00	
BA-139	LLD<1.03E+00		LLD<1.03E+00	
[illegible]-139	LLD<2.08E-01		LLD<2.08E-01	
[illegible]A-226	LLD<5.50E+00		LLD<5.50E+00	
BA-141	LLD<5.58E-01		LLD<5.58E-01	
KR-89	LLD<2.40E+00		LLD<2.40E+00	
TE-132	LLD<2.22E-01		LLD<2.22E-01	
XE-133M	LLD<2.58E+00		LLD<2.58E+00	
TH-227	LLD<2.09E+00		LLD<2.09E+00	
PB-212	1.32E+00	+- 4.20E-01	1.32E+00	+- 4.20E-01
RA-224	LLD<5.86E+00		LLD<5.86E+00	
XE-135	LLD<2.22E-01		LLD<2.22E-01	
XE-138	LLD<9.84E-01		LLD<9.84E-01	
SE-75	LLD<3.52E-01		LLD<3.52E-01	
NP-239	LLD<1.47E+00		LLD<1.47E+00	
HG-203	LLD<3.12E-01		LLD<3.12E-01	
IR-192	LLD<3.09E-01		LLD<3.09E-01	
CR-51	LLD<1.70E+00		LLD<1.70E+00	
SCM-000	LLD<1.08E+00		LLD<1.08E+00	
BI-211	LLD<8.95E+00		LLD<8.95E+00	
PB-214	1.39E+00	+- 5.71E-01	1.39E+00	+- 5.71E-01
BA-133	LLD<6.84E-01		LLD<6.84E-01	
I-131	LLD<2.67E-01		LLD<2.67E-01	
SN-113	LLD<3.44E-01		LLD<3.44E-01	
KR-87	LLD<4.72E-01		LLD<4.72E-01	
PB-211	LLD<8.07E+00		LLD<8.07E+00	
AU-198	LLD<2.67E-01		LLD<2.67E-01	
[illegible]B-125	LLD<8.49E-01		LLD<8.49E-01	
[illegible]-212	LLD<8.69E+01		LLD<8.69E+01	
BE-7	LLD<2.59E+00		LLD<2.59E+00	
HF-181	LLD<3.40E-01		LLD<3.40E-01	
RU-103	LLD<2.79E-01		LLD<2.79E-01	
KR-85	LLD<7.18E+01		LLD<7.18E+01	

SR-85	LLD<3.14E-01	LLD<3.14E-01
I-133	LLD<2.25E-01	LLD<2.25E-01
BA-140	LLD<1.19E+00	LLD<1.19E+00
[illegible]-91M	LLD<2.74E-01	LLD<2.74E-01
[illegible]-207	LLD<3.34E-01	LLD<3.34E-01
[illegible]L-208	LLD<1.07E+00	LLD<1.07E+00
SB-124	LLD<3.16E-01	LLD<3.16E-01
CS-134	LLD<6.01E-01	LLD<6.01E-01
BI-214	1.49E+00 +- 6.00E-01	1.49E+00 +- 6.00E-01
RU-106	LLD<2.83E+00	LLD<2.83E+00
LA-142	LLD<6.45E-01	LLD<6.45E-01
AG-110M	LLD<5.62E-01	LLD<5.62E-01
NB-97	LLD<5.66E-01	LLD<5.66E-01
CS-137	3.26E-01 +- 2.37E-01	3.26E-01 +- 2.37E-01
I-132	LLD<3.89E-01	LLD<3.89E-01
W-187	LLD<1.15E+00	LLD<1.15E+00
ZR-97	LLD<3.75E-01	LLD<3.75E-01
ZR-95	LLD<6.49E-01	LLD<6.49E-01
NB-95	LLD<3.79E-01	LLD<3.79E-01
TL-210	LLD<1.77E+00	LLD<1.77E+00
CO-58	LLD<3.45E-01	LLD<3.45E-01
CS-136	LLD<3.35E-01	LLD<3.35E-01
MN-54	LLD<3.59E-01	LLD<3.59E-01
CO-56	LLD<2.94E-01	LLD<2.94E-01
I-134	LLD<3.44E-01	LLD<3.44E-01
TL-207	LLD<3.08E+02	LLD<3.08E+02
Y-88	LLD<4.26E-01	LLD<4.26E-01
AC-228	1.09E+00 +- 8.74E-01	1.09E+00 +- 8.74E-01
EU-152	LLD<4.10E+00	LLD<4.10E+00
[illegible]-234M	LLD<3.36E+00	LLD<3.36E+00
[illegible]-91	LLD<9.50E-01	LLD<9.50E-01
RB-89	LLD<8.09E-01	LLD<8.09E-01
FE-59	LLD<6.08E-01	LLD<6.08E-01
ZN-65	LLD<9.23E-01	LLD<9.23E-01
SC-46	LLD<5.21E-01	LLD<5.21E-01
TA-182	LLD<1.33E+00	LLD<1.33E+00
I-135	LLD<1.40E+00	LLD<1.40E+00
CL-39	LLD<8.80E-01	LLD<8.80E-01
NA-22	LLD<4.75E-01	LLD<4.75E-01
AR-41	LLD<4.48E-01	LLD<4.48E-01
CO-60	LLD<3.67E-01	LLD<3.67E-01
NA-24	LLD<4.73E-01	LLD<4.73E-01
SR-92	LLD<1.88E-01	LLD<1.88E-01
SCH-000	LLD<1.24E+00	LLD<1.24E+00
CS-138	LLD<6.93E-01	LLD<6.93E-01
K-40	2.38E+01 +- 5.15E+00	2.38E+01 +- 5.15E+00
KR-88	LLD<3.12E+00	LLD<3.12E+00
TL-209	LLD<8.19E-01	LLD<8.19E-01
LA-140	LLD<2.29E-01	LLD<2.29E-01
AL-26	LLD<3.74E-01	LLD<3.74E-01
MN-56	LLD<1.36E+00	LLD<1.36E+00
RB-88	LLD<1.49E+00	LLD<1.49E+00
	---	---
Total	2.94E+01 +- 5.31E+00	2.94E+01 +- 5.31E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0019

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
185.83	93.19	42.	75.2	6.24E+00
676.55	338.28	21.	61.6	3.81E+00
1165.54	582.63	36.	39.9	1.14E+01
1189.09	594.40	13.	61.9	4.04E+00
1571.29	785.47	7.	86.8	2.90E+00

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C-6

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 15:18:21

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0020
Measured by: dlv

Sample Description: C-6 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.2900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 14:59:12

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 28-NOV-95 15:18:21

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.85	239.03	1.7	60.	113.	28.6	PB-212
2	703.67	351.83	1.5	23.	48.	42.2	BI-211,PB-214
3	1166.66	583.19	2.3	11.	33.	45.7	TL-208
4$	1218.30	609.00	1.3	10.	28.	49.7	XE-135,BI-214
5N	1822.69	911.18	0.8	10.	10.	117.1	AC-228
6	2921.11	1460.82	3.3	2.	102.	20.1	K-40
7	3528.80	1765.15	1.0	0.	7.	74.1	BI-214

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 28-NOV-95 15:18:21

Sample: C-6 Soil
Data collected on 28-NOV-95 at 14:59:12
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.98E+00		LLD<2.98E+00	
TH-234	LLD<1.86E+01		LLD<1.86E+01	
TH-230	LLD<1.83E+02		LLD<1.83E+02	
XE-133	LLD<1.21E+00		LLD<1.21E+00	
CD-109	LLD<8.97E+00		LLD<8.97E+00	
SCL-000	LLD<5.28E-01		LLD<5.28E-01	
CO-57	LLD<1.75E-01		LLD<1.75E-01	
PA-234	LLD<7.59E-01		LLD<7.59E-01	
CE-144	LLD<1.54E+00		LLD<1.54E+00	
TC-99M	LLD<1.74E-01		LLD<1.74E-01	
U-235	LLD<1.38E+00		LLD<1.38E+00	
CE-141	LLD<3.05E-01		LLD<3.05E-01	
KR-85M	LLD<1.99E-01		LLD<1.99E-01	
XE-131M	LLD<6.65E+00		LLD<6.65E+00	
BA-139	LLD<8.39E-01		LLD<8.39E-01	
[illegible]E-139	LLD<1.70E-01		LLD<1.70E-01	
[illegible]-226	LLD<4.45E+00		LLD<4.45E+00	
BA-141	LLD<3.80E-01		LLD<3.80E-01	
KR-89	LLD<1.76E+00		LLD<1.76E+00	
TE-132	LLD<1.76E-01		LLD<1.76E-01	
XE-133M	LLD<2.18E+00		LLD<2.18E+00	
TH-227	LLD<1.38E+00		LLD<1.38E+00	
PB-212	1.08E+00	+- 3.10E-01	1.08E+00	+- 3.10E-01
RA-224	LLD<4.65E+00		LLD<4.65E+00	
XE-135	LLD<1.72E-01		LLD<1.72E-01	
XE-138	LLD<6.29E-01		LLD<6.29E-01	
SE-75	LLD<2.45E-01		LLD<2.45E-01	
NP-239	LLD<1.24E+00		LLD<1.24E+00	
HG-203	LLD<2.10E-01		LLD<2.10E-01	
IR-192	LLD<1.96E-01		LLD<1.96E-01	
CR-51	LLD<1.73E+00		LLD<1.73E+00	
SCM-000	LLD<8.28E-01		LLD<8.28E-01	
BI-211	7.74E+00	+- 3.27E+00	7.74E+00	+- 3.27E+00
PB-214	9.03E-01	+- 3.82E-01	9.03E-01	+- 3.82E-01
BA-133	LLD<5.20E-01		LLD<5.20E-01	
I-131	LLD<2.25E-01		LLD<2.25E-01	
SN-113	LLD<3.07E-01		LLD<3.07E-01	
KR-87	LLD<4.18E-01		LLD<4.18E-01	
PB-211	LLD<7.58E+00		LLD<7.58E+00	
AU-198	LLD<1.92E-01		LLD<1.92E-01	
SB-125	LLD<7.30E-01		LLD<7.30E-01	
[illegible]-212	LLD<4.79E+01		LLD<4.79E+01	
BE-7	LLD<1.66E+00		LLD<1.66E+00	
HF-181	LLD<2.45E-01		LLD<2.45E-01	
RU-103	LLD<2.30E-01		LLD<2.30E-01	
KR-85	LLD<5.11E+01		LLD<5.11E+01	

SR-85	LLD<2.24E-01		LLD<2.24E-01		
I-133	LLD<2.40E-01		LLD<2.40E-01		
BA-140	LLD<8.18E-01		LLD<8.18E-01		
Y 91M	LLD<2.67E-01		LLD<2.67E-01		
207	LLD<1.92E-01		LLD<1.92E-01		
PB-208	LLD<9.40E-01		LLD<9.40E-01		
SB-124	LLD<2.11E-01		LLD<2.11E-01		
CS-134	LLD<4.45E-01		LLD<4.45E-01		
BI-214	7.66E-01	+- 3.82E-01	7.66E-01	+-	3.82E-01
RU-106	LLD<2.10E+00		LLD<2.10E+00		
LA-142	LLD<4.94E-01		LLD<4.94E-01		
AG-110M	LLD<3.64E-01		LLD<3.64E-01		
NB-97	LLD<3.66E-01		LLD<3.66E-01		
CS-137	LLD<2.91E-01		LLD<2.91E-01		
I-132	LLD<3.16E-01		LLD<3.16E-01		
W-187	LLD<9.20E-01		LLD<9.20E-01		
ZR-97	LLD<2.56E-01		LLD<2.56E-01		
ZR-95	LLD<5.42E-01		LLD<5.42E-01		
NB-95	LLD<2.80E-01		LLD<2.80E-01		
TL-210	LLD<1.48E+00		LLD<1.48E+00		
CO-58	LLD<2.97E-01		LLD<2.97E-01		
CS-136	LLD<3.16E-01		LLD<3.16E-01		
MN-54	LLD<1.99E-01		LLD<1.99E-01		
CO-56	LLD<2.74E-01		LLD<2.74E-01		
I-134	LLD<3.05E-01		LLD<3.05E-01		
TL-207	LLD<1.86E+02		LLD<1.86E+02		
Y-88	LLD<3.05E-01		LLD<3.05E-01		
AC-228	5.97E-01	+- 7.00E-01	5.97E-01	+-	7.00E-01
EU-152	LLD<2.95E+00		LLD<2.95E+00		
PA-234M	LLD<2.55E+00		LLD<2.55E+00		
Y-91	LLD<1.24E+00		LLD<1.24E+00		
RB-89	LLD<6.74E-01		LLD<6.74E-01		
FE-59	LLD<6.25E-01		LLD<6.25E-01		
ZN-65	LLD<1.02E+00		LLD<1.02E+00		
SC-46	LLD<4.92E-01		LLD<4.92E-01		
TA-182	LLD<1.38E+00		LLD<1.38E+00		
I-135	LLD<1.04E+00		LLD<1.04E+00		
CL-39	LLD<5.21E-01		LLD<5.21E-01		
NA-22	LLD<3.57E-01		LLD<3.57E-01		
AR-41	LLD<3.13E-01		LLD<3.13E-01		
CO-60	LLD<2.92E-01		LLD<2.92E-01		
NA-24	LLD<2.51E-01		LLD<2.51E-01		
SR-92	LLD<3.89E-01		LLD<3.89E-01		
SCH-000	LLD<1.23E+00		LLD<1.23E+00		
CS-138	LLD<3.76E-01		LLD<3.76E-01		
K-40	2.12E+01	+- 4.33E+00	2.12E+01	+-	4.33E+00
KR-88	LLD<2.92E+00		LLD<2.92E+00		
TL-209	LLD<7.70E-01		LLD<7.70E-01		
LA-140	LLD<2.79E-01		LLD<2.79E-01		
AL-26	LLD<1.80E-01		LLD<1.80E-01		
MN-56	LLD<1.06E+00		LLD<1.06E+00		
RB-88	LLD<8.29E-01		LLD<8.29E-01		
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Total	3.23E+01	+- 5.51E+00	3.23E+01	+-	5.51E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0020

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1166.66	583.19	33.	45.7	1.04E+01
3528.80	1765.15	7.	74.1	5.19E+00

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C-12

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 15:35:30

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0021
Measured by: dlv

Sample Description: C-12 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 9.6000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 15:19:54

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 28-NOV-95 15:35:30

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.14	239.17	1.2	48.	68.	39.5	PB-212
2	591.81	295.95	0.9	21.	41.	46.2	PB-214
3	677.06	338.54	1.6	15.	22.	68.1	AC-228
4	704.12	352.06	1.9	24.	50.	39.7	BI-211,PB-214
5	1218.98	609.34	1.7	16.	28.	58.7	BI-214
6	1323.65	661.66	1.5	19.	47.	41.0	CS-137
7	1534.59	767.11	1.4	1.	8.	80.7	PA234M,I-134
8	2921.31	1460.92	2.3	2.	92.	21.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 28-NOV-95 15:35:30

Sample: C-12 Soil
Data collected on 28-NOV-95 at 15:19:54
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<1.93E+00		LLD<1.93E+00	
TH-234	LLD<1.63E+01		LLD<1.63E+01	
TH-230	LLD<1.40E+02		LLD<1.40E+02	
XE-133	LLD<1.05E+00		LLD<1.05E+00	
CD-109	LLD<6.88E+00		LLD<6.88E+00	
SCL-000	LLD<5.22E-01		LLD<5.22E-01	
CO-57	LLD<1.73E-01		LLD<1.73E-01	
PA-234	LLD<6.61E-01		LLD<6.61E-01	
CE-144	LLD<1.27E+00		LLD<1.27E+00	
TC-99M	LLD<1.34E-01		LLD<1.34E-01	
U-235	LLD<1.18E+00		LLD<1.18E+00	
CE-141	LLD<2.46E-01		LLD<2.46E-01	
KR-85M	LLD<1.61E-01		LLD<1.61E-01	
XE-131M	LLD<6.75E+00		LLD<6.75E+00	
BA-139	LLD<7.01E-01		LLD<7.01E-01	
[illegible]-139	LLD<1.42E-01		LLD<1.42E-01	
[illegible]-226	LLD<3.84E+00		LLD<3.84E+00	
BA-141	LLD<3.41E-01		LLD<3.41E-01	
KR-89	LLD<1.62E+00		LLD<1.62E+00	
TE-132	LLD<1.21E-01		LLD<1.21E-01	
XE-133M	LLD<1.28E+00		LLD<1.28E+00	
TH-227	LLD<9.96E-01		LLD<9.96E-01	
PB-212	5.61E-01	+- 2.22E-01	5.61E-01	+- 2.22E-01
RA-224	LLD<3.48E+00		LLD<3.48E+00	
XE-135	LLD<1.42E-01		LLD<1.42E-01	
XE-138	LLD<5.03E-01		LLD<5.03E-01	
SE-75	LLD<2.16E-01		LLD<2.16E-01	
NP-239	LLD<1.09E+00		LLD<1.09E+00	
HG-203	LLD<1.85E-01		LLD<1.85E-01	
IR-192	LLD<1.77E-01		LLD<1.77E-01	
CR-51	LLD<1.47E+00		LLD<1.47E+00	
SCM-000	LLD<7.90E-01		LLD<7.90E-01	
BI-211	6.96E+00	+- 2.77E+00	6.96E+00	+- 2.77E+00
PB-214	8.12E-01	+- 3.23E-01	8.12E-01	+- 3.23E-01
BA-133	LLD<4.49E-01		LLD<4.49E-01	
I-131	LLD<1.79E-01		LLD<1.79E-01	
SN-113	LLD<2.77E-01		LLD<2.77E-01	
KR-87	LLD<3.70E-01		LLD<3.70E-01	
PB-211	LLD<6.20E+00		LLD<6.20E+00	
AU-198	LLD<1.75E-01		LLD<1.75E-01	
[illegible]B-125	LLD<5.61E-01		LLD<5.61E-01	
[illegible]-212	LLD<5.67E+01		LLD<5.67E+01	
BE-7	LLD<1.52E+00		LLD<1.52E+00	
HF-181	LLD<1.94E-01		LLD<1.94E-01	
RU-103	LLD<1.81E-01		LLD<1.81E-01	
KR-85	LLD<5.25E+01		LLD<5.25E+01	

SR-85	LLD<2.29E-01		LLD<2.29E-01		
I-133	LLD<2.02E-01		LLD<2.02E-01		
BA-140	LLD<6.46E-01		LLD<6.46E-01		
[illegible]91M	LLD<2.17E-01		LLD<2.17E-01		
[illegible]207	LLD<2.20E-01		LLD<2.20E-01		
[illegible]-208	LLD<7.00E-01		LLD<7.00E-01		
SB-124	LLD<2.31E-01		LLD<2.31E-01		
CS-134	LLD<3.61E-01		LLD<3.61E-01		
BI-214	6.68E-01	+- 3.92E-01	6.68E-01	+-	3.92E-01
RU-106	LLD<2.25E+00		LLD<2.25E+00		
LA-142	LLD<3.43E-01		LLD<3.43E-01		
AG-110M	LLD<5.85E-01		LLD<5.85E-01		
NB-97	LLD<5.90E-01		LLD<5.90E-01		
CS-137	5.30E-01	+- 2.18E-01	5.30E-01	+-	2.18E-01
I-132	LLD<3.21E-01		LLD<3.21E-01		
W-187	LLD<6.62E-01		LLD<6.62E-01		
ZR-97	LLD<1.97E-01		LLD<1.97E-01		
ZR-95	LLD<3.30E-01		LLD<3.30E-01		
NB-95	LLD<1.94E-01		LLD<1.94E-01		
TL-210	LLD<1.22E+00		LLD<1.22E+00		
CO-58	LLD<2.33E-01		LLD<2.33E-01		
CS-136	LLD<2.03E-01		LLD<2.03E-01		
MN-54	LLD<2.55E-01		LLD<2.55E-01		
CO-56	LLD<3.05E-01		LLD<3.05E-01		
I-134	LLD<3.50E-01		LLD<3.50E-01		
TL-207	LLD<1.34E+02		LLD<1.34E+02		
Y-88	LLD<1.85E-01		LLD<1.85E-01		
AC-228	LLD<1.17E+00		LLD<1.17E+00		
EU-152	LLD<2.75E+00		LLD<2.75E+00		
[illegible]-234M	LLD<3.22E+00		LLD<3.22E+00		
[illegible]-91	LLD<1.10E+00		LLD<1.10E+00		
[illegible]B-89	LLD<6.10E-01		LLD<6.10E-01		
FE-59	LLD<3.46E-01		LLD<3.46E-01		
ZN-65	LLD<7.54E-01		LLD<7.54E-01		
SC-46	LLD<3.49E-01		LLD<3.49E-01		
TA-182	LLD<1.06E+00		LLD<1.06E+00		
I-135	LLD<1.05E+00		LLD<1.05E+00		
CL-39	LLD<6.92E-01		LLD<6.92E-01		
NA-22	LLD<3.15E-01		LLD<3.15E-01		
AR-41	LLD<2.87E-01		LLD<2.87E-01		
CO-60	LLD<3.37E-01		LLD<3.37E-01		
NA-24	LLD<3.23E-01		LLD<3.23E-01		
SR-92	LLD<3.18E-01		LLD<3.18E-01		
SCH-000	LLD<1.58E+00		LLD<1.58E+00		
CS-138	LLD<3.25E-01		LLD<3.25E-01		
K-40	1.66E+01	+- 3.53E+00	1.66E+01	+-	3.53E+00
KR-88	LLD<1.55E+00		LLD<1.55E+00		
TL-209	LLD<1.78E-01		LLD<1.78E-01		
LA-140	LLD<2.41E-01		LLD<2.41E-01		
AL-26	LLD<5.71E-02		LLD<5.71E-02		
MN-56	LLD<2.14E-01		LLD<2.14E-01		
RB-88	LLD<8.79E-01		LLD<8.79E-01		
	---		---		
Total	2.61E+01	+- 4.53E+00	2.61E+01	+-	4.53E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0021

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.81	295.95	41.	46.2	6.57E+00
677.06	338.54	22.	68.1	3.97E+00
1534.59	767.11	8.	80.7	3.50E+00

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C-18

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 15:50:48

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0022
Measured by: dlv

Sample Description: C-18 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.1100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 15:38:00

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

28-NOV-95 15:50:48

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	372.45	186.38	1.9	33.	84.	28.8	U-235,RA-226
2	477.90	239.05	1.4	62.	100.	31.7	PB-212
3	591.75	295.92	0.8	28.	30.	65.5	PB-214
4	704.45	352.22	1.4	32.	28.	73.4	PB-214
5	1021.51	510.65	2.6	18.	30.	57.1	TL-208,NA-22, ANN-RD
6	1167.74	583.73	2.6	7.	28.	47.3	TL-208
7	1218.83	609.26	2.8	16.	34.	50.4	BI-214
8	1822.48	911.08	1.0	3.	16.	61.3	AC-228
9	2921.68	1461.10	1.7	3.	85.	22.4	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 28-NOV-95 15:50:48

mple: C-18 Soil
ta collected on 28-NOV-95 at 15:38:00
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.42E+00		LLD<3.42E+00	
TH-234	LLD<2.42E+01		LLD<2.42E+01	
TH-230	LLD<2.43E+02		LLD<2.43E+02	
XE-133	LLD<1.63E+00		LLD<1.63E+00	
CD-109	LLD<1.23E+01		LLD<1.23E+01	
SCL-000	LLD<7.40E-01		LLD<7.40E-01	
CO-57	LLD<2.46E-01		LLD<2.46E-01	
PA-234	LLD<7.70E-01		LLD<7.70E-01	
CE-144	LLD<1.97E+00		LLD<1.97E+00	
TC-99M	LLD<2.19E-01		LLD<2.19E-01	
U-235	LLD<1.57E+00		LLD<1.57E+00	
CE-141	LLD<3.32E-01		LLD<3.32E-01	
KR-85M	LLD<2.62E-01		LLD<2.62E-01	
XE-131M	LLD<8.12E+00		LLD<8.12E+00	
BA-139	LLD<1.06E+00		LLD<1.06E+00	
-139	LLD<2.15E-01		LLD<2.15E-01	
RA-226	9.25E+00	+- 2.67E+00	9.25E+00	+- 2.67E+00
BA-141	LLD<5.53E-01		LLD<5.53E-01	
KR-89	LLD<2.50E+00		LLD<2.50E+00	
TE-132	LLD<2.18E-01		LLD<2.18E-01	
XE-133M	LLD<2.33E+00		LLD<2.33E+00	
TH-227	LLD<1.60E+00		LLD<1.60E+00	
PB-212	1.12E+00	+- 3.55E-01	1.12E+00	+- 3.55E-01
RA-224	LLD<5.03E+00		LLD<5.03E+00	
XE-135	LLD<1.88E-01		LLD<1.88E-01	
XE-138	LLD<7.39E-01		LLD<7.39E-01	
SE-75	LLD<2.67E-01		LLD<2.67E-01	
NP-239	LLD<1.30E+00		LLD<1.30E+00	
HG-203	LLD<2.25E-01		LLD<2.25E-01	
IR-192	LLD<2.40E-01		LLD<2.40E-01	
CR-51	LLD<1.87E+00		LLD<1.87E+00	
SCM-000	LLD<1.10E+00		LLD<1.10E+00	
BI-211	LLD<6.74E+00		LLD<6.74E+00	
PB-214	6.22E-01	+- 4.57E-01	6.22E-01	+- 4.57E-01
BA-133	LLD<5.10E-01		LLD<5.10E-01	
I-131	LLD<2.93E-01		LLD<2.93E-01	
SN-113	LLD<3.65E-01		LLD<3.65E-01	
KR-87	LLD<4.32E-01		LLD<4.32E-01	
PB-211	LLD<8.41E+00		LLD<8.41E+00	
AU-198	LLD<2.27E-01		LLD<2.27E-01	
-125	LLD<7.83E-01		LLD<7.83E-01	
-212	LLD<7.56E+01		LLD<7.56E+01	
BE-7	LLD<2.39E+00		LLD<2.39E+00	
HF-181	LLD<2.87E-01		LLD<2.87E-01	
RU-103	LLD<2.49E-01		LLD<2.49E-01	
KR-85	LLD<8.86E+01		LLD<8.86E+01	

SR-85	LLD<3.87E-01		LLD<3.87E-01		
I-133	LLD<2.96E-01		LLD<2.96E-01		
BA-140	LLD<1.03E+00		LLD<1.03E+00		
91M	LLD<3.21E-01		LLD<3.21E-01		
207	LLD<2.69E-01		LLD<2.69E-01		
TL-208	1.02E+00	+- 4.84E-01	1.02E+00	+-	4.84E-01
SB-124	LLD<2.94E-01		LLD<2.94E-01		
CS-134	LLD<5.03E-01		LLD<5.03E-01		
BI-214	1.09E+00	+- 5.52E-01	1.09E+00	+-	5.52E-01
RU-106	LLD<2.82E+00		LLD<2.82E+00		
LA-142	LLD<6.02E-01		LLD<6.02E-01		
AG-110M	LLD<5.75E-01		LLD<5.75E-01		
NB-97	LLD<5.80E-01		LLD<5.80E-01		
CS-137	LLD<4.33E-01		LLD<4.33E-01		
I-132	LLD<3.91E-01		LLD<3.91E-01		
W-187	LLD<1.14E+00		LLD<1.14E+00		
ZR-97	LLD<3.33E-01		LLD<3.33E-01		
ZR-95	LLD<4.34E-01		LLD<4.34E-01		
NB-95	LLD<3.40E-01		LLD<3.40E-01		
TL-210	LLD<1.79E+00		LLD<1.79E+00		
CO-58	LLD<2.65E-01		LLD<2.65E-01		
CS-136	LLD<2.66E-01		LLD<2.66E-01		
MN-54	LLD<2.78E-01		LLD<2.78E-01		
CO-56	LLD<3.74E-01		LLD<3.74E-01		
I-134	LLD<4.22E-01		LLD<4.22E-01		
TL-207	LLD<2.62E+02		LLD<2.62E+02		
Y-88	LLD<3.35E-01		LLD<3.35E-01		
AC-228	1.04E+00	+- 6.41E-01	1.04E+00	+-	6.41E-01
EU-152	LLD<3.87E+00		LLD<3.87E+00		
-234M	LLD<4.29E+00		LLD<4.29E+00		
-91	LLD<1.29E+00		LLD<1.29E+00		
RB-89	LLD<9.52E-01		LLD<9.52E-01		
FE-59	LLD<7.94E-01		LLD<7.94E-01		
ZN-65	LLD<9.91E-01		LLD<9.91E-01		
SC-46	LLD<4.18E-01		LLD<4.18E-01		
TA-182	LLD<1.19E+00		LLD<1.19E+00		
I-135	LLD<1.41E+00		LLD<1.41E+00		
CL-39	LLD<1.02E+00		LLD<1.02E+00		
NA-22	LLD<3.59E-01		LLD<3.59E-01		
AR-41	LLD<3.65E-01		LLD<3.65E-01		
CO-60	LLD<3.58E-01		LLD<3.58E-01		
NA-24	LLD<3.92E-01		LLD<3.92E-01		
SR-92	LLD<2.98E-01		LLD<2.98E-01		
SCH-000	LLD<1.36E+00		LLD<1.36E+00		
CS-138	LLD<4.91E-01		LLD<4.91E-01		
K-40	2.08E+01	+- 4.70E+00	2.08E+01	+-	4.70E+00
KR-88	LLD<3.40E+00		LLD<3.40E+00		
TL-209	LLD<8.25E-01		LLD<8.25E-01		
LA-140	LLD<2.09E-01		LLD<2.09E-01		
AL-26	LLD<3.23E-01		LLD<3.23E-01		
MN-56	LLD<6.41E-01		LLD<6.41E-01		
RB-88	LLD<1.86E+00		LLD<1.86E+00		
	---		---		
Total	3.49E+01	+- 5.53E+00	3.49E+01	+-	5.53E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0022

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.75	295.92	30.	65.5	4.87E+00

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C-13

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 16:05:25

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0023
Measured by: dlv

Sample Description: C-13 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 9.1800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 15:52:04

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 28-NOV-95 16:05:25

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.20	239.20	0.8	50.	65.	40.2	PB-212
2	1132.85	566.29	0.6	4.	7.	116.4	
3	1218.58	609.14	1.7	10.	28.	49.4	BI-214
4	2921.72	1461.12	3.3	11.	80.	26.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 28-NOV-95 16:05:25

Sample: C-13 Soil
Data collected on 28-NOV-95 at 15:52:04
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.32E+00		LLD<2.32E+00	
TH-234	LLD<1.72E+01		LLD<1.72E+01	
TH-230	LLD<1.45E+02		LLD<1.45E+02	
XE-133	LLD<1.01E+00		LLD<1.01E+00	
CD-109	LLD<7.61E+00		LLD<7.61E+00	
SCL-000	LLD<5.64E-01		LLD<5.64E-01	
CO-57	LLD<1.87E-01		LLD<1.87E-01	
PA-234	LLD<7.23E-01		LLD<7.23E-01	
CE-144	LLD<1.33E+00		LLD<1.33E+00	
TC-99M	LLD<1.35E-01		LLD<1.35E-01	
U-235	LLD<1.13E+00		LLD<1.13E+00	
CE-141	LLD<2.71E-01		LLD<2.71E-01	
KR-85M	LLD<1.91E-01		LLD<1.91E-01	
XE-131M	LLD<6.00E+00		LLD<6.00E+00	
BA-139	LLD<7.58E-01		LLD<7.58E-01	
[illegible]-139	LLD<1.54E-01		LLD<1.54E-01	
[illegible]A-226	LLD<3.97E+00		LLD<3.97E+00	
BA-141	LLD<3.21E-01		LLD<3.21E-01	
KR-89	LLD<1.87E+00		LLD<1.87E+00	
TE-132	LLD<1.51E-01		LLD<1.51E-01	
XE-133M	LLD<1.43E+00		LLD<1.43E+00	
TH-227	LLD<1.21E+00		LLD<1.21E+00	
PB-212	5.60E-01	+- 2.26E-01	5.60E-01	+- 2.26E-01
RA-224	LLD<3.70E+00		LLD<3.70E+00	
XE-135	LLD<1.70E-01		LLD<1.70E-01	
XE-138	LLD<5.76E-01		LLD<5.76E-01	
SE-75	LLD<2.22E-01		LLD<2.22E-01	
NP-239	LLD<9.94E-01		LLD<9.94E-01	
HG-203	LLD<1.91E-01		LLD<1.91E-01	
IR-192	LLD<1.87E-01		LLD<1.87E-01	
CR-51	LLD<1.25E+00		LLD<1.25E+00	
SCM-000	LLD<8.26E-01		LLD<8.26E-01	
BI-211	LLD<5.03E+00		LLD<5.03E+00	
PB-214	LLD<6.06E-01		LLD<6.06E-01	
BA-133	LLD<3.55E-01		LLD<3.55E-01	
I-131	LLD<1.81E-01		LLD<1.81E-01	
SN-113	LLD<1.98E-01		LLD<1.98E-01	
KR-87	LLD<2.96E-01		LLD<2.96E-01	
PB-211	LLD<6.24E+00		LLD<6.24E+00	
AU-198	LLD<1.83E-01		LLD<1.83E-01	
SB-125	LLD<5.99E-01		LLD<5.99E-01	
[illegible]-212	LLD<4.79E+01		LLD<4.79E+01	
BE-7	LLD<1.82E+00		LLD<1.82E+00	
HF-181	LLD<2.38E-01		LLD<2.38E-01	
RU-103	LLD<1.92E-01		LLD<1.92E-01	
KR-85	LLD<6.86E+01		LLD<6.86E+01	

SR-85	LLD<3.00E-01	LLD<3.00E-01
I-133	LLD<2.08E-01	LLD<2.08E-01
BA-140	LLD<7.86E-01	LLD<7.86E-01
91M	LLD<1.65E-01	LLD<1.65E-01
207	LLD<1.88E-01	LLD<1.88E-01
L-208	LLD<7.77E-01	LLD<7.77E-01
SB-124	LLD<2.17E-01	LLD<2.17E-01
CS-134	LLD<3.77E-01	LLD<3.77E-01
BI-214	7.01E-01 +- 3.47E-01	7.01E-01 +- 3.47E-01
RU-106	LLD<1.97E+00	LLD<1.97E+00
LA-142	LLD<4.13E-01	LLD<4.13E-01
AG-110M	LLD<2.92E-01	LLD<2.92E-01
NB-97	LLD<2.94E-01	LLD<2.94E-01
CS-137	LLD<2.84E-01	LLD<2.84E-01
I-132	LLD<2.77E-01	LLD<2.77E-01
W-187	LLD<7.66E-01	LLD<7.66E-01
ZR-97	LLD<2.39E-01	LLD<2.39E-01
ZR-95	LLD<4.24E-01	LLD<4.24E-01
NB-95	LLD<2.53E-01	LLD<2.53E-01
TL-210	LLD<1.23E+00	LLD<1.23E+00
CO-58	LLD<2.11E-01	LLD<2.11E-01
CS-136	LLD<2.49E-01	LLD<2.49E-01
MN-54	LLD<2.20E-01	LLD<2.20E-01
CO-56	LLD<2.01E-01	LLD<2.01E-01
I-134	LLD<2.34E-01	LLD<2.34E-01
TL-207	LLD<1.58E+02	LLD<1.58E+02
Y-88	LLD<2.45E-01	LLD<2.45E-01
AC-228	LLD<1.27E+00	LLD<1.27E+00
EU-152	LLD<2.33E+00	LLD<2.33E+00
234M	LLD<2.83E+00	LLD<2.83E+00
-91	LLD<1.11E+00	LLD<1.11E+00
RB-89	LLD<5.23E-01	LLD<5.23E-01
FE-59	LLD<4.55E-01	LLD<4.55E-01
ZN-65	LLD<7.85E-01	LLD<7.85E-01
SC-46	LLD<3.09E-01	LLD<3.09E-01
TA-182	LLD<9.41E-01	LLD<9.41E-01
I-135	LLD<1.29E+00	LLD<1.29E+00
CL-39	LLD<7.24E-01	LLD<7.24E-01
NA-22	LLD<3.22E-01	LLD<3.22E-01
AR-41	LLD<2.92E-01	LLD<2.92E-01
CO-60	LLD<2.34E-01	LLD<2.34E-01
NA-24	LLD<2.38E-01	LLD<2.38E-01
SR-92	LLD<3.93E-01	LLD<3.93E-01
SCH-000	LLD<1.11E+00	LLD<1.11E+00
CS-138	LLD<2.43E-01	LLD<2.43E-01
K-40	1.51E+01 +- 3.97E+00	1.51E+01 +- 3.97E+00
KR-88	LLD<1.79E+00	LLD<1.79E+00
TL-209	LLD<4.12E-01	LLD<4.12E-01
LA-140	LLD<1.85E-01	LLD<1.85E-01
AL-26	LLD<1.32E-01	LLD<1.32E-01
MN-56	LLD<9.06E-01	LLD<9.06E-01
RB-88	LLD<1.16E+00	LLD<1.16E+00
	---	---
Total	1.64E+01 +- 3.99E+00	1.64E+01 +- 3.99E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0023

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1132.85	566.29	7.	116.4	2.09E+00

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C-15

0↕♥♠

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*                                                                   *
*              G A M M A   S P E C T R U M   A N A L Y S I S        *
*                                                                   *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 28-NOV-95 16:19:49

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0024
Measured by: dlv

Sample Description: C-15 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.7400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 16:06:45

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

28-NOV-95 16:19:49

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.38	239.29	1.5	45.	147.	21.7	PB-212
2	704.40	352.19	1.9	29.	54.	41.7	PB-214
3E	839.09	419.49	2.1	13.	16.	90.3	GE-75
4	1022.01	510.90	0.9	6.	30.	43.8	TL-208,NA-22, ANN-RD
5	1219.25	609.47	1.2	7.	33.	42.3	BI-214
6	1823.09	911.38	1.3	1.	27.	39.8	AC-228
7	2306.63	1153.27	3.4	3.	13.	68.3	
8	2921.37	1460.95	1.3	0.	63.	24.7	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

E - Multiplet Analysis ERROR

hgtrw 28-NOV-95 16:19:49

Sample: C-15 Soil
Data collected on 28-NOV-95 at 16:06:45
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.89E+00		LLD<3.89E+00	
TH-234	LLD<2.69E+01		LLD<2.69E+01	
TH-230	LLD<2.54E+02		LLD<2.54E+02	
XE-133	LLD<1.83E+00		LLD<1.83E+00	
CD-109	LLD<1.23E+01		LLD<1.23E+01	
SCL-000	LLD<7.45E-01		LLD<7.45E-01	
CO-57	LLD<2.47E-01		LLD<2.47E-01	
PA-234	LLD<1.03E+00		LLD<1.03E+00	
CE-144	LLD<2.10E+00		LLD<2.10E+00	
TC-99M	LLD<2.38E-01		LLD<2.38E-01	
U-235	LLD<1.71E+00		LLD<1.71E+00	
CE-141	LLD<4.61E-01		LLD<4.61E-01	
KR-85M	LLD<2.69E-01		LLD<2.69E-01	
XE-131M	LLD<9.25E+00		LLD<9.25E+00	
BA-139	LLD<1.14E+00		LLD<1.14E+00	
[illegible]-139	LLD<2.32E-01		LLD<2.32E-01	
[illegible]-226	LLD<6.63E+00		LLD<6.63E+00	
BA-141	LLD<4.84E-01		LLD<4.84E-01	
KR-89	LLD<2.53E+00		LLD<2.53E+00	
TE-132	LLD<2.58E-01		LLD<2.58E-01	
XE-133M	LLD<2.99E+00		LLD<2.99E+00	
TH-227	LLD<2.06E+00		LLD<2.06E+00	
PB-212	2.03E+00	+- 4.47E-01	2.03E+00	+- 4.47E-01
RA-224	LLD<6.43E+00		LLD<6.43E+00	
XE-135	LLD<2.72E-01		LLD<2.72E-01	
XE-138	LLD<9.33E-01		LLD<9.33E-01	
SE-75	LLD<3.48E-01		LLD<3.48E-01	
NP-239	LLD<1.85E+00		LLD<1.85E+00	
HG-203	LLD<3.34E-01		LLD<3.34E-01	
IR-192	LLD<3.03E-01		LLD<3.03E-01	
CR-51	LLD<2.50E+00		LLD<2.50E+00	
SCM-000	LLD<1.47E+00		LLD<1.47E+00	
BI-211	LLD<9.17E+00		LLD<9.17E+00	
PB-214	1.45E+00	+- 6.06E-01	1.45E+00	+- 6.06E-01
BA-133	LLD<6.98E-01		LLD<6.98E-01	
I-131	LLD<3.06E-01		LLD<3.06E-01	
SN-113	LLD<3.58E-01		LLD<3.58E-01	
KR-87	LLD<6.16E-01		LLD<6.16E-01	
PB-211	LLD<1.13E+01		LLD<1.13E+01	
AU-198	LLD<2.47E-01		LLD<2.47E-01	
[illegible]B-125	LLD<1.06E+00		LLD<1.06E+00	
[illegible]-212	LLD<8.30E+01		LLD<8.30E+01	
BE-7	LLD<2.61E+00		LLD<2.61E+00	
HF-181	LLD<3.26E-01		LLD<3.26E-01	
RU-103	LLD<3.67E-01		LLD<3.67E-01	
KR-85	LLD<8.60E+01		LLD<8.60E+01	

SR-85	LLD<3.76E-01		LLD<3.76E-01		
I-133	LLD<2.40E-01		LLD<2.40E-01		
BA-140	LLD<1.17E+00		LLD<1.17E+00		
Y-91M	LLD<2.98E-01		LLD<2.98E-01		
-207	LLD<2.87E-01		LLD<2.87E-01		
TL-208	LLD<1.27E+00		LLD<1.27E+00		
SB-124	LLD<2.95E-01		LLD<2.95E-01		
CS-134	LLD<5.73E-01		LLD<5.73E-01		
BI-214	1.32E+00	+- 5.61E-01	1.32E+00	+-	5.61E-01
RU-106	LLD<3.84E+00		LLD<3.84E+00		
LA-142	LLD<6.41E-01		LLD<6.41E-01		
AG-110M	LLD<5.25E-01		LLD<5.25E-01		
NB-97	LLD<5.29E-01		LLD<5.29E-01		
CS-137	LLD<4.49E-01		LLD<4.49E-01		
I-132	LLD<4.08E-01		LLD<4.08E-01		
W-187	LLD<1.24E+00		LLD<1.24E+00		
ZR-97	LLD<3.14E-01		LLD<3.14E-01		
ZR-95	LLD<6.78E-01		LLD<6.78E-01		
NB-95	LLD<3.47E-01		LLD<3.47E-01		
TL-210	LLD<2.38E+00		LLD<2.38E+00		
CO-58	LLD<2.91E-01		LLD<2.91E-01		
CS-136	LLD<3.03E-01		LLD<3.03E-01		
MN-54	LLD<3.26E-01		LLD<3.26E-01		
CO-56	LLD<4.25E-01		LLD<4.25E-01		
I-134	LLD<4.84E-01		LLD<4.84E-01		
TL-207	LLD<3.18E+02		LLD<3.18E+02		
Y-88	LLD<4.45E-01		LLD<4.45E-01		
AC-228	2.26E+00	+- 9.02E-01	2.26E+00	+-	9.02E-01
EU-152	LLD<5.04E+00		LLD<5.04E+00		
-234M	LLD<4.11E+00		LLD<4.11E+00		
-91	LLD<1.26E+00		LLD<1.26E+00		
RB-89	LLD<1.03E+00		LLD<1.03E+00		
FE-59	LLD<1.06E+00		LLD<1.06E+00		
ZN-65	LLD<1.28E+00		LLD<1.28E+00		
SC-46	LLD<5.04E-01		LLD<5.04E-01		
TA-182	LLD<1.53E+00		LLD<1.53E+00		
I-135	LLD<1.45E+00		LLD<1.45E+00		
CL-39	LLD<8.21E-01		LLD<8.21E-01		
NA-22	LLD<5.15E-01		LLD<5.15E-01		
AR-41	LLD<5.41E-01		LLD<5.41E-01		
CO-60	LLD<4.70E-01		LLD<4.70E-01		
NA-24	LLD<2.28E-01		LLD<2.28E-01		
SR-92	LLD<3.69E-01		LLD<3.69E-01		
SCH-000	LLD<2.13E+00		LLD<2.13E+00		
CS-138	LLD<7.82E-01		LLD<7.82E-01		
K-40	1.90E+01	+- 4.73E+00	1.90E+01	+-	4.73E+00
KR-88	LLD<2.27E+00		LLD<2.27E+00		
TL-209	LLD<1.45E+00		LLD<1.45E+00		
LA-140	LLD<2.95E-01		LLD<2.95E-01		
AL-26	LLD<5.57E-01		LLD<5.57E-01		
MN-56	LLD<2.30E+00		LLD<2.30E+00		
RB-88	LLD<2.43E+00		LLD<2.43E+00		
	---		---		
Total	2.60E+01	+- 4.91E+00	2.60E+01	+-	4.91E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0024

PEAKS NOT USED IN ANALYSIS

Centroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
839.09	419.49	16.	90.3	3.64E+00
1022.01	510.90	30.	43.8	8.22E+00
2306.63	1153.27	13.	68.3	7.61E+00

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Background (1 hr)

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 07:36:18

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0007
Measured by: dlv

Sample Description: Background Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 28-NOV-95 at 16:24:55

COLLECT Live Time: 3600. seconds
Real Time: 5036. seconds
Dead Time: 28.51 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 28-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

29-NOV-95 07:36:18

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	150.68	75.63	1.5	430.	180.	30.3	PB-214
2C	155.16	77.87	1.5	406.	136.	31.0	PB-214
3	478.01	239.11	1.6	276.	479.	14.2	PB-212
4	591.41	295.75	1.7	118.	126.	31.4	PB-214
5	677.11	338.56	1.2	96.	114.	32.3	AC-228
6C	704.52	352.26	1.6	99.	167.	23.5	PB-214
7	1022.41	511.10	2.2	72.	49.	60.5	TL-208,NA-22, ANN-RD
8	1167.08	583.40	1.4	49.	142.	23.0	TL-208
9C	1219.13	609.41	1.9	49.	116.	25.7	BI-214
10	1323.77	661.72	1.6	49.	163.	20.7	CS-137
11	1454.65	727.15	1.0	40.	18.	125.1	BI-212
12	1822.40	911.04	1.7	34.	70.	36.1	AC-228
13	1937.79	968.75	0.7	42.	26.	86.3	AC-228,RU-105
14$	2239.04	1119.45	1.7	15.	18.	79.8	BI-214
15	2921.75	1461.14	1.9	13.	192.	15.5	K-40
16	3459.91	1730.64	1.2	2.	6.	117.8	

rror Quotation at 1.96 sigma
ak Confidence Level at 95.0%

2 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 29-NOV-95 07:36:18

Sample: Background Soil
Data collected on 28-NOV-95 at 16:24:55
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<1.51E+00		LLD<1.51E+00	
TH-234	LLD<9.77E+00		LLD<9.77E+00	
TH-230	LLD<8.32E+01		LLD<8.32E+01	
XE-133	LLD<5.49E-01		LLD<5.49E-01	
CD-109	LLD<3.67E+00		LLD<3.67E+00	
SCL-000	LLD<2.21E-01		LLD<2.21E-01	
CO-57	LLD<7.34E-02		LLD<7.34E-02	
PA-234	LLD<3.34E-01		LLD<3.34E-01	
CE-144	LLD<6.26E-01		LLD<6.26E-01	
TC-99M	LLD<7.75E-02		LLD<7.75E-02	
U-235	LLD<5.19E-01		LLD<5.19E-01	
CE-141	LLD<1.12E-01		LLD<1.12E-01	
KR-85M	LLD<8.46E-02		LLD<8.46E-02	
XE-131M	LLD<2.79E+00		LLD<2.79E+00	
BA-139	LLD<4.47E-01		LLD<4.47E-01	
[illegible]-139	LLD<6.80E-02		LLD<6.80E-02	
RA-226	LLD<1.60E+00		LLD<1.60E+00	
BA-141	LLD<4.26E-01		LLD<4.26E-01	
KR-89	LLD<5.51E+00		LLD<5.51E+00	
TE-132	LLD<7.58E-02		LLD<7.58E-02	
XE-133M	LLD<8.06E-01		LLD<8.06E-01	
TH-227	LLD<5.95E-01		LLD<5.95E-01	
PB-212	9.39E-01	+- 1.37E-01	9.39E-01	+- 1.37E-01
RA-224	LLD<1.79E+00		LLD<1.79E+00	
XE-135	LLD<7.91E-02		LLD<7.91E-02	
XE-138	LLD<8.65E-01		LLD<8.65E-01	
SE-75	LLD<9.94E-02		LLD<9.94E-02	
NP-239	LLD<4.69E-01		LLD<4.69E-01	
HG-203	LLD<8.42E-02		LLD<8.42E-02	
IR-192	LLD<7.72E-02		LLD<7.72E-02	
CR-51	LLD<6.32E-01		LLD<6.32E-01	
SCM-000	LLD<3.67E-01		LLD<3.67E-01	
BI-211	LLD<1.33E+01		LLD<1.33E+01	
PB-214	1.32E+00	+- 3.13E-01	1.32E+00	+- 3.13E-01
BA-133	LLD<1.73E-01		LLD<1.73E-01	
I-131	LLD<7.71E-02		LLD<7.71E-02	
SN-113	LLD<1.18E-01		LLD<1.18E-01	
KR-87	LLD<2.47E-01		LLD<2.47E-01	
PB-211	LLD<5.05E+00		LLD<5.05E+00	
AU-198	LLD<8.77E-02		LLD<8.77E-02	
[illegible]-125	LLD<2.51E-01		LLD<2.51E-01	
[illegible]-212	LLD<2.97E+01		LLD<2.97E+01	
BE-7	LLD<7.89E-01		LLD<7.89E-01	
HF-181	LLD<8.53E-02		LLD<8.53E-02	
RU-103	LLD<8.10E-02		LLD<8.10E-02	
KR-85	LLD<2.37E+01		LLD<2.37E+01	

SR-85	LLD<1.04E-01		LLD<1.04E-01		
I-133	LLD<9.67E-02		LLD<9.67E-02		
BA-140	LLD<2.92E-01		LLD<2.92E-01		
Y-91M	LLD<1.54E-01		LLD<1.54E-01		
-207	LLD<8.72E-02		LLD<8.72E-02		
-208	6.45E+00	+- 1.49E+00	6.45E+00	+-	1.49E+00
SB-124	LLD<9.34E-02		LLD<9.34E-02		
CS-134	LLD<1.51E-01		LLD<1.51E-01		
BI-214	1.63E+00	+- 4.22E-01	1.63E+00	+-	4.22E-01
RU-106	LLD<9.79E-01		LLD<9.79E-01		
LA-142	LLD<2.04E-01		LLD<2.04E-01		
AG-110M	LLD<2.21E-01		LLD<2.21E-01		
NB-97	LLD<3.09E-01		LLD<3.09E-01		
CS-137	4.13E-01	+- 8.64E-02	4.13E-01	+-	8.64E-02
I-132	LLD<1.78E-01		LLD<1.78E-01		
W-187	LLD<3.15E-01		LLD<3.15E-01		
ZR-97	LLD<9.62E-02		LLD<9.62E-02		
ZR-95	LLD<1.43E-01		LLD<1.43E-01		
NB-95	LLD<9.40E-02		LLD<9.40E-02		
TL-210	LLD<4.72E+00		LLD<4.72E+00		
CO-58	LLD<8.06E-02		LLD<8.06E-02		
CS-136	LLD<8.03E-02		LLD<8.03E-02		
MN-54	LLD<1.04E-01		LLD<1.04E-01		
CO-56	LLD<9.47E-02		LLD<9.47E-02		
I-134	LLD<1.81E-01		LLD<1.81E-01		
TL-207	LLD<4.46E+02		LLD<4.46E+02		
Y-88	LLD<9.33E-02		LLD<9.33E-02		
AC-228	8.48E-01	+- 3.07E-01	8.48E-01	+-	3.07E-01
EU-152	LLD<1.20E+00		LLD<1.20E+00		
-234M	LLD<8.02E+00		LLD<8.02E+00		
-91	LLD<3.37E-01		LLD<3.37E-01		
RB-89	LLD<5.70E-01		LLD<5.70E-01		
FE-59	LLD<1.50E-01		LLD<1.50E-01		
ZN-65	LLD<3.21E-01		LLD<3.21E-01		
SC-46	LLD<1.24E-01		LLD<1.24E-01		
TA-182	LLD<3.37E-01		LLD<3.37E-01		
I-135	LLD<3.71E-01		LLD<3.71E-01		
CL-39	LLD<3.40E-01		LLD<3.40E-01		
NA-22	LLD<1.14E-01		LLD<1.14E-01		
AR-41	LLD<1.18E-01		LLD<1.18E-01		
CO-60	LLD<9.57E-02		LLD<9.57E-02		
NA-24	LLD<8.03E-02		LLD<8.03E-02		
SR-92	LLD<1.55E-01		LLD<1.55E-01		
SCH-000	LLD<4.29E-01		LLD<4.29E-01		
CS-138	LLD<2.83E-01		LLD<2.83E-01		
K-40	7.85E+00	+- 1.25E+00	7.85E+00	+-	1.25E+00
KR-88	LLD<8.81E-01		LLD<8.81E-01		
TL-209	LLD<2.22E+00		LLD<2.22E+00		
LA-140	LLD<9.88E-02		LLD<9.88E-02		
AL-26	LLD<1.15E-01		LLD<1.15E-01		
MN-56	LLD<3.64E-01		LLD<3.64E-01		
RB-88	LLD<1.46E+00		LLD<1.46E+00		
	---		---		
Total	1.95E+01	+- 2.04E+00	1.95E+01	+-	2.04E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0007

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
150.68	75.63	180.	30.3	7.55E+00
155.16	77.87	136.	31.0	5.24E+00
591.41	295.75	126.	31.4	3.36E+00
677.11	338.56	114.	32.3	3.45E+00
1454.65	727.15	18.	125.1	1.16E+00
1937.79	968.75	26.	86.3	2.21E+00
2239.04	1119.45	18.	79.8	1.73E+00
3459.91	1730.64	6.	117.8	7.98E-01

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GAMMA SPECTROSCOPY RESULTS FROM 11/29/95

FOR

CELLS 17,37,4,78,5,14,7,11,8,10,62,47,46,1

Antocal 11/29

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*        G A M M A   S P E C T R U M   R E C A L I B R A T I O N      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw

29-NOV-95 08:31:27

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 29-NOV-95 at 08:03:38

COLLECT Live Time: 1200. sec.

hgtrw 29-NOV-95 08:31:27

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1?	79.82	40.25	1.5	28404.	4014.	18.1	
2?	91.34	46.01	1.5	22625.	1876.	26.2	
3$	168.76	84.66	3.3	89442.	884.	264.4	
4$	171.80	86.18	3.3	93315.	1839.	123.1	
5$	175.86	88.21	3.3	98470.	2089.	99.9	PB-214,CD-109
6?	235.03	117.76	1.6	35439.	9537.	49.3	
7?	244.02	122.25	1.6	30319.	188475.	3.3	SCL-000,CO-57
8?	249.33	124.90	1.6	27290.	5687.	74.6	
9?	480.68	240.44	1.6	14197.	1436.	51.0	RA-224
10?	489.90	245.04	1.6	13558.	35499.	3.6	
11?	495.14	247.66	1.6	13195.	1350.	55.1	
12	592.48	296.28	1.4	11125.	1845.	18.7	
13?	679.63	339.82	1.7	9256.	2945.	45.1	CS-136
14?	688.97	344.49	1.7	10512.	89741.	1.7	BA-141, SCM-000
15	735.87	367.92	1.8	7126.	2836.	10.1	
16	822.64	411.27	1.6	6919.	5672.	5.3	AU-198
17C	888.25	444.05	1.7	6108.	7626.	3.9	
18	977.49	488.65	1.9	4807.	953.	22.9	
19	1128.53	564.13	2.5	5869.	1323.	19.2	CS-134,SB-122
20	1172.56	586.14	2.4	5645.	873.	28.1	
21	1357.33	678.50	1.7	5028.	439.	52.1	AG110M
22	1377.47	688.56	2.1	4776.	1441.	16.1	
23$	1438.80	719.22	1.8	4055.	478.	48.3	
24C	1549.14	774.39	2.0	4350.	691.	27.4	TE131M
25C	1557.84	778.74	2.0	4261.	19115.	2.8	MO-99
26C	1563.86	781.75	2.0	4198.	495.	40.6	
27	1620.91	810.28	2.0	3687.	352.	54.5	I-132,CO-58
28	1734.75	867.20	1.8	4251.	5515.	4.6	
29C	1838.61	919.14	1.5	2074.	512.	27.5	
30$	1852.52	926.10	1.6	1985.	338.	59.4	PA-234
31?	1918.51	959.11	2.1	2573.	674.	36.4	
32?	1927.95	963.83	2.1	2767.	18187.	2.4	EU-152
33	2009.84	1004.79	2.3	1768.	1043.	14.2	
34C	2162.65	1081.23	2.2	1718.	648.	22.7	
35C	2171.47	1085.64	2.2	1700.	12326.	3.1	EU-152
36C	2179.17	1089.49	2.2	1683.	2336.	9.3	
37?	2215.99	1107.92	2.2	1955.	736.	31.4	
38?	2223.91	1111.88	2.2	2160.	15304.	2.6	TE-129,EU-152
39$	2246.68	1123.27	1.5	1185.	216.	68.7	I-135
40	2425.64	1212.82	2.2	1352.	1490.	9.8	
41C	2548.77	1274.44	2.2	688.	267.	34.1	NA-22
42	2598.04	1299.10	2.2	502.	1488.	7.1	I-133
43?	2806.81	1403.59	2.4	356.	815.	21.8	
44?	2815.70	1408.04	2.4	534.	19031.	1.8	EU-152,BI-214, SCH-000
45C	2914.88	1457.70	2.5	69.	443.	11.8	I-135
46C	2921.41	1460.97	2.5	58.	295.	14.6	K-40
47	3058.66	1529.69	4.2	90.	471.	11.5	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

14 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.388365E-07*Ch^2 + 4.992538E-01*Ch + 4.032655E-01

New Calibration Coefficients:

Energy = 2.558650E-07*Ch^2 + 4.993675E-01*Ch + 9.127687E-02

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Daily source check 11/29

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 08:49:54

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1129
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 08:34:43

COLLECT Live Time: 600. seconds
Real Time: 757. seconds
Dead Time: 20.74 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 08:49:54

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.91	40.00	1.5	13878.	2157.	22.9	
2C	91.49	45.78	1.5	11225.	970.	29.9	
3C	171.10	85.54	2.2	25483.	1629.	27.9	
4C	176.22	88.10	2.2	26738.	1536.	27.6	PB-214,CD-109
5C	182.09	91.03	2.2	28177.	964.	32.3	
6?	236.19	118.05	1.6	18012.	4684.	58.8	
7?	244.03	121.97	1.6	16907.	91894.	3.1	SE-75,SCL-000, CO-57
8?	481.38	240.53	1.5	7012.	574.	76.3	RA-224
9?	489.80	244.75	1.5	6955.	17355.	3.9	
10	592.36	295.99	1.8	5579.	1016.	24.1	PB-214
11?	680.79	340.17	1.7	4312.	1897.	42.0	CS-136
12?	688.82	344.19	1.7	4958.	44977.	2.1	BA-141, SCM-000
13	735.65	367.59	2.0	3551.	1475.	13.8	
14	822.41	410.95	1.6	3022.	2956.	6.8	AU-198
15	888.07	443.77	1.6	3407.	3953.	5.7	
16	977.48	488.46	1.6	2104.	551.	25.8	
17$	1128.18	563.79	1.7	2431.	625.	26.4	CS-134,SB-122
18$	1132.61	566.01	1.7	2455.	318.	33.4	
19	1172.41	585.91	1.8	2918.	264.	66.0	
20	1357.35	678.38	1.5	2188.	176.	81.4	AG110M
21	1376.99	688.20	1.8	2333.	776.	21.0	
22$	1549.91	774.68	1.9	2139.	418.	36.7	TE131M
23$	1557.42	778.44	1.9	2299.	9428.	3.4	MO-99
24$	1620.67	810.08	1.8	1588.	337.	52.5	I-132,CO-58
25	1734.26	866.90	1.9	1992.	2620.	6.5	
26	1837.92	918.75	2.0	1547.	215.	60.9	
27C	1919.93	959.78	2.1	1263.	405.	25.8	
28C	1927.44	963.54	2.1	1331.	9154.	2.9	EU-152
29	2009.42	1004.56	2.3	954.	550.	20.5	
30C	2170.79	1085.32	1.9	2394.	4859.	4.3	EU-152
31?	2215.95	1107.92	2.1	1006.	481.	27.8	
32?	2223.29	1111.59	2.1	1067.	7550.	3.4	TE-129,EU-152
33	2424.93	1212.53	1.9	604.	780.	12.6	
34	2548.12	1274.20	2.0	370.	142.	48.8	NA-22
35	2597.20	1298.78	2.3	324.	703.	11.4	I-133
36C	2807.02	1403.84	2.4	208.	425.	17.1	
37C	2814.85	1407.76	2.4	300.	9392.	2.3	EU-152,BI-214, SCH-000
38	2914.03	1457.43	1.9	81.	313.	15.0	I-135
39	3057.22	1529.16	3.8	31.	294.	13.3	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

11 Multiplets processed.

C - Multiplet Analysis converged normally

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 29-NOV-95 08:49:54

Sample: Eu-152 Standard
ta collected on 29-NOV-95 at 08:34:43
cayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.88E+01		LLD<2.88E+01	
TH-234	LLD<2.21E+02		LLD<2.21E+02	
TH-230	LLD<1.94E+03		LLD<1.94E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	2.12E+02	+- 5.89E+01	2.12E+02	+- 5.89E+01
SCL-000	9.69E+02	+- 3.28E+01	9.69E+02	+- 3.28E+01
CO-57	3.22E+02	+- 1.09E+01	3.22E+02	+- 1.09E+01
PA-234	LLD<9.23E+00		LLD<9.23E+00	
CE-144	LLD<1.65E+01		LLD<1.65E+01	
TC-99M	LLD<1.97E+00		LLD<1.97E+00	
U-235	LLD<1.58E+01		LLD<1.58E+01	
CE-141	LLD<3.60E+00		LLD<3.60E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.92E+01		LLD<8.92E+01	
BA-139	LLD<1.08E+01		LLD<1.08E+01	
-139	LLD<2.18E+00		LLD<2.18E+00	
-226	LLD<5.33E+01		LLD<5.33E+01	
BA-141	LLD<4.54E+00		LLD<4.54E+00	
KR-89	LLD<2.74E+01		LLD<2.74E+01	
TE-132	LLD<2.17E+00		LLD<2.17E+00	
XE-133M	LLD<1.92E+01		LLD<1.92E+01	
TH-227	LLD<1.40E+01		LLD<1.40E+01	
PB-212	LLD<5.06E+00		LLD<5.06E+00	
RA-224	5.88E+01	+- 4.49E+01	5.88E+01	+- 4.49E+01
XE-135	LLD<4.41E+00		LLD<4.41E+00	
XE-138	LLD<8.39E+00		LLD<8.39E+00	
SE-75	LLD<3.25E+00		LLD<3.25E+00	
NP-239	LLD<1.38E+01		LLD<1.38E+01	
HG-203	LLD<2.55E+00		LLD<2.55E+00	
IR-192	LLD<2.39E+00		LLD<2.39E+00	
CR-51	LLD<2.06E+01		LLD<2.06E+01	
SCM-000	9.47E+02	+- 2.51E+01	9.47E+02	+- 2.51E+01
BI-211	LLD<8.58E+01		LLD<8.58E+01	
PB-214	LLD<7.16E+00		LLD<7.16E+00	
BA-133	LLD<3.11E+00		LLD<3.11E+00	
I-131	LLD<2.68E+00		LLD<2.68E+00	
SN-113	LLD<3.06E+00		LLD<3.06E+00	
KR-87	LLD<4.25E+00		LLD<4.25E+00	
PB-211	LLD<8.33E+01		LLD<8.33E+01	
AU-198	2.07E+01	+- 1.46E+00	2.07E+01	+- 1.46E+00
SB-125	LLD<7.02E+00		LLD<7.02E+00	
-212	LLD<6.66E+02		LLD<6.66E+02	
-7	LLD<2.12E+01		LLD<2.12E+01	
HF-181	LLD<2.64E+00		LLD<2.64E+00	
RU-103	LLD<2.60E+00		LLD<2.60E+00	
KR-85	LLD<5.56E+02		LLD<5.56E+02	

SR-85	LLD<2.43E+00		LLD<2.43E+00		
I-133	LLD<2.90E+00		LLD<2.90E+00		
BA-140	LLD<1.01E+01		LLD<1.01E+01		
Y-91M	LLD<3.10E+00		LLD<3.10E+00		
[illegible]-207	LLD<3.22E+00		LLD<3.22E+00		
TL-208	LLD<1.05E+01		LLD<1.05E+01		
SB-124	LLD<2.93E+00		LLD<2.93E+00		
CS-134	LLD<2.87E+00		LLD<2.87E+00		
BI-214	LLD<7.15E+00		LLD<7.15E+00		
RU-106	LLD<2.79E+01		LLD<2.79E+01		
LA-142	LLD<5.86E+00		LLD<5.86E+00		
AG-110M	LLD<3.18E+00		LLD<3.18E+00		
NB-97	LLD<3.05E+00		LLD<3.05E+00		
CS-137	LLD<3.47E+00		LLD<3.47E+00		
I-132	LLD<3.25E+00		LLD<3.25E+00		
W-187	LLD<1.11E+01		LLD<1.11E+01		
ZR-97	LLD<3.50E+00		LLD<3.50E+00		
ZR-95	LLD<6.20E+00		LLD<6.20E+00		
NB-95	LLD<3.41E+00		LLD<3.41E+00		
TL-210	LLD<2.22E+01		LLD<2.22E+01		
CO-58	4.48E+00	+- 2.36E+00	4.48E+00	+- 2.36E+00	
CS-136	LLD<3.33E+00		LLD<3.33E+00		
MN-54	LLD<3.45E+00		LLD<3.45E+00		
CO-56	LLD<3.56E+00		LLD<3.56E+00		
I-134	LLD<4.00E+00		LLD<4.00E+00		
TL-207	LLD<3.15E+03		LLD<3.15E+03		
Y-88	LLD<3.86E+00		LLD<3.86E+00		
AC-228	LLD<1.26E+01		LLD<1.26E+01		
EU-152	9.81E+02	+- 3.72E+01	9.81E+02	+- 3.72E+01	
[illegible]-234M	LLD<4.42E+01		LLD<4.42E+01		
[illegible]-91	LLD<9.09E+00		LLD<9.09E+00		
RB-89	LLD<6.42E+00		LLD<6.42E+00		
FE-59	LLD<5.23E+00		LLD<5.23E+00		
ZN-65	LLD<1.76E+01		LLD<1.76E+01		
SC-46	LLD<3.73E+00		LLD<3.73E+00		
TA-182	LLD<9.35E+00		LLD<9.35E+00		
I-135	LLD<7.86E+00		LLD<7.86E+00		
CL-39	LLD<5.05E+00		LLD<5.05E+00		
NA-22	LLD<2.15E+00		LLD<2.15E+00		
AR-41	LLD<4.17E+00		LLD<4.17E+00		
CO-60	LLD<1.60E+00		LLD<1.60E+00		
NA-24	LLD<1.28E+00		LLD<1.28E+00		
SR-92	LLD<1.45E+00		LLD<1.45E+00		
SCH-000	9.18E+02	+- 3.54E+01	9.18E+02	+- 3.54E+01	
CS-138	LLD<1.48E+00		LLD<1.48E+00		
K-40	LLD<1.38E+01		LLD<1.38E+01		
KR-88	LLD<7.66E+00		LLD<7.66E+00		
TL-209	LLD<1.87E+00		LLD<1.87E+00		
LA-140	LLD<5.39E-01		LLD<5.39E-01		
AL-26	LLD<4.35E-01		LLD<4.35E-01		
MN-56	LLD<1.22E+00		LLD<1.22E+00		
RB-88	LLD<2.29E+00		LLD<2.29E+00		
	---		---		
Total	4.43E+03	+- 9.98E+01	4.43E+03	+- 9.98E+01	

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1129

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
79.91	40.00	2157.	22.9	8.28E+03
91.49	45.78	970.	29.9	1.81E+03
171.10	85.54	1629.	27.9	2.94E+02
182.09	91.03	964.	32.3	1.51E+02
236.19	118.05	4684.	58.8	4.77E+02
489.80	244.75	17355.	3.9	2.38E+03
592.36	295.99	1016.	24.1	1.63E+02
680.79	340.17	1897.	42.0	3.46E+02
735.65	367.59	1475.	13.8	2.90E+02
888.07	443.77	3953.	5.7	9.37E+02
977.48	488.46	551.	25.8	1.44E+02
1128.18	563.79	625.	26.4	1.89E+02
1132.61	566.01	318.	33.4	9.68E+01
1172.41	585.91	264.	66.0	8.34E+01
1357.35	678.38	176.	81.4	6.45E+01
1376.99	688.20	776.	21.0	2.88E+02
1549.91	774.68	418.	36.7	1.74E+02
1557.42	778.44	9428.	3.4	3.94E+03
1734.26	866.90	2620.	6.5	1.21E+03
1837.92	918.75	215.	60.9	1.05E+02
1919.93	959.78	405.	25.8	2.05E+02
2009.42	1004.56	550.	20.5	2.89E+02
2215.95	1107.92	481.	27.8	2.73E+02
2424.93	1212.53	780.	12.6	4.74E+02
2548.12	1274.20	142.	48.8	8.92E+01
2597.20	1298.78	703.	11.4	4.47E+02
2807.02	1403.84	425.	17.1	2.83E+02
2914.03	1457.43	313.	15.0	2.13E+02
3057.22	1529.16	294.	13.3	2.06E+02

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C-17

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 09:35:02

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0025
Measured by: slv

Sample Description: C-17 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.6900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 09:20:46

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

29-NOV-95 09:35:02

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.96	238.83	1.6	65.	121.	26.8	PB-212
2	590.75	295.18	1.9	37.	35.	62.3	PB-214
3	704.24	351.89	2.1	23.	73.	30.6	BI-211,PB-214
4	1021.64	510.53	2.7	11.	24.	60.7	TL-208,NA-22, ANN-RD
5	1165.93	582.67	1.1	9.	41.	38.4	TL-208
6	1218.37	608.89	2.1	7.	45.	34.0	XE-135,BI-214
7	1322.98	661.19	2.0	9.	43.	36.0	CS-137
8	2920.33	1460.59	2.4	0.	85.	21.3	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 29-NOV-95 09:35:02

ple: C-17 Soil
a collected on 29-NOV-95 at 09:20:46
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.19E+00		LLD<3.19E+00	
TH-234	LLD<2.54E+01		LLD<2.54E+01	
TH-230	LLD<2.55E+02		LLD<2.55E+02	
XE-133	LLD<1.57E+00		LLD<1.57E+00	
CD-109	LLD<1.22E+01		LLD<1.22E+01	
SCL-000	LLD<6.97E-01		LLD<6.97E-01	
CO-57	LLD<2.31E-01		LLD<2.31E-01	
PA-234	LLD<1.02E+00		LLD<1.02E+00	
CE-144	LLD<1.97E+00		LLD<1.97E+00	
TC-99M	LLD<2.42E-01		LLD<2.42E-01	
U-235	LLD<1.80E+00		LLD<1.80E+00	
CE-141	LLD<3.60E-01		LLD<3.60E-01	
KR-85M	LLD<2.60E-01		LLD<2.60E-01	
XE-131M	LLD<9.61E+00		LLD<9.61E+00	
[illegible]-139	LLD<1.04E+00		LLD<1.04E+00	
[illegible]-139	LLD<2.11E-01		LLD<2.11E-01	
[illegible]-226	LLD<5.39E+00		LLD<5.39E+00	
BA-141	LLD<5.65E-01		LLD<5.65E-01	
KR-89	LLD<2.50E+00		LLD<2.50E+00	
TE-132	LLD<2.18E-01		LLD<2.18E-01	
XE-133M	LLD<2.47E+00		LLD<2.47E+00	
TH-227	LLD<1.61E+00		LLD<1.61E+00	
PB-212	1.44E+00	+- 3.87E-01	1.44E+00	+- 3.87E-01
RA-224	LLD<5.84E+00		LLD<5.84E+00	
XE-135	LLD<2.49E-01		LLD<2.49E-01	
XE-138	LLD<8.80E-01		LLD<8.80E-01	
SE-75	LLD<3.67E-01		LLD<3.67E-01	
NP-239	LLD<1.53E+00		LLD<1.53E+00	
HG-203	LLD<3.08E-01		LLD<3.08E-01	
IR-192	LLD<2.52E-01		LLD<2.52E-01	
CR-51	LLD<2.31E+00		LLD<2.31E+00	
SCM-000	LLD<1.04E+00		LLD<1.04E+00	
BI-211	1.44E+01	+- 4.42E+00	1.44E+01	+- 4.42E+00
PB-214	1.69E+00	+- 5.16E-01	1.69E+00	+- 5.16E-01
BA-133	LLD<7.68E-01		LLD<7.68E-01	
I-131	LLD<2.75E-01		LLD<2.75E-01	
SN-113	LLD<3.83E-01		LLD<3.83E-01	
KR-87	LLD<5.77E-01		LLD<5.77E-01	
PB-211	LLD<1.08E+01		LLD<1.08E+01	
AU-198	LLD<2.52E-01		LLD<2.52E-01	
[illegible] 125	LLD<8.46E-01		LLD<8.46E-01	
[illegible]-212	LLD<8.87E+01		LLD<8.87E+01	
BE-7	LLD<2.32E+00		LLD<2.32E+00	
HF-181	LLD<2.95E-01		LLD<2.95E-01	
RU-103	LLD<2.89E-01		LLD<2.89E-01	
KR-85	LLD<7.90E+01		LLD<7.90E+01	

SR-85	LLD<3.45E-01		LLD<3.45E-01		
I-133	LLD<3.28E-01		LLD<3.28E-01		
BA-140	LLD<9.83E-01		LLD<9.83E-01		
[illegible]-91M	LLD<2.25E-01		LLD<2.25E-01		
[illegible]-207	LLD<2.75E-01		LLD<2.75E-01		
TL-208	1.57E+00	+- 6.06E-01	1.57E+00	+-	6.06E-01
SB-124	LLD<3.62E-01		LLD<3.62E-01		
CS-134	LLD<7.13E-01		LLD<7.13E-01		
BI-214	1.54E+00	+- 5.26E-01	1.54E+00	+-	5.26E-01
RU-106	LLD<2.99E+00		LLD<2.99E+00		
LA-142	LLD<6.14E-01		LLD<6.14E-01		
AG-110M	LLD<6.81E-01		LLD<6.81E-01		
NB-97	LLD<6.12E-01		LLD<6.12E-01		
CS-137	6.92E-01	+- 2.50E-01	6.92E-01	+-	2.50E-01
I-132	LLD<3.57E-01		LLD<3.57E-01		
W-187	LLD<1.08E+00		LLD<1.08E+00		
ZR-97	LLD<3.34E-01		LLD<3.34E-01		
ZR-95	LLD<7.19E-01		LLD<7.19E-01		
NB-95	LLD<3.81E-01		LLD<3.81E-01		
TL-210	LLD<2.25E+00		LLD<2.25E+00		
CO-58	LLD<3.09E-01		LLD<3.09E-01		
CS-136	LLD<2.97E-01		LLD<2.97E-01		
MN-54	LLD<4.50E-01		LLD<4.50E-01		
CO-56	LLD<4.28E-01		LLD<4.28E-01		
I-134	LLD<4.44E-01		LLD<4.44E-01		
TL-207	LLD<3.32E+02		LLD<3.32E+02		
Y-88	LLD<4.94E-01		LLD<4.94E-01		
AC-228	LLD<1.72E+00		LLD<1.72E+00		
EU-152	LLD<3.74E+00		LLD<3.74E+00		
[illegible]-234M	LLD<4.17E+00		LLD<4.17E+00		
SR-91	LLD<1.28E+00		LLD<1.28E+00		
RB-89	LLD<9.85E-01		LLD<9.85E-01		
FE-59	LLD<6.24E-01		LLD<6.24E-01		
ZN-65	LLD<1.03E+00		LLD<1.03E+00		
SC-46	LLD<4.87E-01		LLD<4.87E-01		
TA-182	LLD<1.31E+00		LLD<1.31E+00		
I-135	LLD<1.72E+00		LLD<1.72E+00		
CL-39	LLD<9.93E-01		LLD<9.93E-01		
NA-22	LLD<3.92E-01		LLD<3.92E-01		
AR-41	LLD<3.63E-01		LLD<3.63E-01		
CO-60	LLD<2.90E-01		LLD<2.90E-01		
NA-24	LLD<3.87E-01		LLD<3.87E-01		
SR-92	LLD<4.42E-01		LLD<4.42E-01		
SCH-000	LLD<1.52E+00		LLD<1.52E+00		
CS-138	LLD<5.22E-01		LLD<5.22E-01		
K-40	2.19E+01	+- 4.73E+00	2.19E+01	+-	4.73E+00
KR-88	LLD<3.86E+00		LLD<3.86E+00		
TL-209	LLD<7.93E-01		LLD<7.93E-01		
LA-140	LLD<4.43E-01		LLD<4.43E-01		
AL-26	LLD<2.23E-01		LLD<2.23E-01		
MN-56	LLD<8.37E-01		LLD<8.37E-01		
RB-88	LLD<4.64E-01		LLD<4.64E-01		
	---		---		
Total	4.33E+01	+- 6.56E+00	4.33E+01	+-	6.56E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0025

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
590.75	295.18	35.	62.3	5.58E+00

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C-37

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            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                    *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 09:49:45

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
nalysis of Spectrum saved in Disk File SD0046
Measured by: dlv

Sample Description: C-37 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.2800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 09:36:04

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 09:49:45

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.90	238.80	1.4	66.	115.	28.5	PB-212
2	601.26	300.43	0.9	15.	13.	97.7	PB-212
3	677.54	338.55	1.1	16.	20.	78.4	AC-228
4	704.22	351.88	1.2	16.	48.	37.8	BI-211,PB-214
5C	1020.68	510.05	1.8	11.	28.	54.2	TL-208,NA-22, ANN-RD
6	1166.23	582.82	1.8	11.	32.	48.6	TL-208
7	1218.94	609.17	1.8	10.	37.	41.7	BI-214
8	1822.35	910.96	2.4	5.	14.	72.0	AC-228
9	2920.66	1460.76	1.0	6.	65.	27.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 29-NOV-95 09:49:45

mple: C-37 Soil
a collected on 29-NOV-95 at 09:36:04
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.83E+00		LLD<3.83E+00	
TH-234	LLD<2.96E+01		LLD<2.96E+01	
TH-230	LLD<2.77E+02		LLD<2.77E+02	
XE-133	LLD<1.80E+00		LLD<1.80E+00	
CD-109	LLD<1.41E+01		LLD<1.41E+01	
SCL-000	LLD<8.92E-01		LLD<8.92E-01	
CO-57	LLD<2.96E-01		LLD<2.96E-01	
PA-234	LLD<1.05E+00		LLD<1.05E+00	
CE-144	LLD<2.33E+00		LLD<2.33E+00	
TC-99M	LLD<2.40E-01		LLD<2.40E-01	
U-235	LLD<2.04E+00		LLD<2.04E+00	
CE-141	LLD<4.52E-01		LLD<4.52E-01	
KR-85M	LLD<2.63E-01		LLD<2.63E-01	
XE-131M	LLD<9.23E+00		LLD<9.23E+00	
BA-139	LLD<1.18E+00		LLD<1.18E+00	
[illegible]-139	LLD<2.40E-01		LLD<2.40E-01	
[illegible]-226	LLD<5.90E+00		LLD<5.90E+00	
BA-141	LLD<6.37E-01		LLD<6.37E-01	
KR-89	LLD<2.76E+00		LLD<2.76E+00	
TE-132	LLD<2.98E-01		LLD<2.98E-01	
XE-133M	LLD<2.88E+00		LLD<2.88E+00	
TH-227	LLD<2.32E+00		LLD<2.32E+00	
PB-212	1.72E+00	+- 4.95E-01	1.72E+00	+- 4.95E-01
RA-224	LLD<6.66E+00		LLD<6.66E+00	
XE-135	LLD<2.74E-01		LLD<2.74E-01	
XE-138	LLD<8.83E-01		LLD<8.83E-01	
SE-75	LLD<4.48E-01		LLD<4.48E-01	
NP-239	LLD<1.74E+00		LLD<1.74E+00	
HG-203	LLD<3.16E-01		LLD<3.16E-01	
IR-192	LLD<3.13E-01		LLD<3.13E-01	
CR-51	LLD<2.86E+00		LLD<2.86E+00	
SCM-000	LLD<1.13E+00		LLD<1.13E+00	
BI-211	1.22E+01	+- 4.63E+00	1.22E+01	+- 4.63E+00
PB-214	1.43E+00	+- 5.40E-01	1.43E+00	+- 5.40E-01
BA-133	LLD<8.40E-01		LLD<8.40E-01	
I-131	LLD<3.45E-01		LLD<3.45E-01	
SN-113	LLD<4.24E-01		LLD<4.24E-01	
KR-87	LLD<5.53E-01		LLD<5.53E-01	
PB-211	LLD<1.02E+01		LLD<1.02E+01	
AU-198	LLD<2.62E-01		LLD<2.62E-01	
[illegible]-125	LLD<8.96E-01		LLD<8.96E-01	
[illegible]-212	LLD<8.12E+01		LLD<8.12E+01	
[illegible]-7	LLD<2.73E+00		LLD<2.73E+00	
HF-181	LLD<3.74E-01		LLD<3.74E-01	
RU-103	LLD<3.33E-01		LLD<3.33E-01	
KR-85	LLD<1.17E+02		LLD<1.17E+02	

SR-85	LLD<5.12E-01	LLD<5.12E-01
I-133	LLD<3.83E-01	LLD<3.83E-01
BA-140	LLD<1.14E+00	LLD<1.14E+00
Y-91M	LLD<3.34E-01	LLD<3.34E-01
[illegible]-207	LLD<3.44E-01	LLD<3.44E-01
TL-208	1.53E+00 +- 7.44E-01	1.53E+00 +- 7.44E-01
SB-124	LLD<3.63E-01	LLD<3.63E-01
CS-134	LLD<8.11E-01	LLD<8.11E-01
BI-214	1.61E+00 +- 6.74E-01	1.61E+00 +- 6.74E-01
RU-106	LLD<2.72E+00	LLD<2.72E+00
LA-142	LLD<6.24E-01	LLD<6.24E-01
AG-110M	LLD<5.43E-01	LLD<5.43E-01
NB-97	LLD<5.17E-01	LLD<5.17E-01
CS-137	LLD<5.05E-01	LLD<5.05E-01
I-132	LLD<5.00E-01	LLD<5.00E-01
W-187	LLD<1.08E+00	LLD<1.08E+00
ZR-97	LLD<3.50E-01	LLD<3.50E-01
ZR-95	LLD<5.33E-01	LLD<5.33E-01
NB-95	LLD<4.06E-01	LLD<4.06E-01
TL-210	LLD<2.04E+00	LLD<2.04E+00
CO-58	LLD<3.16E-01	LLD<3.16E-01
CS-136	LLD<3.68E-01	LLD<3.68E-01
MN-54	LLD<4.91E-01	LLD<4.91E-01
CO-56	LLD<4.05E-01	LLD<4.05E-01
I-134	LLD<4.33E-01	LLD<4.33E-01
TL-207	LLD<3.16E+02	LLD<3.16E+02
Y-88	LLD<4.88E-01	LLD<4.88E-01
AC-228	1.26E+00 +- 9.09E-01	1.26E+00 +- 9.09E-01
EU-152	LLD<4.63E+00	LLD<4.63E+00
[illegible]-234M	LLD<4.82E+00	LLD<4.82E+00
[illegible]-91	LLD<1.54E+00	LLD<1.54E+00
RB-89	LLD<9.58E-01	LLD<9.58E-01
FE-59	LLD<8.54E-01	LLD<8.54E-01
ZN-65	LLD<1.57E+00	LLD<1.57E+00
SC-46	LLD<6.90E-01	LLD<6.90E-01
TA-182	LLD<1.94E+00	LLD<1.94E+00
I-135	LLD<1.86E+00	LLD<1.86E+00
CL-39	LLD<1.08E+00	LLD<1.08E+00
NA-22	LLD<5.48E-01	LLD<5.48E-01
AR-41	LLD<4.06E-01	LLD<4.06E-01
CO-60	LLD<4.51E-01	LLD<4.51E-01
NA-24	LLD<5.27E-01	LLD<5.27E-01
SR-92	LLD<4.01E-01	LLD<4.01E-01
SCH-000	LLD<1.71E+00	LLD<1.71E+00
CS-138	LLD<7.13E-01	LLD<7.13E-01
K-40	2.11E+01 +- 5.94E+00	2.11E+01 +- 5.94E+00
KR-88	LLD<3.83E+00	LLD<3.83E+00
TL-209	LLD<1.37E+00	LLD<1.37E+00
LA-140	LLD<2.81E-01	LLD<2.81E-01
AL-26	LLD<4.44E-01	LLD<4.44E-01
MN-56	LLD<1.57E+00	LLD<1.57E+00
RB-88	LLD<2.46E+00	LLD<2.46E+00
	---	---
Total	4.09E+01 +- 7.69E+00	4.09E+01 +- 7.69E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0046

C-4

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 10:12:27

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0026
Measured by: dlv

Sample Description: C-4 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 9.6700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 09:51:41

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

29-NOV-95 10:12:27

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.90	238.80	1.1	62.	89.	34.8	PB-212
2$	1024.75	512.08	1.0	3.	13.	63.6	
3	1166.69	583.05	2.1	11.	33.	47.5	TL-208
4	1219.25	609.33	1.6	18.	20.	79.7	BI-214
5	1323.48	661.44	1.2	12.	13.	100.6	CS-137
6	2920.22	1460.53	1.6	11.	78.	26.4	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 29-NOV-95 10:12:27

ample: C-4 Soil
ta collected on 29-NOV-95 at 09:51:41
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.11E+00		LLD<2.11E+00	
TH-234	LLD<1.68E+01		LLD<1.68E+01	
TH-230	LLD<1.50E+02		LLD<1.50E+02	
XE-133	LLD<1.09E+00		LLD<1.09E+00	
CD-109	LLD<6.78E+00		LLD<6.78E+00	
SCL-000	LLD<5.19E-01		LLD<5.19E-01	
CO-57	LLD<1.72E-01		LLD<1.72E-01	
PA-234	LLD<6.69E-01		LLD<6.69E-01	
CE-144	LLD<1.35E+00		LLD<1.35E+00	
TC-99M	LLD<1.49E-01		LLD<1.49E-01	
U-235	LLD<1.25E+00		LLD<1.25E+00	
CE-141	LLD<2.69E-01		LLD<2.69E-01	
KR-85M	LLD<1.66E-01		LLD<1.66E-01	
XE-131M	LLD<5.90E+00		LLD<5.90E+00	
BA-139	LLD<5.89E-01		LLD<5.89E-01	
-139	LLD<1.19E-01		LLD<1.19E-01	
A-226	LLD<3.85E+00		LLD<3.85E+00	
BA-141	LLD<2.68E-01		LLD<2.68E-01	
KR-89	LLD<1.81E+00		LLD<1.81E+00	
TE-132	LLD<1.43E-01		LLD<1.43E-01	
XE-133M	LLD<1.50E+00		LLD<1.50E+00	
TH-227	LLD<1.12E+00		LLD<1.12E+00	
PB-212	7.31E-01	+- 2.55E-01	7.31E-01	+- 2.55E-01
RA-224	LLD<3.52E+00		LLD<3.52E+00	
XE-135	LLD<1.34E-01		LLD<1.34E-01	
XE-138	LLD<5.50E-01		LLD<5.50E-01	
SE-75	LLD<2.24E-01		LLD<2.24E-01	
NP-239	LLD<1.16E+00		LLD<1.16E+00	
HG-203	LLD<1.89E-01		LLD<1.89E-01	
IR-192	LLD<1.75E-01		LLD<1.75E-01	
CR-51	LLD<1.28E+00		LLD<1.28E+00	
SCM-000	LLD<6.96E-01		LLD<6.96E-01	
BI-211	LLD<5.23E+00		LLD<5.23E+00	
PB-214	LLD<6.00E-01		LLD<6.00E-01	
BA-133	LLD<4.46E-01		LLD<4.46E-01	
I-131	LLD<2.01E-01		LLD<2.01E-01	
SN-113	LLD<2.58E-01		LLD<2.58E-01	
KR-87	LLD<3.06E-01		LLD<3.06E-01	
PB-211	LLD<6.10E+00		LLD<6.10E+00	
AU-198	LLD<1.46E-01		LLD<1.46E-01	
B-125	LLD<3.99E-01		LLD<3.99E-01	
-212	LLD<4.55E+01		LLD<4.55E+01	
BE-7	LLD<1.79E+00		LLD<1.79E+00	
HF-181	LLD<2.05E-01		LLD<2.05E-01	
RU-103	LLD<1.85E-01		LLD<1.85E-01	
KR-85	LLD<5.44E+01		LLD<5.44E+01	

SR-85	LLD<2.38E-01		LLD<2.38E-01		
I-133	LLD<1.80E-01		LLD<1.80E-01		
BA-140	LLD<6.12E-01		LLD<6.12E-01		
Y-91M	LLD<1.48E-01		LLD<1.48E-01		
-207	LLD<1.77E-01		LLD<1.77E-01		
-208	LLD<7.52E-01		LLD<7.52E-01		
SB-124	LLD<2.06E-01		LLD<2.06E-01		
CS-134	LLD<3.60E-01		LLD<3.60E-01		
BI-214	4.72E-01	+- 3.77E-01	4.72E-01	+-	3.77E-01
RU-106	LLD<1.61E+00		LLD<1.61E+00		
LA-142	LLD<4.76E-01		LLD<4.76E-01		
AG-110M	LLD<3.07E-01		LLD<3.07E-01		
NB-97	LLD<2.98E-01		LLD<2.98E-01		
CS-137	1.40E-01	+- 1.41E-01	1.40E-01	+-	1.41E-01
I-132	LLD<2.66E-01		LLD<2.66E-01		
W-187	LLD<7.89E-01		LLD<7.89E-01		
ZR-97	LLD<2.12E-01		LLD<2.12E-01		
ZR-95	LLD<4.29E-01		LLD<4.29E-01		
NB-95	LLD<2.44E-01		LLD<2.44E-01		
TL-210	LLD<1.16E+00		LLD<1.16E+00		
CO-58	LLD<2.66E-01		LLD<2.66E-01		
CS-136	LLD<2.20E-01		LLD<2.20E-01		
MN-54	LLD<2.40E-01		LLD<2.40E-01		
CO-56	LLD<2.26E-01		LLD<2.26E-01		
I-134	LLD<2.53E-01		LLD<2.53E-01		
TL-207	LLD<2.07E+02		LLD<2.07E+02		
Y-88	LLD<3.11E-01		LLD<3.11E-01		
AC-228	LLD<1.10E+00		LLD<1.10E+00		
EU-152	LLD<2.79E+00		LLD<2.79E+00		
-234M	LLD<2.79E+00		LLD<2.79E+00		
-91	LLD<8.34E-01		LLD<8.34E-01		
RB-89	LLD<6.11E-01		LLD<6.11E-01		
FE-59	LLD<5.84E-01		LLD<5.84E-01		
ZN-65	LLD<7.84E-01		LLD<7.84E-01		
SC-46	LLD<3.51E-01		LLD<3.51E-01		
TA-182	LLD<1.11E+00		LLD<1.11E+00		
I-135	LLD<1.15E+00		LLD<1.15E+00		
CL-39	LLD<7.36E-01		LLD<7.36E-01		
NA-22	LLD<3.69E-01		LLD<3.69E-01		
AR-41	LLD<3.14E-01		LLD<3.14E-01		
CO-60	LLD<2.12E-01		LLD<2.12E-01		
NA-24	LLD<3.20E-01		LLD<3.20E-01		
SR-92	LLD<1.76E-01		LLD<1.76E-01		
SCH-000	LLD<9.36E-01		LLD<9.36E-01		
CS-138	LLD<4.02E-01		LLD<4.02E-01		
K-40	1.40E+01	+- 3.73E+00	1.40E+01	+-	3.73E+00
KR-88	LLD<4.95E-01		LLD<4.95E-01		
TL-209	LLD<1.77E-01		LLD<1.77E-01		
LA-140	LLD<5.64E-02		LLD<5.64E-02		
AL-26	LLD<1.26E-01		LLD<1.26E-01		
MN-56	LLD<8.60E-01		LLD<8.60E-01		
RB-88	LLD<2.37E+00		LLD<2.37E+00		
	---		---		
Total	1.53E+01	+- 3.76E+00	1.53E+01	+-	3.76E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0026

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1024.75	512.08	13.	63.6	3.63E+00
1166.69	583.05	33.	47.5	1.02E+01

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C-37 (1hr count)

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 11:54:52

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0046
Measured by: dlv

Sample Description: C-37 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.2800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 10:52:21

COLLECT Live Time: 3600. seconds
Real Time: 3607. seconds
Dead Time: 0.19 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 11:54:52

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	150.66	75.33	1.2	320.	167.	23.4	PB-214
2C	154.88	77.44	1.2	304.	258.	21.6	PB-214
3C	175.31	87.65	1.5	373.	119.	39.0	PB-214,CD-109
4C	186.82	93.39	1.5	337.	173.	35.6	TH-234
5	372.62	186.20	1.7	336.	147.	42.9	U-235,RA-226
6	478.04	238.87	1.1	409.	625.	12.9	PB-212
7$	591.05	295.33	1.6	129.	195.	32.2	PB-214
8	677.35	338.46	1.6	102.	118.	30.9	AC-228
9	704.34	351.94	1.6	159.	280.	18.5	BI-211,PB-214
10	1021.86	510.64	2.0	89.	70.	49.1	TL-208,NA-22, ANN-RD
11	1166.74	583.07	0.8	75.	159.	23.2	TL-208
12	1218.76	609.08	1.7	91.	200.	20.8	BI-214
13	1323.19	661.30	2.1	68.	70.	45.1	CS-137
14	1454.60	727.01	1.9	35.	56.	43.2	BI-212
15	1821.91	910.74	2.0	52.	98.	30.6	AC-228
16	1937.75	968.70	2.2	47.	54.	49.8	AC-228,RU-105
17$	2920.67	1460.76	2.3	13.	423.	10.7	K-40
18N	3041.81	1521.44	3.9	4.	10.	96.5	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

4 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 29-NOV-95 11:54:52

Sample: C-37 Soil
Data collected on 29-NOV-95 at 10:52:21
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<1.59E+00		LLD<1.59E+00	
TH-234	LLD<1.20E+01		LLD<1.20E+01	
TH-230	LLD<1.10E+02		LLD<1.10E+02	
XE-133	LLD<7.78E-01		LLD<7.78E-01	
CD-109	4.60E+00	+- 1.80E+00	4.60E+00	+- 1.80E+00
SCL-000	LLD<3.43E-01		LLD<3.43E-01	
CO-57	LLD<1.14E-01		LLD<1.14E-01	
PA-234	LLD<4.57E-01		LLD<4.57E-01	
CE-144	LLD<8.25E-01		LLD<8.25E-01	
TC-99M	LLD<1.01E-01		LLD<1.01E-01	
U-235	LLD<7.57E-01		LLD<7.57E-01	
CE-141	LLD<1.76E-01		LLD<1.76E-01	
KR-85M	LLD<1.18E-01		LLD<1.18E-01	
XE-131M	LLD<3.96E+00		LLD<3.96E+00	
BA-139	LLD<5.60E-01		LLD<5.60E-01	
[illegible]E-139	LLD<9.32E-02		LLD<9.32E-02	
[illegible]A-226	3.61E+00	+- 1.55E+00	3.61E+00	+- 1.55E+00
BA-141	LLD<5.20E-01		LLD<5.20E-01	
KR-89	LLD<5.84E+00		LLD<5.84E+00	
TE-132	LLD<1.03E-01		LLD<1.03E-01	
XE-133M	LLD<1.22E+00		LLD<1.22E+00	
TH-227	LLD<8.59E-01		LLD<8.59E-01	
PB-212	1.61E+00	+- 2.15E-01	1.61E+00	+- 2.15E-01
RA-224	LLD<2.89E+00		LLD<2.89E+00	
XE-135	LLD<1.05E-01		LLD<1.05E-01	
XE-138	LLD<9.16E-01		LLD<9.16E-01	
SE-75	LLD<1.70E-01		LLD<1.70E-01	
NP-239	LLD<7.01E-01		LLD<7.01E-01	
HG-203	LLD<1.23E-01		LLD<1.23E-01	
IR-192	LLD<1.18E-01		LLD<1.18E-01	
CR-51	LLD<1.06E+00		LLD<1.06E+00	
SCM-000	LLD<5.16E-01		LLD<5.16E-01	
BI-211	6.78E+01	+- 1.26E+01	6.78E+01	+- 1.26E+01
PB-214	2.38E+00	+- 4.42E-01	2.38E+00	+- 4.42E-01
BA-133	LLD<3.26E-01		LLD<3.26E-01	
I-131	LLD<1.28E-01		LLD<1.28E-01	
SN-113	LLD<1.57E-01		LLD<1.57E-01	
KR-87	LLD<3.16E-01		LLD<3.16E-01	
PB-211	LLD<6.84E+00		LLD<6.84E+00	
AU-198	LLD<1.09E-01		LLD<1.09E-01	
SB-125	LLD<3.21E-01		LLD<3.21E-01	
[illegible]I-212	LLD<4.65E+01		LLD<4.65E+01	
BE-7	LLD<1.18E+00		LLD<1.18E+00	
HF-181	LLD<1.40E-01		LLD<1.40E-01	
RU-103	LLD<1.22E-01		LLD<1.22E-01	
KR-85	LLD<3.46E+01		LLD<3.46E+01	

SR-85	LLD<1.51E-01		LLD<1.51E-01		
I-133	LLD<1.18E-01		LLD<1.18E-01		
BA-140	LLD<4.44E-01		LLD<4.44E-01		
Y-91M	LLD<1.98E-01		LLD<1.98E-01		
-207	LLD<1.34E-01		LLD<1.34E-01		
PB-208	6.91E+00	+- 1.61E+00	6.91E+00	+-	1.61E+00
SB-124	LLD<1.74E-01		LLD<1.74E-01		
CS-134	LLD<3.09E-01		LLD<3.09E-01		
BI-214	2.89E+00	+- 6.05E-01	2.89E+00	+-	6.05E-01
RU-106	LLD<1.20E+00		LLD<1.20E+00		
LA-142	LLD<3.06E-01		LLD<3.06E-01		
AG-110M	LLD<2.15E-01		LLD<2.15E-01		
NB-97	LLD<2.55E-01		LLD<2.55E-01		
CS-137	2.36E-01	+- 1.06E-01	2.36E-01	+-	1.06E-01
I-132	LLD<1.90E-01		LLD<1.90E-01		
W-187	LLD<4.84E-01		LLD<4.84E-01		
ZR-97	LLD<1.45E-01		LLD<1.45E-01		
ZR-95	LLD<2.48E-01		LLD<2.48E-01		
NB-95	LLD<1.40E-01		LLD<1.40E-01		
TL-210	LLD<5.52E+00		LLD<5.52E+00		
CO-58	LLD<1.29E-01		LLD<1.29E-01		
CS-136	LLD<1.36E-01		LLD<1.36E-01		
MN-54	LLD<1.80E-01		LLD<1.80E-01		
CO-56	LLD<1.78E-01		LLD<1.78E-01		
I-134	LLD<2.55E-01		LLD<2.55E-01		
TL-207	LLD<5.85E+02		LLD<5.85E+02		
Y-88	LLD<1.94E-01		LLD<1.94E-01		
AC-228	1.54E+00	+- 4.74E-01	1.54E+00	+-	4.74E-01
EU-152	LLD<1.95E+00		LLD<1.95E+00		
PA-234M	LLD<9.41E+00		LLD<9.41E+00		
-91	LLD<5.35E-01		LLD<5.35E-01		
RB-89	LLD<8.99E-01		LLD<8.99E-01		
FE-59	LLD<3.92E-01		LLD<3.92E-01		
ZN-65	LLD<4.78E-01		LLD<4.78E-01		
SC-46	LLD<2.18E-01		LLD<2.18E-01		
TA-182	LLD<6.23E-01		LLD<6.23E-01		
I-135	LLD<6.71E-01		LLD<6.71E-01		
CL-39	LLD<4.99E-01		LLD<4.99E-01		
NA-22	LLD<1.73E-01		LLD<1.73E-01		
AR-41	LLD<2.00E-01		LLD<2.00E-01		
CO-60	LLD<1.90E-01		LLD<1.90E-01		
NA-24	LLD<1.36E-01		LLD<1.36E-01		
SR-92	LLD<2.60E-01		LLD<2.60E-01		
SCH-000	LLD<7.49E-01		LLD<7.49E-01		
CS-138	LLD<2.40E-01		LLD<2.40E-01		
K-40	2.31E+01	+- 2.62E+00	2.31E+01	+-	2.62E+00
KR-88	LLD<1.44E+00		LLD<1.44E+00		
TL-209	LLD<2.76E+00		LLD<2.76E+00		
LA-140	LLD<2.47E-01		LLD<2.47E-01		
AL-26	LLD<1.36E-01		LLD<1.36E-01		
MN-56	LLD<5.79E-01		LLD<5.79E-01		
RB-88	LLD<1.58E+00		LLD<1.58E+00		
	---		---		
Total	1.15E+02	+- 1.32E+01	1.15E+02	+-	1.32E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0046

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
150.66	75.33	167.	23.4	7.07E+00
154.88	77.44	258.	21.6	1.01E+01
186.82	93.39	173.	35.6	4.27E+00
591.05	295.33	195.	32.2	5.21E+00
677.35	338.46	118.	30.9	3.58E+00
1454.60	727.01	56.	43.2	3.65E+00
1937.75	968.70	54.	49.8	4.60E+00
3041.81	1521.44	10.	96.5	1.13E+00

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C-78 Soil/Asbestos (20 min count)

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 12:24:51

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0059
Measured by: dlv

Sample Description: C-78 Soil/Asbestos
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.6500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 11:57:17

COLLECT Live Time: 1200. seconds
Real Time: 1203. seconds
Dead Time: 0.25 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 12:24:51

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	127.30	63.66	1.4	306.	255.	24.5	TH-234
2	185.83	92.90	1.5	499.	1121.	8.6	TH-234,TH-234
3	288.07	143.96	1.2	236.	178.	31.0	U-235
4	372.05	185.92	1.5	180.	767.	9.0	U-235,RA-226
5	477.85	238.77	1.5	133.	105.	39.9	PB-212
6	704.24	351.89	1.4	60.	73.	40.9	BI-211,PB-214
7	1167.09	583.25	3.5	19.	38.	49.4	TL-208
8	1218.73	609.06	1.3	18.	64.	32.0	XE-135,BI-214
9	1322.60	661.00	2.3	28.	47.	45.3	CS-137
10	1532.61	766.03	3.1	17.	21.	76.1	NB-95,PA234M, I-134
11	1821.53	910.55	1.6	5.	17.	62.6	AC-228
12	2000.74	1000.22	1.3	13.	32.	51.3	PA234M
13	2920.10	1460.47	2.0	6.	92.	22.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 29-NOV-95 12:24:51

Sample: C-78 Soil/Asbestos
Data collected on 29-NOV-95 at 11:57:17
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<5.30E+00		LLD<5.30E+00	
TH-234	7.30E+01	+- 1.90E+01	7.30E+01	+- 1.90E+01
TH-230	LLD<3.41E+02		LLD<3.41E+02	
XE-133	LLD<1.76E+00		LLD<1.76E+00	
CD-109	LLD<2.05E+01		LLD<2.05E+01	
SCL-000	LLD<7.54E-01		LLD<7.54E-01	
CO-57	LLD<2.50E-01		LLD<2.50E-01	
PA-234	LLD<9.86E-01		LLD<9.86E-01	
CE-144	LLD<1.75E+00		LLD<1.75E+00	
TC-99M	LLD<2.86E-01		LLD<2.86E-01	
U-235	3.44E+00	+- 1.07E+00	3.44E+00	+- 1.07E+00
CE-141	LLD<3.73E-01		LLD<3.73E-01	
KR-85M	LLD<2.33E-01		LLD<2.33E-01	
XE-131M	LLD<8.27E+00		LLD<8.27E+00	
BA-139	LLD<1.03E+00		LLD<1.03E+00	
[illegible]-139	LLD<2.01E-01		LLD<2.01E-01	
[illegible]A-226	5.29E+01	+- 4.90E+00	5.29E+01	+- 4.90E+00
BA-141	LLD<1.22E+00		LLD<1.22E+00	
KR-89	LLD<3.67E+00		LLD<3.67E+00	
TE-132	LLD<1.82E-01		LLD<1.82E-01	
XE-133M	LLD<1.76E+00		LLD<1.76E+00	
TH-227	LLD<1.32E+00		LLD<1.32E+00	
PB-212	7.42E-01	+- 2.97E-01	7.42E-01	+- 2.97E-01
RA-224	LLD<4.60E+00		LLD<4.60E+00	
XE-135	LLD<1.99E-01		LLD<1.99E-01	
XE-138	LLD<8.80E-01		LLD<8.80E-01	
SE-75	LLD<3.30E-01		LLD<3.30E-01	
NP-239	LLD<9.43E-01		LLD<9.43E-01	
HG-203	LLD<2.30E-01		LLD<2.30E-01	
IR-192	LLD<2.08E-01		LLD<2.08E-01	
CR-51	LLD<1.80E+00		LLD<1.80E+00	
SCM-000	LLD<8.08E-01		LLD<8.08E-01	
BI-211	1.65E+01	+- 6.76E+00	1.65E+01	+- 6.76E+00
PB-214	1.13E+00	+- 4.62E-01	1.13E+00	+- 4.62E-01
BA-133	LLD<5.04E-01		LLD<5.04E-01	
I-131	LLD<2.33E-01		LLD<2.33E-01	
SN-113	LLD<2.88E-01		LLD<2.88E-01	
KR-87	LLD<4.26E-01		LLD<4.26E-01	
PB-211	LLD<8.02E+00		LLD<8.02E+00	
AU-198	LLD<1.90E-01		LLD<1.90E-01	
SB-125	LLD<6.01E-01		LLD<6.01E-01	
[illegible]-212	LLD<6.15E+01		LLD<6.15E+01	
BE-7	LLD<1.87E+00		LLD<1.87E+00	
HF-181	LLD<2.39E-01		LLD<2.39E-01	
RU-103	LLD<2.41E-01		LLD<2.41E-01	
KR-85	LLD<7.02E+01		LLD<7.02E+01	

SR-85	LLD<3.07E-01		LLD<3.07E-01		
I-133	LLD<2.17E-01		LLD<2.17E-01		
BA-140	LLD<7.62E-01		LLD<7.62E-01		
Y-91M	LLD<2.37E-01		LLD<2.37E-01		
-207	LLD<2.60E-01		LLD<2.60E-01		
TL-208	LLD<1.40E+00		LLD<1.40E+00		
SB-124	LLD<2.28E-01		LLD<2.28E-01		
CS-134	LLD<4.79E-01		LLD<4.79E-01		
BI-214	1.51E+00	+- 4.83E-01	1.51E+00	+-	4.83E-01
RU-106	LLD<2.07E+00		LLD<2.07E+00		
LA-142	LLD<4.57E-01		LLD<4.57E-01		
AG-110M	LLD<4.70E-01		LLD<4.70E-01		
NB-97	LLD<4.73E-01		LLD<4.73E-01		
CS-137	4.49E-01	+- 2.04E-01	4.49E-01	+-	2.04E-01
I-132	LLD<3.56E-01		LLD<3.56E-01		
W-187	LLD<7.39E-01		LLD<7.39E-01		
ZR-97	LLD<2.64E-01		LLD<2.64E-01		
ZR-95	LLD<4.15E-01		LLD<4.15E-01		
NB-95	2.12E-01	+- 1.61E-01	2.12E-01	+-	1.61E-01
TL-210	LLD<2.95E+00		LLD<2.95E+00		
CO-58	LLD<2.47E-01		LLD<2.47E-01		
CS-136	LLD<2.19E-01		LLD<2.19E-01		
MN-54	LLD<2.79E-01		LLD<2.79E-01		
CO-56	LLD<2.70E-01		LLD<2.70E-01		
I-134	LLD<3.15E-01		LLD<3.15E-01		
TL-207	LLD<4.16E+02		LLD<4.16E+02		
Y-88	LLD<3.53E-01		LLD<3.53E-01		
AC-228	7.28E-01	+- 4.56E-01	7.28E-01	+-	4.56E-01
EU-152	LLD<3.03E+00		LLD<3.03E+00		
-234M	8.05E+00	+- 4.14E+00	8.05E+00	+-	4.14E+00
-91	LLD<7.50E-01		LLD<7.50E-01		
RB-89	LLD<7.12E-01		LLD<7.12E-01		
FE-59	LLD<5.60E-01		LLD<5.60E-01		
ZN-65	LLD<7.45E-01		LLD<7.45E-01		
SC-46	LLD<3.84E-01		LLD<3.84E-01		
TA-182	LLD<9.37E-01		LLD<9.37E-01		
I-135	LLD<1.08E+00		LLD<1.08E+00		
CL-39	LLD<6.58E-01		LLD<6.58E-01		
NA-22	LLD<3.25E-01		LLD<3.25E-01		
AR-41	LLD<2.52E-01		LLD<2.52E-01		
CO-60	LLD<2.49E-01		LLD<2.49E-01		
NA-24	LLD<2.62E-01		LLD<2.62E-01		
SR-92	LLD<1.54E-01		LLD<1.54E-01		
SCH-000	LLD<1.15E+00		LLD<1.15E+00		
CS-138	LLD<4.25E-01		LLD<4.25E-01		
K-40	1.40E+01	+- 3.20E+00	1.40E+01	+-	3.20E+00
KR-88	LLD<2.01E+00		LLD<2.01E+00		
TL-209	LLD<9.96E-01		LLD<9.96E-01		
LA-140	LLD<3.42E-01		LLD<3.42E-01		
AL-26	LLD<3.17E-01		LLD<3.17E-01		
MN-56	LLD<6.39E-01		LLD<6.39E-01		
RB-88	LLD<2.18E+00		LLD<2.18E+00		
	---		---		
Total	1.73E+02	+- 2.15E+01	1.73E+02	+-	2.15E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0059

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1167.09	583.25	38.	49.4	5.92E+00

C-5

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 12:54:03

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0027
Measured by: slv

Sample Description: C-5 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.7000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 12:38:48

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hatrw 29-NOV-95 12:54:03

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	478.73	239.21	1.5	46.	94.	34.1	PB-212
2C	705.29	352.42	1.5	15.	64.	30.7	PB-214
3	1167.10	583.25	1.3	9.	29.	46.9	TL-208
4	1220.43	609.91	2.0	8.	20.	62.2	BI-214
5	1823.05	911.31	2.4	3.	31.	38.6	AC-228
6	2920.61	1460.73	2.5	0.	96.	20.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 29-NOV-95 12:54:03

mple: C-5 Soil
Data collected on 29-NOV-95 at 12:38:48
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.47E+00		LLD<2.47E+00	
TH-234	LLD<2.02E+01		LLD<2.02E+01	
TH-230	LLD<1.72E+02		LLD<1.72E+02	
XE-133	LLD<1.16E+00		LLD<1.16E+00	
CD-109	LLD<8.55E+00		LLD<8.55E+00	
SCL-000	LLD<5.14E-01		LLD<5.14E-01	
CO-57	LLD<1.71E-01		LLD<1.71E-01	
PA-234	LLD<7.37E-01		LLD<7.37E-01	
CE-144	LLD<1.44E+00		LLD<1.44E+00	
TC-99M	LLD<1.71E-01		LLD<1.71E-01	
U-235	LLD<1.28E+00		LLD<1.28E+00	
CE-141	LLD<2.74E-01		LLD<2.74E-01	
KR-85M	LLD<1.88E-01		LLD<1.88E-01	
XE-131M	LLD<7.06E+00		LLD<7.06E+00	
[illegible]-139	LLD<7.26E-01		LLD<7.26E-01	
[illegible]-139	LLD<1.47E-01		LLD<1.47E-01	
RA-226	LLD<4.05E+00		LLD<4.05E+00	
BA-141	LLD<4.03E-01		LLD<4.03E-01	
KR-89	LLD<1.92E+00		LLD<1.92E+00	
TE-132	LLD<1.90E-01		LLD<1.90E-01	
XE-133M	LLD<1.73E+00		LLD<1.73E+00	
TH-227	LLD<1.37E+00		LLD<1.37E+00	
PB-212	8.52E-01	+- 2.92E-01	8.52E-01	+- 2.92E-01
RA-224	LLD<4.66E+00		LLD<4.66E+00	
XE-135	LLD<1.82E-01		LLD<1.82E-01	
XE-138	LLD<7.22E-01		LLD<7.22E-01	
SE-75	LLD<2.70E-01		LLD<2.70E-01	
NP-239	LLD<1.14E+00		LLD<1.14E+00	
HG-203	LLD<2.33E-01		LLD<2.33E-01	
IR-192	LLD<2.05E-01		LLD<2.05E-01	
CR-51	LLD<1.64E+00		LLD<1.64E+00	
SCM-000	LLD<7.89E-01		LLD<7.89E-01	
BI-211	LLD<5.90E+00		LLD<5.90E+00	
PB-214	1.14E+00	+- 3.50E-01	1.14E+00	+- 3.50E-01
BA-133	LLD<4.81E-01		LLD<4.81E-01	
I-131	LLD<2.12E-01		LLD<2.12E-01	
SN-113	LLD<2.61E-01		LLD<2.61E-01	
KR-87	LLD<3.91E-01		LLD<3.91E-01	
PB-211	LLD<6.95E+00		LLD<6.95E+00	
AU-198	LLD<1.82E-01		LLD<1.82E-01	
[illegible]-125	LLD<6.02E-01		LLD<6.02E-01	
BI-212	LLD<5.46E+01		LLD<5.46E+01	
BE-7	LLD<1.69E+00		LLD<1.69E+00	
HF-181	LLD<2.47E-01		LLD<2.47E-01	
RU-103	LLD<2.39E-01		LLD<2.39E-01	
KR-85	LLD<5.38E+01		LLD<5.38E+01	

SR-85	LLD<2.35E-01		LLD<2.35E-01		
I-133	LLD<2.17E-01		LLD<2.17E-01		
BA-140	LLD<7.44E-01		LLD<7.44E-01		
91M	LLD<2.03E-01		LLD<2.03E-01		
-207	LLD<2.03E-01		LLD<2.03E-01		
TL-208	LLD<8.91E-01		LLD<8.91E-01		
SB-124	LLD<2.57E-01		LLD<2.57E-01		
CS-134	LLD<3.24E-01		LLD<3.24E-01		
BI-214	5.15E-01	+- 3.21E-01	5.15E-01	+-	3.21E-01
RU-106	LLD<2.01E+00		LLD<2.01E+00		
LA-142	LLD<5.02E-01		LLD<5.02E-01		
AG-110M	LLD<3.70E-01		LLD<3.70E-01		
NB-97	LLD<3.59E-01		LLD<3.59E-01		
CS-137	LLD<3.30E-01		LLD<3.30E-01		
I-132	LLD<2.62E-01		LLD<2.62E-01		
W-187	LLD<8.31E-01		LLD<8.31E-01		
ZR-97	LLD<2.56E-01		LLD<2.56E-01		
ZR-95	LLD<3.92E-01		LLD<3.92E-01		
NB-95	LLD<3.03E-01		LLD<3.03E-01		
TL-210	LLD<1.63E+00		LLD<1.63E+00		
CO-58	LLD<2.52E-01		LLD<2.52E-01		
CS-136	LLD<2.54E-01		LLD<2.54E-01		
MN-54	LLD<2.85E-01		LLD<2.85E-01		
CO-56	LLD<2.51E-01		LLD<2.51E-01		
I-134	LLD<2.98E-01		LLD<2.98E-01		
TL-207	LLD<2.14E+02		LLD<2.14E+02		
Y-88	LLD<3.02E-01		LLD<3.02E-01		
AC-228	1.69E+00	+- 6.54E-01	1.69E+00	+-	6.54E-01
EU-152	LLD<2.56E+00		LLD<2.56E+00		
-234M	LLD<3.26E+00		LLD<3.26E+00		
R-91	LLD<7.89E-01		LLD<7.89E-01		
RB-89	LLD<5.12E-01		LLD<5.12E-01		
FE-59	LLD<5.24E-01		LLD<5.24E-01		
ZN-65	LLD<5.70E-01		LLD<5.70E-01		
SC-46	LLD<3.04E-01		LLD<3.04E-01		
TA-182	LLD<8.68E-01		LLD<8.68E-01		
I-135	LLD<1.34E+00		LLD<1.34E+00		
CL-39	LLD<8.93E-01		LLD<8.93E-01		
NA-22	LLD<3.67E-01		LLD<3.67E-01		
AR-41	LLD<4.87E-01		LLD<4.87E-01		
CO-60	LLD<2.78E-01		LLD<2.78E-01		
NA-24	LLD<1.90E-01		LLD<1.90E-01		
SR-92	LLD<4.07E-01		LLD<4.07E-01		
SCH-000	LLD<1.04E+00		LLD<1.04E+00		
CS-138	LLD<4.17E-01		LLD<4.17E-01		
K-40	1.91E+01	+- 3.87E+00	1.91E+01	+-	3.87E+00
KR-88	LLD<2.45E+00		LLD<2.45E+00		
TL-209	LLD<1.96E-01		LLD<1.96E-01		
LA-140	LLD<4.82E-01		LLD<4.82E-01		
AL-26	LLD<2.16E-01		LLD<2.16E-01		
MN-56	LLD<8.12E-01		LLD<8.12E-01		
RB-88	LLD<9.70E-01		LLD<9.70E-01		
	---		---		
Total	2.33E+01	+- 3.97E+00	2.33E+01	+-	3.97E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0027

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
1167.10	583.25	29.	46.9	9.18E+00

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C-14 (20 min Count)

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 13:18:44

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0015
Measured by: dlv

Sample Description: C-14 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.1600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 12:54:58

COLLECT Live Time: 1200. seconds
Real Time: 1203. seconds
Dead Time: 0.25 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 13:18:44

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	127.80	63.91	1.2	274.	191.	28.5	TH-234
2	186.66	93.31	1.5	505.	831.	11.0	TH-234,TH-234
3	327.55	163.69	1.2	131.	85.	45.1	U-235,XE131M
4C	372.92	186.35	1.6	179.	530.	11.3	U-235,RA-226
5	478.48	239.09	1.9	138.	264.	18.6	PB-212
6	591.60	295.61	2.2	64.	93.	33.5	PB-214
7	704.51	352.03	1.8	38.	135.	21.8	BI-211,PB-214
8	1167.35	583.38	1.4	15.	78.	27.0	TL-208
9	1218.88	609.14	1.2	33.	87.	29.3	BI-214
10	1323.16	661.28	2.0	22.	71.	30.6	CS-137
11	2001.04	1000.37	2.7	10.	34.	44.3	PA234M
12	2240.40	1120.16	3.7	7.	27.	49.9	BI-214,SC-46
13	2920.93	1460.89	2.2	4.	132.	17.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 29-NOV-95 13:18:44

mple: C-14 Soil
ata collected on 29-NOV-95 at 12:54:58
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.71E+00		LLD<4.71E+00	
TH-234	5.03E+01	+- 1.50E+01	5.03E+01	+- 1.50E+01
TH-230	LLD<2.87E+02		LLD<2.87E+02	
XE-133	LLD<1.66E+00		LLD<1.66E+00	
CD-109	LLD<1.49E+01		LLD<1.49E+01	
SCL-000	LLD<7.34E-01		LLD<7.34E-01	
CO-57	LLD<2.44E-01		LLD<2.44E-01	
PA-234	LLD<8.91E-01		LLD<8.91E-01	
CE-144	LLD<1.77E+00		LLD<1.77E+00	
TC-99M	LLD<2.34E-01		LLD<2.34E-01	
U-235	LLD<1.59E+00		LLD<1.59E+00	
CE-141	LLD<3.36E-01		LLD<3.36E-01	
KR-85M	LLD<2.54E-01		LLD<2.54E-01	
XE-131M	8.40E+00	+- 3.79E+00	8.40E+00	+- 3.79E+00
BA-139	LLD<9.05E-01		LLD<9.05E-01	
-139	LLD<1.76E-01		LLD<1.76E-01	
RA-226	3.36E+01	+- 3.86E+00	3.36E+01	+- 3.86E+00
BA-141	LLD<9.46E-01		LLD<9.46E-01	
KR-89	LLD<3.56E+00		LLD<3.56E+00	
TE-132	LLD<1.97E-01		LLD<1.97E-01	
XE-133M	LLD<1.98E+00		LLD<1.98E+00	
TH-227	LLD<1.35E+00		LLD<1.35E+00	
PB-212	1.71E+00	+- 3.24E-01	1.71E+00	+- 3.24E-01
RA-224	LLD<4.77E+00		LLD<4.77E+00	
XE-135	LLD<1.97E-01		LLD<1.97E-01	
XE-138	LLD<8.07E-01		LLD<8.07E-01	
SE-75	LLD<2.95E-01		LLD<2.95E-01	
NP-239	LLD<1.27E+00		LLD<1.27E+00	
HG-203	LLD<2.02E-01		LLD<2.02E-01	
IR-192	LLD<2.04E-01		LLD<2.04E-01	
CR-51	LLD<1.60E+00		LLD<1.60E+00	
SCM-000	LLD<8.34E-01		LLD<8.34E-01	
BI-211	2.82E+01	+- 6.16E+00	2.82E+01	+- 6.16E+00
PB-214	1.93E+00	+- 4.21E-01	1.93E+00	+- 4.21E-01
BA-133	LLD<5.37E-01		LLD<5.37E-01	
I-131	LLD<1.96E-01		LLD<1.96E-01	
SN-113	LLD<3.07E-01		LLD<3.07E-01	
KR-87	LLD<4.53E-01		LLD<4.53E-01	
PB-211	LLD<8.45E+00		LLD<8.45E+00	
AU-198	LLD<2.19E-01		LLD<2.19E-01	
-125	LLD<6.50E-01		LLD<6.50E-01	
-212	LLD<5.64E+01		LLD<5.64E+01	
BE-7	LLD<2.08E+00		LLD<2.08E+00	
HF-181	LLD<2.45E-01		LLD<2.45E-01	
RU-103	LLD<1.90E-01		LLD<1.90E-01	
KR-85	LLD<5.48E+01		LLD<5.48E+01	

SR-85	LLD<2.39E-01		LLD<2.39E-01		
I-133	LLD<2.26E-01		LLD<2.26E-01		
BA-140	LLD<9.11E-01		LLD<9.11E-01		
91M	LLD<2.09E-01		LLD<2.09E-01		
BI-207	LLD<2.86E-01		LLD<2.86E-01		
TL-208	LLD<1.54E+00		LLD<1.54E+00		
SB-124	LLD<2.56E-01		LLD<2.56E-01		
CS-134	LLD<5.20E-01		LLD<5.20E-01		
BI-214	1.88E+00	+- 5.53E-01	1.88E+00	+-	5.53E-01
RU-106	LLD<2.06E+00		LLD<2.06E+00		
LA-142	LLD<4.40E-01		LLD<4.40E-01		
AG-110M	LLD<4.95E-01		LLD<4.95E-01		
NB-97	LLD<5.01E-01		LLD<5.01E-01		
CS-137	6.17E-01	+- 1.90E-01	6.17E-01	+-	1.90E-01
I-132	LLD<3.61E-01		LLD<3.61E-01		
W-187	LLD<7.51E-01		LLD<7.51E-01		
ZR-97	LLD<2.78E-01		LLD<2.78E-01		
ZR-95	LLD<4.88E-01		LLD<4.88E-01		
NB-95	LLD<3.19E-01		LLD<3.19E-01		
TL-210	LLD<3.64E+00		LLD<3.64E+00		
CO-58	LLD<2.70E-01		LLD<2.70E-01		
CS-136	LLD<2.01E-01		LLD<2.01E-01		
MN-54	LLD<2.72E-01		LLD<2.72E-01		
CO-56	LLD<2.73E-01		LLD<2.73E-01		
I-134	LLD<3.41E-01		LLD<3.41E-01		
TL-207	LLD<2.88E+02		LLD<2.88E+02		
Y-88	LLD<2.41E-01		LLD<2.41E-01		
AC-228	LLD<1.34E+00		LLD<1.34E+00		
EU-152	LLD<2.46E+00		LLD<2.46E+00		
PA-234M	LLD<7.35E+00		LLD<7.35E+00		
SR-91	LLD<8.68E-01		LLD<8.68E-01		
RB-89	LLD<7.64E-01		LLD<7.64E-01		
FE-59	LLD<5.60E-01		LLD<5.60E-01		
ZN-65	LLD<8.89E-01		LLD<8.89E-01		
SC-46	LLD<3.29E-01		LLD<3.29E-01		
TA-182	LLD<9.46E-01		LLD<9.46E-01		
I-135	LLD<1.04E+00		LLD<1.04E+00		
CL-39	LLD<7.29E-01		LLD<7.29E-01		
NA-22	LLD<2.90E-01		LLD<2.90E-01		
AR-41	LLD<2.96E-01		LLD<2.96E-01		
CO-60	LLD<3.32E-01		LLD<3.32E-01		
NA-24	LLD<2.17E-01		LLD<2.17E-01		
SR-92	LLD<3.82E-01		LLD<3.82E-01		
SCH-000	LLD<7.09E-01		LLD<7.09E-01		
CS-138	LLD<6.30E-01		LLD<6.30E-01		
K-40	1.85E+01	+- 3.38E+00	1.85E+01	+-	3.38E+00
KR-88	LLD<2.27E+00		LLD<2.27E+00		
TL-209	LLD<5.90E-01		LLD<5.90E-01		
LA-140	LLD<2.81E-01		LLD<2.81E-01		
AL-26	LLD<9.86E-02		LLD<9.86E-02		
MN-56	LLD<9.05E-01		LLD<9.05E-01		
RB-88	LLD<1.03E+00		LLD<1.03E+00		
	---		---		
Total	1.45E+02	+- 1.74E+01	1.45E+02	+-	1.74E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0015

PEAKS NOT USED IN ANALYSIS

ntroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.60	295.61	93.	33.5	7.48E+00
1167.35	583.38	78.	27.0	1.22E+01
2001.04	1000.37	34.	44.3	9.03E+00
2240.40	1120.16	27.	49.9	7.88E+00

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C-7

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 13:38:27

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0028
Measured by: dlv

Sample Description: C-7 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.1600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 13:19:39

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 13:38:27

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.42	239.06	1.0	99.	99.	37.6	PB-212
2	705.13	352.34	1.2	34.	56.	42.3	PB-214
3	926.45	462.95	0.8	9.	15.	80.0	CS-138
4C	1219.44	609.42	2.2	15.	49.	37.2	BI-214
5	1323.82	661.61	2.0	11.	29.	52.4	CS-137
6	1822.17	910.87	1.4	3.	30.	40.0	AC-228
7	2920.79	1460.82	0.8	0.	88.	20.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 29-NOV-95 13:38:27

Sample: C-7 Soil
Data collected on 29-NOV-95 at 13:19:39
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.83E+00		LLD<3.83E+00	
TH-234	LLD<2.40E+01		LLD<2.40E+01	
TH-230	LLD<2.38E+02		LLD<2.38E+02	
XE-133	LLD<1.68E+00		LLD<1.68E+00	
CD-109	LLD<9.97E+00		LLD<9.97E+00	
SCL-000	LLD<6.94E-01		LLD<6.94E-01	
CO-57	LLD<2.31E-01		LLD<2.31E-01	
PA-234	LLD<8.45E-01		LLD<8.45E-01	
CE-144	LLD<1.95E+00		LLD<1.95E+00	
TC-99M	LLD<2.11E-01		LLD<2.11E-01	
U-235	LLD<1.66E+00		LLD<1.66E+00	
CE-141	LLD<3.88E-01		LLD<3.88E-01	
KR-85M	LLD<2.02E-01		LLD<2.02E-01	
XE-131M	LLD<8.98E+00		LLD<8.98E+00	
BA-139	LLD<9.17E-01		LLD<9.17E-01	
[illegible]-139	LLD<1.86E-01		LLD<1.86E-01	
RA-226	LLD<5.47E+00		LLD<5.47E+00	
BA-141	LLD<5.01E-01		LLD<5.01E-01	
KR-89	LLD<2.14E+00		LLD<2.14E+00	
TE-132	LLD<2.10E-01		LLD<2.10E-01	
XE-133M	LLD<2.36E+00		LLD<2.36E+00	
TH-227	LLD<1.66E+00		LLD<1.66E+00	
PB-212	1.09E+00	+- 4.12E-01	1.09E+00	+- 4.12E-01
RA-224	LLD<6.14E+00		LLD<6.14E+00	
XE-135	LLD<2.18E-01		LLD<2.18E-01	
XE-138	LLD<7.94E-01		LLD<7.94E-01	
SE-75	LLD<3.26E-01		LLD<3.26E-01	
NP-239	LLD<1.46E+00		LLD<1.46E+00	
HG-203	LLD<2.78E-01		LLD<2.78E-01	
IR-192	LLD<2.61E-01		LLD<2.61E-01	
CR-51	LLD<2.20E+00		LLD<2.20E+00	
SCM-000	LLD<1.04E+00		LLD<1.04E+00	
BI-211	LLD<6.68E+00		LLD<6.68E+00	
PB-214	1.21E+00	+- 5.13E-01	1.21E+00	+- 5.13E-01
BA-133	LLD<6.30E-01		LLD<6.30E-01	
I-131	LLD<2.71E-01		LLD<2.71E-01	
SN-113	LLD<3.94E-01		LLD<3.94E-01	
KR-87	LLD<5.02E-01		LLD<5.02E-01	
PB-211	LLD<9.03E+00		LLD<9.03E+00	
AU-198	LLD<2.56E-01		LLD<2.56E-01	
[illegible]-125	LLD<7.34E-01		LLD<7.34E-01	
[illegible]-212	LLD<7.17E+01		LLD<7.17E+01	
BE-7	LLD<2.22E+00		LLD<2.22E+00	
HF-181	LLD<3.27E-01		LLD<3.27E-01	
RU-103	LLD<2.90E-01		LLD<2.90E-01	
KR-85	LLD<7.34E+01		LLD<7.34E+01	

SR-85	LLD<3.21E-01		LLD<3.21E-01		
I-133	LLD<3.49E-01		LLD<3.49E-01		
BA-140	LLD<9.39E-01		LLD<9.39E-01		
91M	LLD<2.34E-01		LLD<2.34E-01		
-207	LLD<2.67E-01		LLD<2.67E-01		
TL-208	LLD<1.18E+00		LLD<1.18E+00		
SB-124	LLD<3.36E-01		LLD<3.36E-01		
CS-134	LLD<6.26E-01		LLD<6.26E-01		
BI-214	1.55E+00	+- 5.79E-01	1.55E+00	+-	5.79E-01
RU-106	LLD<2.06E+00		LLD<2.06E+00		
LA-142	LLD<5.89E-01		LLD<5.89E-01		
AG-110M	LLD<5.81E-01		LLD<5.81E-01		
NB-97	LLD<5.53E-01		LLD<5.53E-01		
CS-137	4.28E-01	+- 2.24E-01	4.28E-01	+-	2.24E-01
I-132	LLD<4.07E-01		LLD<4.07E-01		
W-187	LLD<1.09E+00		LLD<1.09E+00		
ZR-97	LLD<3.95E-01		LLD<3.95E-01		
ZR-95	LLD<6.27E-01		LLD<6.27E-01		
NB-95	LLD<3.51E-01		LLD<3.51E-01		
TL-210	LLD<1.66E+00		LLD<1.66E+00		
CO-58	LLD<3.68E-01		LLD<3.68E-01		
CS-136	LLD<2.97E-01		LLD<2.97E-01		
MN-54	LLD<3.30E-01		LLD<3.30E-01		
CO-56	LLD<2.57E-01		LLD<2.57E-01		
I-134	LLD<2.61E-01		LLD<2.61E-01		
TL-207	LLD<3.06E+02		LLD<3.06E+02		
Y-88	LLD<4.33E-01		LLD<4.33E-01		
AC-228	1.98E+00	+- 7.92E-01	1.98E+00	+-	7.92E-01
-152	LLD<3.76E+00		LLD<3.76E+00		
-234M	LLD<3.59E+00		LLD<3.59E+00		
SR-91	LLD<1.08E+00		LLD<1.08E+00		
RB-89	LLD<6.13E-01		LLD<6.13E-01		
FE-59	LLD<6.85E-01		LLD<6.85E-01		
ZN-65	LLD<1.12E+00		LLD<1.12E+00		
SC-46	LLD<5.20E-01		LLD<5.20E-01		
TA-182	LLD<1.50E+00		LLD<1.50E+00		
I-135	LLD<1.37E+00		LLD<1.37E+00		
CL-39	LLD<6.03E-01		LLD<6.03E-01		
NA-22	LLD<3.76E-01		LLD<3.76E-01		
AR-41	LLD<3.85E-01		LLD<3.85E-01		
CO-60	LLD<4.30E-01		LLD<4.30E-01		
NA-24	LLD<3.62E-01		LLD<3.62E-01		
SR-92	LLD<4.56E-01		LLD<4.56E-01		
SCH-000	LLD<1.49E+00		LLD<1.49E+00		
CS-138	LLD<5.43E-01		LLD<5.43E-01		
K-40	2.12E+01	+- 4.50E+00	2.12E+01	+-	4.50E+00
KR-88	LLD<2.97E+00		LLD<2.97E+00		
TL-209	LLD<1.16E+00		LLD<1.16E+00		
LA-140	LLD<5.39E-01		LLD<5.39E-01		
AL-26	LLD<2.38E-01		LLD<2.38E-01		
MN-56	LLD<1.62E+00		LLD<1.62E+00		
RB-88	LLD<4.33E-01		LLD<4.33E-01		
	---		---		
Total	2.75E+01	+- 4.66E+00	2.75E+01	+-	4.66E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0028

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
926.45	462.95	15.	80.0	3.71E+00

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C-11

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 13:53:38

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0029
Measured by: dlv

Sample Description: C-11 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.1800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 13:39:18

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

29-NOV-95 13:53:38

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.26	238.98	1.1	76.	80.	41.2	PB-212
2	704.61	352.08	1.3	12.	44.	38.4	PB-214
3	1166.85	583.13	1.2	3.	32.	39.1	TL-208
4	1219.27	609.34	0.9	11.	26.	54.4	BI-214
5	2920.69	1460.77	1.7	0.	99.	19.7	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 29-NOV-95 13:53:38

mple: C-11 Soil
ata collected on 29-NOV-95 at 13:39:18
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.65E+00		LLD<2.65E+00	
TH-234	LLD<1.91E+01		LLD<1.91E+01	
TH-230	LLD<1.75E+02		LLD<1.75E+02	
XE-133	LLD<1.33E+00		LLD<1.33E+00	
CD-109	LLD<9.28E+00		LLD<9.28E+00	
SCL-000	LLD<6.30E-01		LLD<6.30E-01	
CO-57	LLD<2.09E-01		LLD<2.09E-01	
PA-234	LLD<8.08E-01		LLD<8.08E-01	
CE-144	LLD<1.65E+00		LLD<1.65E+00	
TC-99M	LLD<1.58E-01		LLD<1.58E-01	
U-235	LLD<1.39E+00		LLD<1.39E+00	
CE-141	LLD<3.03E-01		LLD<3.03E-01	
KR-85M	LLD<2.32E-01		LLD<2.32E-01	
XE-131M	LLD<7.00E+00		LLD<7.00E+00	
BA-139	LLD<8.80E-01		LLD<8.80E-01	
-139	LLD<1.79E-01		LLD<1.79E-01	
RA-226	LLD<5.24E+00		LLD<5.24E+00	
BA-141	LLD<4.34E-01		LLD<4.34E-01	
KR-89	LLD<2.44E+00		LLD<2.44E+00	
TE-132	LLD<2.00E-01		LLD<2.00E-01	
XE-133M	LLD<1.89E+00		LLD<1.89E+00	
TH-227	LLD<1.64E+00		LLD<1.64E+00	
PB-212	8.78E-01	+- 3.63E-01	8.78E-01	+- 3.63E-01
RA-224	LLD<5.86E+00		LLD<5.86E+00	
XE-135	LLD<2.09E-01		LLD<2.09E-01	
XE-138	LLD<6.76E-01		LLD<6.76E-01	
SE-75	LLD<3.36E-01		LLD<3.36E-01	
NP-239	LLD<1.30E+00		LLD<1.30E+00	
HG-203	LLD<2.67E-01		LLD<2.67E-01	
IR-192	LLD<1.87E-01		LLD<1.87E-01	
CR-51	LLD<1.39E+00		LLD<1.39E+00	
SCM-000	LLD<8.10E-01		LLD<8.10E-01	
BI-211	LLD<6.35E+00		LLD<6.35E+00	
PB-214	9.43E-01	+- 3.62E-01	9.43E-01	+- 3.62E-01
BA-133	LLD<5.52E-01		LLD<5.52E-01	
I-131	LLD<2.16E-01		LLD<2.16E-01	
SN-113	LLD<3.70E-01		LLD<3.70E-01	
KR-87	LLD<4.20E-01		LLD<4.20E-01	
PB-211	LLD<8.20E+00		LLD<8.20E+00	
AU-198	LLD<2.38E-01		LLD<2.38E-01	
-125	LLD<7.36E-01		LLD<7.36E-01	
-212	LLD<6.78E+01		LLD<6.78E+01	
BE-7	LLD<2.32E+00		LLD<2.32E+00	
HF-181	LLD<2.63E-01		LLD<2.63E-01	
RU-103	LLD<2.13E-01		LLD<2.13E-01	
KR-85	LLD<5.98E+01		LLD<5.98E+01	

SR-85	LLD<2.62E-01	LLD<2.62E-01
I-133	LLD<2.65E-01	LLD<2.65E-01
BA-140	LLD<8.67E-01	LLD<8.67E-01
91M	LLD<2.81E-01	LLD<2.81E-01
-207	LLD<1.98E-01	LLD<1.98E-01
TL-208	LLD<8.56E-01	LLD<8.56E-01
SB-124	LLD<3.14E-01	LLD<3.14E-01
CS-134	LLD<5.67E-01	LLD<5.67E-01
BI-214	8.22E-01 +- 4.48E-01	8.22E-01 +- 4.48E-01
RU-106	LLD<2.56E+00	LLD<2.56E+00
LA-142	LLD<5.11E-01	LLD<5.11E-01
AG-110M	LLD<5.39E-01	LLD<5.39E-01
NB-97	LLD<4.34E-01	LLD<4.34E-01
CS-137	LLD<3.93E-01	LLD<3.93E-01
I-132	LLD<3.65E-01	LLD<3.65E-01
W-187	LLD<8.85E-01	LLD<8.85E-01
ZR-97	LLD<2.45E-01	LLD<2.45E-01
ZR-95	LLD<4.75E-01	LLD<4.75E-01
NB-95	LLD<3.14E-01	LLD<3.14E-01
TL-210	LLD<1.66E+00	LLD<1.66E+00
CO-58	LLD<2.76E-01	LLD<2.76E-01
CS-136	LLD<3.19E-01	LLD<3.19E-01
MN-54	LLD<2.68E-01	LLD<2.68E-01
CO-56	LLD<4.08E-01	LLD<4.08E-01
I-134	LLD<4.41E-01	LLD<4.41E-01
TL-207	LLD<2.26E+02	LLD<2.26E+02
Y-88	LLD<3.39E-01	LLD<3.39E-01
AC-228	LLD<1.44E+00	LLD<1.44E+00
-152	LLD<2.81E+00	LLD<2.81E+00
234M	LLD<3.82E+00	LLD<3.82E+00
R-91	LLD<1.26E+00	LLD<1.26E+00
RB-89	LLD<7.54E-01	LLD<7.54E-01
FE-59	LLD<7.98E-01	LLD<7.98E-01
ZN-65	LLD<8.60E-01	LLD<8.60E-01
SC-46	LLD<4.20E-01	LLD<4.20E-01
TA-182	LLD<9.40E-01	LLD<9.40E-01
I-135	LLD<1.23E+00	LLD<1.23E+00
CL-39	LLD<6.56E-01	LLD<6.56E-01
NA-22	LLD<3.94E-01	LLD<3.94E-01
AR-41	LLD<3.62E-01	LLD<3.62E-01
CO-60	LLD<3.55E-01	LLD<3.55E-01
NA-24	LLD<1.82E-01	LLD<1.82E-01
SR-92	LLD<5.32E-01	LLD<5.32E-01
SCH-000	LLD<1.34E+00	LLD<1.34E+00
CS-138	LLD<4.46E-01	LLD<4.46E-01
K-40	2.38E+01 +- 4.77E+00	2.38E+01 +- 4.77E+00
KR-88	LLD<3.49E+00	LLD<3.49E+00
TL-209	LLD<1.01E+00	LLD<1.01E+00
LA-140	LLD<4.60E-01	LLD<4.60E-01
AL-26	LLD<3.09E-01	LLD<3.09E-01
MN-56	LLD<6.35E-01	LLD<6.35E-01
RB-88	LLD<9.57E-01	LLD<9.57E-01
	---	---
Total	2.65E+01 +- 4.82E+00	2.65E+01 +- 4.82E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0029

PEAKS NOT USED IN ANALYSIS

ıtroid ıannel	Energy keV	Net Area counts	Error %	Gammas/sec
1166.85	583.13	32.	39.1	1.02E+01

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C-8

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 14:29:24

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0030
Measured by: dlv

Sample Description: C-8 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 13:54:30

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 14:29:24

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	186.48	93.22	1.9	120.	150.	27.2	TH-234,TH-234
2	373.02	186.40	1.7	54.	118.	25.6	U-235,RA-226
3	478.87	239.28	1.5	94.	129.	29.5	PB-212
4	543.33	271.49	2.6	15.	34.	47.4	
5	577.85	288.74	1.7	16.	14.	101.1	BI-212,I-135
6	704.97	352.26	1.5	10.	74.	26.0	PB-214
7	1023.17	511.30	1.8	7.	16.	68.6	TL-208,NA-22, ANN-RD
8$	1166.75	583.07	1.9	16.	29.	55.9	TL-208
9	1219.21	609.31	1.6	10.	44.	37.0	BI-214
10	1324.11	661.76	1.4	13.	26.	58.5	CS-137
11$	1819.05	909.31	1.4	1.	10.	59.0	
12$	1823.78	911.68	1.4	1.	15.	51.8	AC-228
13	2921.10	1460.98	1.6	2.	66.	25.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 29-NOV-95 14:29:24

mple: C-8 Soil
ata collected on 29-NOV-95 at 13:54:30
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.17E+00		LLD<4.17E+00	
TH-234	LLD<2.73E+01		LLD<2.73E+01	
TH-230	LLD<2.90E+02		LLD<2.90E+02	
XE-133	LLD<1.65E+00		LLD<1.65E+00	
CD-109	LLD<1.51E+01		LLD<1.51E+01	
SCL-000	LLD<6.91E-01		LLD<6.91E-01	
CO-57	LLD<2.29E-01		LLD<2.29E-01	
PA-234	LLD<9.49E-01		LLD<9.49E-01	
CE-144	LLD<1.76E+00		LLD<1.76E+00	
TC-99M	LLD<2.39E-01		LLD<2.39E-01	
U-235	LLD<1.69E+00		LLD<1.69E+00	
CE-141	LLD<3.61E-01		LLD<3.61E-01	
KR-85M	LLD<2.47E-01		LLD<2.47E-01	
XE-131M	LLD<8.93E+00		LLD<8.93E+00	
BA-139	LLD<9.40E-01		LLD<9.40E-01	
-139	LLD<1.91E-01		LLD<1.91E-01	
RA-226	1.35E+01	+- 3.48E+00	1.35E+01	+- 3.48E+00
BA-141	LLD<6.97E-01		LLD<6.97E-01	
KR-89	LLD<2.51E+00		LLD<2.51E+00	
TE-132	LLD<1.99E-01		LLD<1.99E-01	
XE-133M	LLD<2.63E+00		LLD<2.63E+00	
TH-227	LLD<1.75E+00		LLD<1.75E+00	
PB-212	1.50E+00	+- 4.45E-01	1.50E+00	+- 4.45E-01
RA-224	LLD<7.10E+00		LLD<7.10E+00	
XE-135	LLD<2.73E-01		LLD<2.73E-01	
XE-138	LLD<9.50E-01		LLD<9.50E-01	
SE-75	LLD<3.38E-01		LLD<3.38E-01	
NP-239	LLD<1.59E+00		LLD<1.59E+00	
HG-203	LLD<2.54E-01		LLD<2.54E-01	
IR-192	LLD<2.58E-01		LLD<2.58E-01	
CR-51	LLD<2.38E+00		LLD<2.38E+00	
SCM-000	LLD<1.10E+00		LLD<1.10E+00	
BI-211	LLD<7.45E+00		LLD<7.45E+00	
PB-214	1.69E+00	+- 4.40E-01	1.69E+00	+- 4.40E-01
BA-133	LLD<6.91E-01		LLD<6.91E-01	
I-131	LLD<2.64E-01		LLD<2.64E-01	
SN-113	LLD<3.63E-01		LLD<3.63E-01	
KR-87	LLD<4.85E-01		LLD<4.85E-01	
PB-211	LLD<8.31E+00		LLD<8.31E+00	
AU-198	LLD<2.79E-01		LLD<2.79E-01	
-125	LLD<7.81E-01		LLD<7.81E-01	
-212	LLD<7.96E+01		LLD<7.96E+01	
BE-7	LLD<2.45E+00		LLD<2.45E+00	
HF-181	LLD<3.05E-01		LLD<3.05E-01	
RU-103	LLD<2.92E-01		LLD<2.92E-01	
KR-85	LLD<6.05E+01		LLD<6.05E+01	

SR-85	LLD<2.64E-01		LLD<2.64E-01		
I-133	LLD<3.09E-01		LLD<3.09E-01		
BA-140	LLD<9.56E-01		LLD<9.56E-01		
91M	LLD<2.53E-01		LLD<2.53E-01		
PB-207	LLD<3.13E-01		LLD<3.13E-01		
TL-208	1.11E+00	+- 6.19E-01	1.11E+00	+-	6.19E-01
SB-124	LLD<3.73E-01		LLD<3.73E-01		
CS-134	LLD<6.73E-01		LLD<6.73E-01		
BI-214	1.47E+00	+- 5.47E-01	1.47E+00	+-	5.47E-01
RU-106	LLD<2.29E+00		LLD<2.29E+00		
LA-142	LLD<5.65E-01		LLD<5.65E-01		
AG-110M	LLD<4.89E-01		LLD<4.89E-01		
NB-97	LLD<4.70E-01		LLD<4.70E-01		
CS-137	4.09E-01	+- 2.39E-01	4.09E-01	+-	2.39E-01
I-132	LLD<4.46E-01		LLD<4.46E-01		
W-187	LLD<8.98E-01		LLD<8.98E-01		
ZR-97	LLD<3.33E-01		LLD<3.33E-01		
ZR-95	LLD<4.41E-01		LLD<4.41E-01		
NB-95	LLD<4.08E-01		LLD<4.08E-01		
TL-210	LLD<2.26E+00		LLD<2.26E+00		
CO-58	LLD<2.62E-01		LLD<2.62E-01		
CS-136	LLD<2.70E-01		LLD<2.70E-01		
MN-54	LLD<2.97E-01		LLD<2.97E-01		
CO-56	LLD<3.75E-01		LLD<3.75E-01		
I-134	LLD<4.07E-01		LLD<4.07E-01		
TL-207	LLD<2.79E+02		LLD<2.79E+02		
Y-88	LLD<3.79E-01		LLD<3.79E-01		
AC-228	1.05E+00	+- 5.45E-01	1.05E+00	+-	5.45E-01
EU-152	LLD<3.69E+00		LLD<3.69E+00		
PA-234M	LLD<3.89E+00		LLD<3.89E+00		
SR-91	LLD<1.12E+00		LLD<1.12E+00		
RB-89	LLD<8.83E-01		LLD<8.83E-01		
FE-59	LLD<5.21E-01		LLD<5.21E-01		
ZN-65	LLD<1.18E+00		LLD<1.18E+00		
SC-46	LLD<4.28E-01		LLD<4.28E-01		
TA-182	LLD<1.31E+00		LLD<1.31E+00		
I-135	LLD<1.63E+00		LLD<1.63E+00		
CL-39	LLD<6.02E-01		LLD<6.02E-01		
NA-22	LLD<4.43E-01		LLD<4.43E-01		
AR-41	LLD<4.66E-01		LLD<4.66E-01		
CO-60	LLD<4.02E-01		LLD<4.02E-01		
NA-24	LLD<3.55E-01		LLD<3.55E-01		
SR-92	LLD<5.61E-01		LLD<5.61E-01		
SCH-000	LLD<2.15E+00		LLD<2.15E+00		
CS-138	LLD<2.87E-01		LLD<2.87E-01		
K-40	1.67E+01	+- 4.26E+00	1.67E+01	+-	4.26E+00
KR-88	LLD<1.56E+00		LLD<1.56E+00		
TL-209	LLD<1.00E+00		LLD<1.00E+00		
LA-140	LLD<4.27E-01		LLD<4.27E-01		
AL-26	LLD<3.62E-01		LLD<3.62E-01		
MN-56	LLD<8.22E-01		LLD<8.22E-01		
RB-88	LLD<2.01E+00		LLD<2.01E+00		
	---		---		
Total	3.75E+01	+- 5.63E+00	3.75E+01	+-	5.63E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0030

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
186.48	93.22	150.	27.2	2.23E+01
543.33	271.49	34.	47.4	5.05E+00
577.85	288.74	14.	101.1	2.16E+00
1819.05	909.31	10.	59.0	5.04E+00

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C-10

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 14:53:54

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0031
Measured by: dlv

Sample Description: C-10 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.9800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 14:40:08

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hotrw 29-NOV-95 14:53:54

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.82	239.26	1.4	70.	132.	26.4	PB-212
2	677.84	338.70	1.6	13.	49.	36.1	AC-228
3	705.39	352.47	2.2	39.	44.	53.9	PB-214
4	1167.33	583.37	2.7	6.	35.	39.6	TL-208
5	1219.48	609.44	1.5	16.	25.	62.8	BI-214
6	1324.69	662.05	1.1	3.	26.	44.5	CS-137
7	2920.98	1460.92	2.2	2.	74.	23.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 29-NOV-95 14:53:54

mple: C-10 Soil
ata collected on 29-NOV-95 at 14:40:08
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.74E+00		LLD<3.74E+00	
TH-234	LLD<2.85E+01		LLD<2.85E+01	
TH-230	LLD<2.52E+02		LLD<2.52E+02	
XE-133	LLD<1.61E+00		LLD<1.61E+00	
CD-109	LLD<1.17E+01		LLD<1.17E+01	
SCL-000	LLD<8.02E-01		LLD<8.02E-01	
CO-57	LLD<2.66E-01		LLD<2.66E-01	
PA-234	LLD<1.04E+00		LLD<1.04E+00	
CE-144	LLD<1.93E+00		LLD<1.93E+00	
TC-99M	LLD<2.39E-01		LLD<2.39E-01	
U-235	LLD<1.92E+00		LLD<1.92E+00	
CE-141	LLD<4.31E-01		LLD<4.31E-01	
KR-85M	LLD<2.66E-01		LLD<2.66E-01	
XE-131M	LLD<8.99E+00		LLD<8.99E+00	
A-139	LLD<1.11E+00		LLD<1.11E+00	
-139	LLD<2.26E-01		LLD<2.26E-01	
RA-226	LLD<5.21E+00		LLD<5.21E+00	
BA-141	LLD<5.05E-01		LLD<5.05E-01	
KR-89	LLD<2.64E+00		LLD<2.64E+00	
TE-132	LLD<2.70E-01		LLD<2.70E-01	
XE-133M	LLD<2.60E+00		LLD<2.60E+00	
TH-227	LLD<2.05E+00		LLD<2.05E+00	
PB-212	1.75E+00	+- 4.64E-01	1.75E+00	+- 4.64E-01
RA-224	LLD<6.53E+00		LLD<6.53E+00	
XE-135	LLD<2.51E-01		LLD<2.51E-01	
XE-138	LLD<8.24E-01		LLD<8.24E-01	
SE-75	LLD<3.70E-01		LLD<3.70E-01	
NP-239	LLD<1.60E+00		LLD<1.60E+00	
HG-203	LLD<3.08E-01		LLD<3.08E-01	
IR-192	LLD<2.85E-01		LLD<2.85E-01	
CR-51	LLD<2.33E+00		LLD<2.33E+00	
SCM-000	LLD<1.48E+00		LLD<1.48E+00	
BI-211	LLD<9.08E+00		LLD<9.08E+00	
PB-214	1.14E+00	+- 6.16E-01	1.14E+00	+- 6.16E-01
BA-133	LLD<6.92E-01		LLD<6.92E-01	
I-131	LLD<3.00E-01		LLD<3.00E-01	
SN-113	LLD<4.10E-01		LLD<4.10E-01	
KR-87	LLD<4.78E-01		LLD<4.78E-01	
PB-211	LLD<9.41E+00		LLD<9.41E+00	
AU-198	LLD<2.87E-01		LLD<2.87E-01	
-125	LLD<8.16E-01		LLD<8.16E-01	
I-212	LLD<8.22E+01		LLD<8.22E+01	
BE-7	LLD<2.58E+00		LLD<2.58E+00	
HF-181	LLD<2.82E-01		LLD<2.82E-01	
RU-103	LLD<2.89E-01		LLD<2.89E-01	
KR-85	LLD<7.76E+01		LLD<7.76E+01	

SR-85	LLD<3.39E-01		LLD<3.39E-01		
I-133	LLD<3.76E-01		LLD<3.76E-01		
BA-140	LLD<1.28E+00		LLD<1.28E+00		
91M	LLD<3.09E-01		LLD<3.09E-01		
-207	LLD<2.99E-01		LLD<2.99E-01		
TL-208	LLD<1.20E+00		LLD<1.20E+00		
SB-124	LLD<3.95E-01		LLD<3.95E-01		
CS-134	LLD<5.59E-01		LLD<5.59E-01		
BI-214	9.68E-01	+- 6.08E-01	9.68E-01	+-	6.08E-01
RU-106	LLD<2.66E+00		LLD<2.66E+00		
LA-142	LLD<6.14E-01		LLD<6.14E-01		
AG-110M	LLD<4.72E-01		LLD<4.72E-01		
NB-97	LLD<4.50E-01		LLD<4.50E-01		
CS-137	4.75E-01	+- 2.11E-01	4.75E-01	+-	2.11E-01
I-132	LLD<5.05E-01		LLD<5.05E-01		
W-187	LLD<1.19E+00		LLD<1.19E+00		
ZR-97	LLD<3.37E-01		LLD<3.37E-01		
ZR-95	LLD<7.05E-01		LLD<7.05E-01		
NB-95	LLD<4.83E-01		LLD<4.83E-01		
TL-210	LLD<2.09E+00		LLD<2.09E+00		
CO-58	LLD<3.39E-01		LLD<3.39E-01		
CS-136	LLD<2.62E-01		LLD<2.62E-01		
MN-54	LLD<3.30E-01		LLD<3.30E-01		
CO-56	LLD<4.44E-01		LLD<4.44E-01		
I-134	LLD<5.10E-01		LLD<5.10E-01		
TL-207	LLD<2.58E+02		LLD<2.58E+02		
Y-88	LLD<4.27E-01		LLD<4.27E-01		
AC-228	LLD<2.09E+00		LLD<2.09E+00		
EU-152	LLD<4.50E+00		LLD<4.50E+00		
-234M	LLD<4.17E+00		LLD<4.17E+00		
SR-91	LLD<1.41E+00		LLD<1.41E+00		
RB-89	LLD<8.97E-01		LLD<8.97E-01		
FE-59	LLD<7.17E-01		LLD<7.17E-01		
ZN-65	LLD<8.68E-01		LLD<8.68E-01		
SC-46	LLD<4.88E-01		LLD<4.88E-01		
TA-182	LLD<1.38E+00		LLD<1.38E+00		
I-135	LLD<1.52E+00		LLD<1.52E+00		
CL-39	LLD<1.17E+00		LLD<1.17E+00		
NA-22	LLD<5.44E-01		LLD<5.44E-01		
AR-41	LLD<4.97E-01		LLD<4.97E-01		
CO-60	LLD<4.19E-01		LLD<4.19E-01		
NA-24	LLD<4.90E-01		LLD<4.90E-01		
SR-92	LLD<4.36E-01		LLD<4.36E-01		
SCH-000	LLD<2.12E+00		LLD<2.12E+00		
CS-138	LLD<3.74E-01		LLD<3.74E-01		
K-40	2.13E+01	+- 5.15E+00	2.13E+01	+-	5.15E+00
KR-88	LLD<4.19E+00		LLD<4.19E+00		
TL-209	LLD<1.14E+00		LLD<1.14E+00		
LA-140	LLD<2.48E-01		LLD<2.48E-01		
AL-26	LLD<3.71E-01		LLD<3.71E-01		
MN-56	LLD<7.63E-01		LLD<7.63E-01		
RB-88	LLD<5.19E-01		LLD<5.19E-01		
	---		---		
Total	2.56E+01	+- 5.25E+00	2.56E+01	+-	5.25E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0031

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
677.84	338.70	49.	36.1	8.98E+00
1167.33	583.37	35.	39.6	1.10E+01

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C-8 (20 min recount)

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 15:31:56

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0030
Measured by: dlv

Sample Description: C-8 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 14:56:45

COLLECT Live Time: 1200. seconds
Real Time: 1203. seconds
Dead Time: 0.25 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

29-NOV-95 15:31:56

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	186.71	93.34	1.5	289.	315.	20.4	TH-234,TH-234
2	372.97	186.37	1.0	169.	231.	22.0	U-235,RA-226
3C	478.49	239.09	1.5	85.	252.	18.5	PB-212
4C	485.10	242.39	1.5	60.	53.	31.7	PB-214
5	591.77	295.69	1.6	64.	59.	48.9	PB-214
6	705.14	352.34	1.6	58.	105.	29.9	PB-214
7	1022.45	510.93	1.3	26.	33.	58.1	TL-208,NA-22, ANN-RD
8	1166.63	583.01	1.8	21.	93.	25.4	TL-208
9	1219.13	609.26	1.4	25.	59.	35.9	BI-214
10	1390.65	695.03	1.2	13.	11.	114.6	SB-126
11	1613.67	806.57	1.4	9.	18.	69.3	
12	1822.29	910.93	2.4	9.	48.	34.3	AC-228
13	2919.89	1460.37	3.1	9.	146.	17.8	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 29-NOV-95 15:31:56

Sample: C-8 Soil
Data collected on 29-NOV-95 at 14:56:45
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.97E+00		LLD<2.97E+00	
TH-234	LLD<1.95E+01		LLD<1.95E+01	
TH-230	LLD<2.01E+02		LLD<2.01E+02	
XE-133	LLD<1.24E+00		LLD<1.24E+00	
CD-109	LLD<9.68E+00		LLD<9.68E+00	
SCL-000	LLD<5.22E-01		LLD<5.22E-01	
CO-57	LLD<1.73E-01		LLD<1.73E-01	
PA-234	LLD<7.44E-01		LLD<7.44E-01	
CE-144	LLD<1.35E+00		LLD<1.35E+00	
TC-99M	LLD<1.83E-01		LLD<1.83E-01	
U-235	LLD<1.20E+00		LLD<1.20E+00	
CE-141	LLD<2.80E-01		LLD<2.80E-01	
KR-85M	LLD<1.80E-01		LLD<1.80E-01	
XE-131M	LLD<6.48E+00		LLD<6.48E+00	
RA-139	LLD<8.03E-01		LLD<8.03E-01	
[illegible]-139	LLD<1.56E-01		LLD<1.56E-01	
RA-226	1.32E+01	+- 2.93E+00	1.32E+01	+- 2.93E+00
BA-141	LLD<6.13E-01		LLD<6.13E-01	
KR-89	LLD<2.83E+00		LLD<2.83E+00	
TE-132	LLD<1.50E-01		LLD<1.50E-01	
XE-133M	LLD<1.83E+00		LLD<1.83E+00	
TH-227	LLD<1.13E+00		LLD<1.13E+00	
PB-212	1.48E+00	+- 2.77E-01	1.48E+00	+- 2.77E-01
RA-224	LLD<4.06E+00		LLD<4.06E+00	
XE-135	LLD<1.45E-01		LLD<1.45E-01	
XE-138	LLD<6.37E-01		LLD<6.37E-01	
SE-75	LLD<2.56E-01		LLD<2.56E-01	
NP-239	LLD<1.07E+00		LLD<1.07E+00	
HG-203	LLD<1.83E-01		LLD<1.83E-01	
IR-192	LLD<1.77E-01		LLD<1.77E-01	
CR-51	LLD<1.47E+00		LLD<1.47E+00	
SCM-000	LLD<8.24E-01		LLD<8.24E-01	
BI-211	LLD<8.49E+00		LLD<8.49E+00	
PB-214	1.36E+00	+- 4.07E-01	1.36E+00	+- 4.07E-01
BA-133	LLD<4.21E-01		LLD<4.21E-01	
I-131	LLD<1.62E-01		LLD<1.62E-01	
SN-113	LLD<3.05E-01		LLD<3.05E-01	
KR-87	LLD<3.70E-01		LLD<3.70E-01	
PB-211	LLD<7.22E+00		LLD<7.22E+00	
AU-198	LLD<1.73E-01		LLD<1.73E-01	
[illegible]B-125	LLD<5.77E-01		LLD<5.77E-01	
[illegible]I-212	LLD<5.67E+01		LLD<5.67E+01	
BE-7	LLD<1.63E+00		LLD<1.63E+00	
HF-181	LLD<2.26E-01		LLD<2.26E-01	
RU-103	LLD<1.62E-01		LLD<1.62E-01	
KR-85	LLD<5.11E+01		LLD<5.11E+01	

SR-85	LLD<2.23E-01	LLD<2.23E-01
I-133	LLD<2.19E-01	LLD<2.19E-01
BA-140	LLD<7.08E-01	LLD<7.08E-01
91M	LLD<2.08E-01	LLD<2.08E-01
-207	LLD<2.23E-01	LLD<2.23E-01
TL-208	3.16E+00 +- 8.08E-01	3.16E+00 +- 8.08E-01
SB-124	LLD<2.35E-01	LLD<2.35E-01
CS-134	LLD<4.21E-01	LLD<4.21E-01
BI-214	1.16E+00 +- 4.17E-01	1.16E+00 +- 4.17E-01
RU-106	LLD<1.70E+00	LLD<1.70E+00
LA-142	LLD<4.49E-01	LLD<4.49E-01
AG-110M	LLD<3.82E-01	LLD<3.82E-01
NB-97	LLD<3.89E-01	LLD<3.89E-01
CS-137	LLD<3.15E-01	LLD<3.15E-01
I-132	LLD<2.58E-01	LLD<2.58E-01
W-187	LLD<7.89E-01	LLD<7.89E-01
ZR-97	LLD<2.23E-01	LLD<2.23E-01
ZR-95	LLD<4.17E-01	LLD<4.17E-01
NB-95	LLD<2.69E-01	LLD<2.69E-01
TL-210	LLD<2.92E+00	LLD<2.92E+00
CO-58	LLD<2.52E-01	LLD<2.52E-01
CS-136	LLD<2.09E-01	LLD<2.09E-01
MN-54	LLD<2.38E-01	LLD<2.38E-01
CO-56	LLD<2.53E-01	LLD<2.53E-01
I-134	LLD<2.94E-01	LLD<2.94E-01
TL-207	LLD<2.67E+02	LLD<2.67E+02
Y-88	LLD<2.48E-01	LLD<2.48E-01
AC-228	1.69E+00 +- 5.82E-01	1.69E+00 +- 5.82E-01
-152	LLD<2.97E+00	LLD<2.97E+00
-234M	LLD<5.80E+00	LLD<5.80E+00
R-91	LLD<8.43E-01	LLD<8.43E-01
RB-89	LLD<7.53E-01	LLD<7.53E-01
FE-59	LLD<4.99E-01	LLD<4.99E-01
ZN-65	LLD<8.23E-01	LLD<8.23E-01
SC-46	LLD<3.46E-01	LLD<3.46E-01
TA-182	LLD<9.45E-01	LLD<9.45E-01
I-135	LLD<8.28E-01	LLD<8.28E-01
CL-39	LLD<6.37E-01	LLD<6.37E-01
NA-22	LLD<2.76E-01	LLD<2.76E-01
AR-41	LLD<2.76E-01	LLD<2.76E-01
CO-60	LLD<2.42E-01	LLD<2.42E-01
NA-24	LLD<2.25E-01	LLD<2.25E-01
SR-92	LLD<3.33E-01	LLD<3.33E-01
SCH-000	LLD<1.18E+00	LLD<1.18E+00
CS-138	LLD<4.94E-01	LLD<4.94E-01
K-40	1.85E+01 +- 3.36E+00	1.85E+01 +- 3.36E+00
KR-88	LLD<1.81E+00	LLD<1.81E+00
TL-209	LLD<1.62E+00	LLD<1.62E+00
LA-140	LLD<2.31E-01	LLD<2.31E-01
AL-26	LLD<1.81E-01	LLD<1.81E-01
MN-56	LLD<8.94E-01	LLD<8.94E-01
RB-88	LLD<1.08E+00	LLD<1.08E+00
	---	---
Total	4.06E+01 +- 4.61E+00	4.06E+01 +- 4.61E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0030

PEAKS NOT USED IN ANALYSIS

ntroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
186.71	93.34	315.	20.4	2.33E+01
485.10	242.39	53.	31.7	3.58E+00
591.77	295.69	59.	48.9	4.76E+00
1390.65	695.03	11.	114.6	2.15E+00
1613.67	806.57	18.	69.3	3.89E+00

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C-62

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 15:46:00

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0041
Measured by: dlv

Sample Description: C-62 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.1400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 15:32:53

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 15:46:00

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	478.90	239.29	1.3	47.	98.	34.8	PB-212
2	591.80	295.71	1.4	26.	63.	34.8	PB-214
3	704.82	352.18	1.3	19.	82.	26.6	PB-214
4	1023.34	511.38	1.8	8.	17.	70.5	TL-208,NA-22, ANN-RD
5$	1167.23	583.32	2.0	28.	26.	73.9	TL-208
6C	1219.53	609.47	1.5	18.	43.	43.1	BI-214
7	1323.39	661.40	1.9	15.	34.	48.6	CS-137
8	1822.57	911.07	2.2	5.	26.	46.5	AC-228
9	2921.18	1461.02	2.3	2.	85.	22.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

2 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 29-NOV-95 15:46:00

Sample: C-62 Soil
Data collected on 29-NOV-95 at 15:32:53
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.32E+00		LLD<3.32E+00	
TH-234	LLD<2.38E+01		LLD<2.38E+01	
TH-230	LLD<2.42E+02		LLD<2.42E+02	
XE-133	LLD<1.57E+00		LLD<1.57E+00	
CD-109	LLD<1.13E+01		LLD<1.13E+01	
SCL-000	LLD<6.90E-01		LLD<6.90E-01	
CO-57	LLD<2.29E-01		LLD<2.29E-01	
PA-234	LLD<9.21E-01		LLD<9.21E-01	
CE-144	LLD<1.82E+00		LLD<1.82E+00	
TC-99M	LLD<2.02E-01		LLD<2.02E-01	
U-235	LLD<1.86E+00		LLD<1.86E+00	
CE-141	LLD<4.09E-01		LLD<4.09E-01	
KR-85M	LLD<2.21E-01		LLD<2.21E-01	
XE-131M	LLD<8.34E+00		LLD<8.34E+00	
BA-139	LLD<1.04E+00		LLD<1.04E+00	
LA-139	LLD<2.10E-01		LLD<2.10E-01	
RA-226	LLD<5.16E+00		LLD<5.16E+00	
BA-141	LLD<5.22E-01		LLD<5.22E-01	
KR-89	LLD<2.31E+00		LLD<2.31E+00	
TE-132	LLD<2.61E-01		LLD<2.61E-01	
XE-133M	LLD<2.38E+00		LLD<2.38E+00	
TH-227	LLD<1.70E+00		LLD<1.70E+00	
PB-212	1.09E+00	+- 3.79E-01	1.09E+00	+- 3.79E-01
RA-224	LLD<6.47E+00		LLD<6.47E+00	
XE-135	LLD<2.51E-01		LLD<2.51E-01	
XE-138	LLD<8.25E-01		LLD<8.25E-01	
SE-75	LLD<3.37E-01		LLD<3.37E-01	
NP-239	LLD<1.42E+00		LLD<1.42E+00	
HG-203	LLD<2.79E-01		LLD<2.79E-01	
IR-192	LLD<2.96E-01		LLD<2.96E-01	
CR-51	LLD<2.27E+00		LLD<2.27E+00	
SCM-000	LLD<1.15E+00		LLD<1.15E+00	
BI-211	LLD<7.90E+00		LLD<7.90E+00	
PB-214	1.79E+00	+- 4.76E-01	1.79E+00	+- 4.76E-01
BA-133	LLD<7.15E-01		LLD<7.15E-01	
I-131	LLD<2.71E-01		LLD<2.71E-01	
SN-113	LLD<4.03E-01		LLD<4.03E-01	
KR-87	LLD<5.25E-01		LLD<5.25E-01	
PB-211	LLD<9.57E+00		LLD<9.57E+00	
AU-198	LLD<2.74E-01		LLD<2.74E-01	
SB-125	LLD<8.47E-01		LLD<8.47E-01	
BI-212	LLD<7.93E+01		LLD<7.93E+01	
BE-7	LLD<2.66E+00		LLD<2.66E+00	
HF-181	LLD<3.01E-01		LLD<3.01E-01	
RU-103	LLD<2.79E-01		LLD<2.79E-01	
KR-85	LLD<6.17E+01		LLD<6.17E+01	

SR-85	LLD<2.70E-01		LLD<2.70E-01		
I-133	LLD<3.05E-01		LLD<3.05E-01		
BA-140	LLD<9.70E-01		LLD<9.70E-01		
91M	LLD<2.72E-01		LLD<2.72E-01		
-207	LLD<3.19E-01		LLD<3.19E-01		
TL-208	9.43E-01	+- 6.97E-01	9.43E-01	+-	6.97E-01
SB-124	LLD<2.93E-01		LLD<2.93E-01		
CS-134	LLD<6.28E-01		LLD<6.28E-01		
BI-214	1.37E+00	+- 5.92E-01	1.37E+00	+-	5.92E-01
RU-106	LLD<2.54E+00		LLD<2.54E+00		
LA-142	LLD<5.97E-01		LLD<5.97E-01		
AG-110M	LLD<6.11E-01		LLD<6.11E-01		
NB-97	LLD<6.07E-01		LLD<6.07E-01		
CS-137	5.16E-01	+- 2.51E-01	5.16E-01	+-	2.51E-01
I-132	LLD<4.20E-01		LLD<4.20E-01		
W-187	LLD<1.10E+00		LLD<1.10E+00		
ZR-97	LLD<3.12E-01		LLD<3.12E-01		
ZR-95	LLD<5.62E-01		LLD<5.62E-01		
NB-95	LLD<3.25E-01		LLD<3.25E-01		
TL-210	LLD<2.20E+00		LLD<2.20E+00		
CO-58	LLD<2.64E-01		LLD<2.64E-01		
CS-136	LLD<2.91E-01		LLD<2.91E-01		
MN-54	LLD<3.31E-01		LLD<3.31E-01		
CO-56	LLD<2.25E-01		LLD<2.25E-01		
I-134	LLD<2.80E-01		LLD<2.80E-01		
TL-207	LLD<1.54E+02		LLD<1.54E+02		
Y-88	LLD<2.49E-01		LLD<2.49E-01		
AC-228	1.75E+00	+- 8.15E-01	1.75E+00	+-	8.15E-01
EU-152	LLD<3.65E+00		LLD<3.65E+00		
-234M	LLD<3.01E+00		LLD<3.01E+00		
R-91	LLD<1.15E+00		LLD<1.15E+00		
RB-89	LLD<8.13E-01		LLD<8.13E-01		
FE-59	LLD<7.62E-01		LLD<7.62E-01		
ZN-65	LLD<1.37E+00		LLD<1.37E+00		
SC-46	LLD<5.43E-01		LLD<5.43E-01		
TA-182	LLD<1.54E+00		LLD<1.54E+00		
I-135	LLD<1.24E+00		LLD<1.24E+00		
CL-39	LLD<6.86E-01		LLD<6.86E-01		
NA-22	LLD<2.71E-01		LLD<2.71E-01		
AR-41	LLD<3.86E-01		LLD<3.86E-01		
CO-60	LLD<2.46E-01		LLD<2.46E-01		
NA-24	LLD<3.06E-01		LLD<3.06E-01		
SR-92	LLD<4.96E-01		LLD<4.96E-01		
SCH-000	LLD<8.94E-01		LLD<8.94E-01		
CS-138	LLD<5.10E-01		LLD<5.10E-01		
K-40	2.06E+01	+- 4.58E+00	2.06E+01	+-	4.58E+00
KR-88	LLD<1.82E+00		LLD<1.82E+00		
TL-209	LLD<1.29E+00		LLD<1.29E+00		
LA-140	LLD<4.63E-01		LLD<4.63E-01		
AL-26	LLD<3.45E-01		LLD<3.45E-01		
MN-56	LLD<1.23E+00		LLD<1.23E+00		
RB-88	LLD<2.26E+00		LLD<2.26E+00		
	---		---		
Total	2.80E+01	+- 4.79E+00	2.80E+01	+-	4.79E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0041

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.80	295.71	63.	34.8	1.01E+01

C-47

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 16:09:44

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0042
Measured by: dlv

Sample Description: C-47 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.7900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 15:49:10

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 16:09:44

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.45	239.07	1.4	81.	145.	25.6	PB-212
2	591.81	295.71	1.1	25.	34.	55.2	PB-214
3	677.52	338.54	0.9	26.	26.	71.0	AC-228
4	704.81	352.18	1.1	23.	62.	34.4	PB-214
5	1167.36	583.38	1.5	7.	28.	45.3	TL-208
6	1219.45	609.42	2.4	7.	41.	36.1	BI-214
7N	1323.65	661.53	1.2	21.	15.	111.5	CS-137
8	1822.44	911.01	0.8	13.	21.	71.9	AC-228
9	2920.95	1460.90	1.7	4.	99.	21.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

N - Multiplet Analysis did NOT converge

hgtrw 29-NOV-95 16:09:44

mple: C-47 Soil
ata collected on 29-NOV-95 at 15:49:10
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.86E+00		LLD<3.86E+00	
TH-234	LLD<2.64E+01		LLD<2.64E+01	
TH-230	LLD<2.65E+02		LLD<2.65E+02	
XE-133	LLD<1.86E+00		LLD<1.86E+00	
CD-109	LLD<1.22E+01		LLD<1.22E+01	
SCL-000	LLD<8.44E-01		LLD<8.44E-01	
CO-57	LLD<2.80E-01		LLD<2.80E-01	
PA-234	LLD<1.07E+00		LLD<1.07E+00	
CE-144	LLD<2.03E+00		LLD<2.03E+00	
TC-99M	LLD<2.55E-01		LLD<2.55E-01	
U-235	LLD<1.86E+00		LLD<1.86E+00	
CE-141	LLD<4.37E-01		LLD<4.37E-01	
KR-85M	LLD<2.91E-01		LLD<2.91E-01	
XE-131M	LLD<9.52E+00		LLD<9.52E+00	
BA-139	LLD<1.11E+00		LLD<1.11E+00	
-139	LLD<2.24E-01		LLD<2.24E-01	
RA-226	LLD<6.43E+00		LLD<6.43E+00	
BA-141	LLD<5.70E-01		LLD<5.70E-01	
KR-89	LLD<2.39E+00		LLD<2.39E+00	
TE-132	LLD<2.35E-01		LLD<2.35E-01	
XE-133M	LLD<2.72E+00		LLD<2.72E+00	
TH-227	LLD<2.26E+00		LLD<2.26E+00	
PB-212	1.98E+00	+- 5.11E-01	1.98E+00	+- 5.11E-01
RA-224	LLD<6.74E+00		LLD<6.74E+00	
XE-135	LLD<2.38E-01		LLD<2.38E-01	
XE-138	LLD<9.81E-01		LLD<9.81E-01	
SE-75	LLD<4.39E-01		LLD<4.39E-01	
NP-239	LLD<1.81E+00		LLD<1.81E+00	
HG-203	LLD<2.80E-01		LLD<2.80E-01	
IR-192	LLD<2.91E-01		LLD<2.91E-01	
CR-51	LLD<2.31E+00		LLD<2.31E+00	
SCM-000	LLD<1.35E+00		LLD<1.35E+00	
BI-211	LLD<9.61E+00		LLD<9.61E+00	
PB-214	1.65E+00	+- 5.69E-01	1.65E+00	+- 5.69E-01
BA-133	LLD<7.93E-01		LLD<7.93E-01	
I-131	LLD<3.09E-01		LLD<3.09E-01	
SN-113	LLD<4.42E-01		LLD<4.42E-01	
KR-87	LLD<6.50E-01		LLD<6.50E-01	
PB-211	LLD<1.15E+01		LLD<1.15E+01	
AU-198	LLD<3.03E-01		LLD<3.03E-01	
-125	LLD<1.09E+00		LLD<1.09E+00	
-212	LLD<8.24E+01		LLD<8.24E+01	
BE-7	LLD<2.04E+00		LLD<2.04E+00	
HF-181	LLD<3.21E-01		LLD<3.21E-01	
RU-103	LLD<3.34E-01		LLD<3.34E-01	
KR-85	LLD<8.82E+01		LLD<8.82E+01	

SR-85	LLD<3.85E-01		LLD<3.85E-01		
I-133	LLD<3.51E-01		LLD<3.51E-01		
BA-140	LLD<1.05E+00		LLD<1.05E+00		
91M	LLD<3.06E-01		LLD<3.06E-01		
-207	LLD<4.02E-01		LLD<4.02E-01		
TL-208	LLD<1.36E+00		LLD<1.36E+00		
SB-124	LLD<3.18E-01		LLD<3.18E-01		
CS-134	LLD<7.03E-01		LLD<7.03E-01		
BI-214	1.61E+00	+- 5.84E-01	1.61E+00	+-	5.84E-01
RU-106	LLD<3.62E+00		LLD<3.62E+00		
LA-142	LLD<6.64E-01		LLD<6.64E-01		
AG-110M	LLD<7.06E-01		LLD<7.06E-01		
NB-97	LLD<6.49E-01		LLD<6.49E-01		
CS-137	2.77E-01	+- 3.09E-01	2.77E-01	+-	3.09E-01
I-132	LLD<4.39E-01		LLD<4.39E-01		
W-187	LLD<1.01E+00		LLD<1.01E+00		
ZR-97	LLD<4.15E-01		LLD<4.15E-01		
ZR-95	LLD<6.28E-01		LLD<6.28E-01		
NB-95	LLD<4.24E-01		LLD<4.24E-01		
TL-210	LLD<2.42E+00		LLD<2.42E+00		
CO-58	LLD<3.34E-01		LLD<3.34E-01		
CS-136	LLD<3.74E-01		LLD<3.74E-01		
MN-54	LLD<4.28E-01		LLD<4.28E-01		
CO-56	LLD<4.41E-01		LLD<4.41E-01		
I-134	LLD<4.31E-01		LLD<4.31E-01		
TL-207	LLD<2.31E+02		LLD<2.31E+02		
Y-88	LLD<3.19E-01		LLD<3.19E-01		
AC-228	1.70E+00	+- 1.22E+00	1.70E+00	+-	1.22E+00
-152	LLD<5.92E+00		LLD<5.92E+00		
-234M	LLD<3.49E+00		LLD<3.49E+00		
R-91	LLD<1.47E+00		LLD<1.47E+00		
RB-89	LLD<9.26E-01		LLD<9.26E-01		
FE-59	LLD<7.51E-01		LLD<7.51E-01		
ZN-65	LLD<1.61E+00		LLD<1.61E+00		
SC-46	LLD<6.89E-01		LLD<6.89E-01		
TA-182	LLD<2.01E+00		LLD<2.01E+00		
I-135	LLD<1.85E+00		LLD<1.85E+00		
CL-39	LLD<1.10E+00		LLD<1.10E+00		
NA-22	LLD<5.00E-01		LLD<5.00E-01		
AR-41	LLD<5.69E-01		LLD<5.69E-01		
CO-60	LLD<4.60E-01		LLD<4.60E-01		
NA-24	LLD<4.02E-01		LLD<4.02E-01		
SR-92	LLD<4.86E-01		LLD<4.86E-01		
SCH-000	LLD<1.76E+00		LLD<1.76E+00		
CS-138	LLD<5.53E-01		LLD<5.53E-01		
K-40	2.97E+01	+- 6.34E+00	2.97E+01	+-	6.34E+00
KR-88	LLD<4.46E+00		LLD<4.46E+00		
TL-209	LLD<1.49E+00		LLD<1.49E+00		
LA-140	LLD<4.68E-01		LLD<4.68E-01		
AL-26	LLD<4.26E-01		LLD<4.26E-01		
MN-56	LLD<9.67E-01		LLD<9.67E-01		
RB-88	LLD<2.25E+00		LLD<2.25E+00		
	---		---		
Total	3.69E+01	+- 6.53E+00	3.69E+01	+-	6.53E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0042

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.81	295.71	34.	55.2	5.48E+00
677.52	338.54	26.	71.0	4.69E+00
1167.36	583.38	28.	45.3	8.87E+00

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C-46

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 16:26:49

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0043
Measured by: dlv

Sample Description: C-46 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.4800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 16:12:32

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 16:26:49

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.98	239.34	1.8	64.	127.	26.1	PB-212
2	592.37	295.99	1.9	24.	47.	41.6	PB-214
3C	677.50	338.53	1.4	19.	36.	47.9	AC-228
4	705.09	352.32	1.8	16.	76.	27.8	PB-214
5	1167.26	583.33	1.6	12.	30.	49.2	TL-208
6	1219.29	609.35	1.7	5.	54.	29.3	BI-214
7	1323.98	661.69	1.8	16.	31.	54.2	CS-137
8	1454.77	727.10	1.3	10.	11.	108.3	BI-212
9	1822.02	910.80	1.3	3.	35.	37.1	AC-228
10	2920.71	1460.78	2.7	4.	78.	23.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 29-NOV-95 16:26:49

Sample: C-46 Soil
Data collected on 29-NOV-95 at 16:12:32
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.39E+00		LLD<3.39E+00	
TH-234	LLD<2.53E+01		LLD<2.53E+01	
TH-230	LLD<2.29E+02		LLD<2.29E+02	
XE-133	LLD<1.72E+00		LLD<1.72E+00	
CD-109	LLD<1.11E+01		LLD<1.11E+01	
SCL-000	LLD<7.47E-01		LLD<7.47E-01	
CO-57	LLD<2.48E-01		LLD<2.48E-01	
PA-234	LLD<8.96E-01		LLD<8.96E-01	
CE-144	LLD<1.81E+00		LLD<1.81E+00	
TC-99M	LLD<1.94E-01		LLD<1.94E-01	
U-235	LLD<1.88E+00		LLD<1.88E+00	
CE-141	LLD<3.56E-01		LLD<3.56E-01	
KR-85M	LLD<2.71E-01		LLD<2.71E-01	
XE-131M	LLD<1.00E+01		LLD<1.00E+01	
BA-139	LLD<1.16E+00		LLD<1.16E+00	
[illegible]-139	LLD<2.36E-01		LLD<2.36E-01	
[illegible]A-226	LLD<5.69E+00		LLD<5.69E+00	
BA-141	LLD<5.41E-01		LLD<5.41E-01	
KR-89	LLD<2.58E+00		LLD<2.58E+00	
TE-132	LLD<2.39E-01		LLD<2.39E-01	
XE-133M	LLD<2.48E+00		LLD<2.48E+00	
TH-227	LLD<1.94E+00		LLD<1.94E+00	
PB-212	1.56E+00	+- 4.10E-01	1.56E+00	+- 4.10E-01
RA-224	LLD<6.34E+00		LLD<6.34E+00	
XE-135	LLD<2.53E-01		LLD<2.53E-01	
XE-138	LLD<9.09E-01		LLD<9.09E-01	
SE-75	LLD<3.79E-01		LLD<3.79E-01	
NP-239	LLD<1.61E+00		LLD<1.61E+00	
HG-203	LLD<2.88E-01		LLD<2.88E-01	
IR-192	LLD<2.59E-01		LLD<2.59E-01	
CR-51	LLD<2.40E+00		LLD<2.40E+00	
SCM-000	LLD<1.19E+00		LLD<1.19E+00	
BI-211	LLD<8.41E+00		LLD<8.41E+00	
PB-214	1.83E+00	+- 5.10E-01	1.83E+00	+- 5.10E-01
BA-133	LLD<6.59E-01		LLD<6.59E-01	
I-131	LLD<2.45E-01		LLD<2.45E-01	
SN-113	LLD<3.81E-01		LLD<3.81E-01	
KR-87	LLD<5.78E-01		LLD<5.78E-01	
PB-211	LLD<1.02E+01		LLD<1.02E+01	
AU-198	LLD<2.61E-01		LLD<2.61E-01	
[illegible]-125	LLD<8.22E-01		LLD<8.22E-01	
[illegible]-212	LLD<7.41E+01		LLD<7.41E+01	
BE-7	LLD<2.50E+00		LLD<2.50E+00	
HF-181	LLD<3.54E-01		LLD<3.54E-01	
RU-103	LLD<3.07E-01		LLD<3.07E-01	
KR-85	LLD<7.68E+01		LLD<7.68E+01	

SR-85	LLD<3.36E-01	LLD<3.36E-01
I-133	LLD<3.33E-01	LLD<3.33E-01
BA-140	LLD<1.18E+00	LLD<1.18E+00
[illegible]91M	LLD<3.25E-01	LLD<3.25E-01
[illegible]-207	LLD<3.09E-01	LLD<3.09E-01
[illegible]L-208	LLD<1.34E+00	LLD<1.34E+00
SB-124	LLD<3.20E-01	LLD<3.20E-01
CS-134	LLD<7.71E-01	LLD<7.71E-01
BI-214	1.89E+00 +- 5.56E-01	1.89E+00 +- 5.56E-01
RU-106	LLD<2.51E+00	LLD<2.51E+00
LA-142	LLD<5.85E-01	LLD<5.85E-01
AG-110M	LLD<7.68E-01	LLD<7.68E-01
NB-97	LLD<7.31E-01	LLD<7.31E-01
CS-137	5.17E-01 +- 2.80E-01	5.17E-01 +- 2.80E-01
I-132	LLD<4.69E-01	LLD<4.69E-01
W-187	LLD<1.21E+00	LLD<1.21E+00
ZR-97	LLD<2.97E-01	LLD<2.97E-01
ZR-95	LLD<6.94E-01	LLD<6.94E-01
NB-95	LLD<4.07E-01	LLD<4.07E-01
TL-210	LLD<2.24E+00	LLD<2.24E+00
CO-58	LLD<2.75E-01	LLD<2.75E-01
CS-136	LLD<4.04E-01	LLD<4.04E-01
MN-54	LLD<3.89E-01	LLD<3.89E-01
CO-56	LLD<4.00E-01	LLD<4.00E-01
I-134	LLD<4.47E-01	LLD<4.47E-01
TL-207	LLD<2.38E+02	LLD<2.38E+02
Y-88	LLD<3.16E-01	LLD<3.16E-01
AC-228	2.58E+00 +- 9.60E-01	2.58E+00 +- 9.60E-01
[illegible]U-152	LLD<3.91E+00	LLD<3.91E+00
[illegible]234M	LLD<4.16E+00	LLD<4.16E+00
[illegible]-91	LLD<1.31E+00	LLD<1.31E+00
RB-89	LLD<9.04E-01	LLD<9.04E-01
FE-59	LLD<8.13E-01	LLD<8.13E-01
ZN-65	LLD<1.15E+00	LLD<1.15E+00
SC-46	LLD<5.23E-01	LLD<5.23E-01
TA-182	LLD<1.38E+00	LLD<1.38E+00
I-135	LLD<1.51E+00	LLD<1.51E+00
CL-39	LLD<9.46E-01	LLD<9.46E-01
NA-22	LLD<5.19E-01	LLD<5.19E-01
AR-41	LLD<4.69E-01	LLD<4.69E-01
CO-60	LLD<3.81E-01	LLD<3.81E-01
NA-24	LLD<4.30E-01	LLD<4.30E-01
SR-92	LLD<3.67E-01	LLD<3.67E-01
SCH-000	LLD<9.86E-01	LLD<9.86E-01
CS-138	LLD<3.45E-01	LLD<3.45E-01
K-40	2.09E+01 +- 4.99E+00	2.09E+01 +- 4.99E+00
KR-88	LLD<2.29E+00	LLD<2.29E+00
TL-209	LLD<5.84E-01	LLD<5.84E-01
LA-140	LLD<4.71E-01	LLD<4.71E-01
AL-26	LLD<4.63E-01	LLD<4.63E-01
MN-56	LLD<7.04E-01	LLD<7.04E-01
RB-88	LLD<1.06E+00	LLD<1.06E+00
	---	---
Total	2.92E+01 +- 5.16E+00	2.92E+01 +- 5.16E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0043

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
592.37	295.99	47.	41.6	7.57E+00
677.50	338.53	36.	47.9	6.57E+00
1167.26	583.33	30.	49.2	9.57E+00
1454.77	727.10	11.	108.3	4.50E+00

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C-1

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 29-NOV-95 16:43:43

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0034
Measured by: dlv

Sample Description: C-1 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.1100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 16:27:43

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 29-NOV-95 16:43:43

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.51	239.10	1.9	58.	174.	20.3	PB-212
2	591.37	295.49	1.1	40.	38.	59.3	PB-214
3	656.19	327.88	2.2	9.	23.	55.3	LA-140
4	677.81	338.69	1.7	25.	24.	73.6	AC-228
5	704.41	351.98	1.2	19.	48.	39.9	BI-211,PB-214
6	1167.41	583.41	1.3	4.	47.	31.5	TL-208
7	1219.03	609.22	1.4	14.	44.	40.5	BI-214
8	1323.60	661.50	2.4	4.	59.	27.7	CS-137
9N	1821.98	910.78	1.1	10.	14.	89.0	AC-228
10	2921.26	1461.06	2.1	1.	77.	22.8	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

N - Multiplet Analysis did NOT converge

hgtrw 29-NOV-95 16:43:43

mple: C-1 Soil
ata collected on 29-NOV-95 at 16:27:43
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.85E+00		LLD<3.85E+00	
TH-234	LLD<2.88E+01		LLD<2.88E+01	
TH-230	LLD<2.68E+02		LLD<2.68E+02	
XE-133	LLD<1.83E+00		LLD<1.83E+00	
CD-109	LLD<1.16E+01		LLD<1.16E+01	
SCL-000	LLD<8.07E-01		LLD<8.07E-01	
CO-57	LLD<2.68E-01		LLD<2.68E-01	
PA-234	LLD<1.16E+00		LLD<1.16E+00	
CE-144	LLD<1.99E+00		LLD<1.99E+00	
TC-99M	LLD<2.44E-01		LLD<2.44E-01	
U-235	LLD<1.86E+00		LLD<1.86E+00	
CE-141	LLD<4.18E-01		LLD<4.18E-01	
KR-85M	LLD<2.66E-01		LLD<2.66E-01	
XE-131M	LLD<9.24E+00		LLD<9.24E+00	
BA-139	LLD<1.32E+00		LLD<1.32E+00	
-139	LLD<2.68E-01		LLD<2.68E-01	
RA-226	LLD<5.40E+00		LLD<5.40E+00	
BA-141	LLD<5.64E-01		LLD<5.64E-01	
KR-89	LLD<3.16E+00		LLD<3.16E+00	
TE-132	LLD<2.71E-01		LLD<2.71E-01	
XE-133M	LLD<2.93E+00		LLD<2.93E+00	
TH-227	LLD<2.12E+00		LLD<2.12E+00	
PB-212	2.26E+00	+- 4.66E-01	2.26E+00	+- 4.66E-01
RA-224	LLD<6.96E+00		LLD<6.96E+00	
XE-135	LLD<2.46E-01		LLD<2.46E-01	
XE-138	LLD<9.64E-01		LLD<9.64E-01	
SE-75	LLD<4.62E-01		LLD<4.62E-01	
NP-239	LLD<1.66E+00		LLD<1.66E+00	
HG-203	LLD<2.88E-01		LLD<2.88E-01	
IR-192	LLD<2.86E-01		LLD<2.86E-01	
CR-51	LLD<2.50E+00		LLD<2.50E+00	
SCM-000	LLD<1.22E+00		LLD<1.22E+00	
BI-211	1.06E+01	+- 4.21E+00	1.06E+01	+- 4.21E+00
PB-214	1.23E+00	+- 4.91E-01	1.23E+00	+- 4.91E-01
BA-133	LLD<7.12E-01		LLD<7.12E-01	
I-131	LLD<3.15E-01		LLD<3.15E-01	
SN-113	LLD<4.36E-01		LLD<4.36E-01	
KR-87	LLD<5.37E-01		LLD<5.37E-01	
PB-211	LLD<1.15E+01		LLD<1.15E+01	
AU-198	LLD<3.04E-01		LLD<3.04E-01	
-125	LLD<1.00E+00		LLD<1.00E+00	
-212	LLD<8.63E+01		LLD<8.63E+01	
BE-7	LLD<2.98E+00		LLD<2.98E+00	
HF-181	LLD<3.18E-01		LLD<3.18E-01	
RU-103	LLD<2.59E-01		LLD<2.59E-01	
KR-85	LLD<8.09E+01		LLD<8.09E+01	

SR-85	LLD<3.54E-01	LLD<3.54E-01
I-133	LLD<3.15E-01	LLD<3.15E-01
BA-140	LLD<1.07E+00	LLD<1.07E+00
91M	LLD<3.62E-01	LLD<3.62E-01
-207	LLD<3.49E-01	LLD<3.49E-01
TL-208	LLD<1.21E+00	LLD<1.21E+00
SB-124	LLD<3.90E-01	LLD<3.90E-01
CS-134	LLD<7.42E-01	LLD<7.42E-01
BI-214	1.63E+00 +- 6.62E-01	1.63E+00 +- 6.62E-01
RU-106	LLD<3.64E+00	LLD<3.64E+00
LA-142	LLD<6.82E-01	LLD<6.82E-01
AG-110M	LLD<8.33E-01	LLD<8.33E-01
NB-97	LLD<7.93E-01	LLD<7.93E-01
CS-137	1.04E+00 +- 2.90E-01	1.04E+00 +- 2.90E-01
I-132	LLD<6.17E-01	LLD<6.17E-01
W-187	LLD<1.04E+00	LLD<1.04E+00
ZR-97	LLD<3.93E-01	LLD<3.93E-01
ZR-95	LLD<5.45E-01	LLD<5.45E-01
NB-95	LLD<3.80E-01	LLD<3.80E-01
TL-210	LLD<2.05E+00	LLD<2.05E+00
CO-58	LLD<4.09E-01	LLD<4.09E-01
CS-136	LLD<3.40E-01	LLD<3.40E-01
MN-54	LLD<4.12E-01	LLD<4.12E-01
CO-56	LLD<3.86E-01	LLD<3.86E-01
I-134	LLD<4.09E-01	LLD<4.09E-01
TL-207	LLD<3.05E+02	LLD<3.05E+02
Y-88	LLD<4.55E-01	LLD<4.55E-01
AC-228	1.12E+00 +- 9.96E-01	1.12E+00 +- 9.96E-01
EU-152	LLD<4.48E+00	LLD<4.48E+00
-234M	LLD<4.04E+00	LLD<4.04E+00
-91	LLD<1.52E+00	LLD<1.52E+00
RB-89	LLD<1.04E+00	LLD<1.04E+00
FE-59	LLD<7.20E-01	LLD<7.20E-01
ZN-65	LLD<1.14E+00	LLD<1.14E+00
SC-46	LLD<4.94E-01	LLD<4.94E-01
TA-182	LLD<1.39E+00	LLD<1.39E+00
I-135	LLD<1.36E+00	LLD<1.36E+00
CL-39	LLD<1.05E+00	LLD<1.05E+00
NA-22	LLD<5.14E-01	LLD<5.14E-01
AR-41	LLD<4.98E-01	LLD<4.98E-01
CO-60	LLD<4.04E-01	LLD<4.04E-01
NA-24	LLD<4.03E-01	LLD<4.03E-01
SR-92	LLD<3.89E-01	LLD<3.89E-01
SCH-000	LLD<1.94E+00	LLD<1.94E+00
CS-138	LLD<3.20E-01	LLD<3.20E-01
K-40	2.19E+01 +- 5.06E+00	2.19E+01 +- 5.06E+00
KR-88	LLD<3.81E+00	LLD<3.81E+00
TL-209	LLD<1.18E+00	LLD<1.18E+00
LA-140	LLD<4.27E-01	LLD<4.27E-01
AL-26	LLD<2.44E-01	LLD<2.44E-01
MN-56	LLD<9.16E-01	LLD<9.16E-01
RB-88	LLD<1.13E+00	LLD<1.13E+00
	---	---
Total	3.97E+01 +- 6.73E+00	3.97E+01 +- 6.73E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0034

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
591.37	295.49	38.	59.3	6.10E+00
656.19	327.88	23.	55.3	4.05E+00
677.81	338.69	24.	73.6	4.40E+00
1167.41	583.41	47.	31.5	1.47E+01

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c-78 1hr recount

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 07:31:12

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0059
Measured by: dlv

Sample Description: C-78 Soil/Asbestos
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.6500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 29-NOV-95 at 16:44:36

COLLECT Live Time: 3600. seconds
Real Time: 3609. seconds
Dead Time: 0.25 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 29-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 07:31:12

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	127.54	63.79	1.5	1007.	745.	15.3	TH-234
2C	186.24	93.10	1.5	1276.	3295.	4.7	TH-234,TH-234
3	288.60	144.23	1.4	652.	472.	19.4	U-235
4	327.76	163.79	1.5	577.	234.	35.0	U-235,XE131M
5	372.47	186.13	1.5	535.	2246.	5.3	U-235,RA-226
6$	411.90	205.83	1.2	271.	121.	58.0	
7	478.12	238.91	1.7	400.	360.	20.4	PB-212
8	590.88	295.25	2.0	177.	123.	37.9	PB-214
9	704.70	352.12	1.7	107.	255.	17.8	PB-214
10	1167.34	583.37	1.3	76.	100.	34.1	TL-208
11	1219.24	609.32	2.2	59.	147.	22.6	BI-214
12C	1323.34	661.37	1.9	85.	100.	34.6	CS-137
13	1531.96	765.70	1.1	49.	58.	44.5	NB-95,PA234M, I-134
14C	1766.35	882.95	1.7	20.	19.	71.6	PA-234
15	1821.49	910.53	2.1	43.	55.	47.8	AC-228
16	2001.45	1000.58	1.9	39.	146.	21.7	PA234M
17	2561.27	1280.78	1.7	19.	20.	84.6	BI-214
18	2920.19	1460.52	2.3	13.	350.	11.1	K-40
19	3528.15	1765.12	1.4	7.	24.	57.0	BI-214

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

2 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 30-NOV-95 07:31:12

Sample: C-78 Soil/Asbestos
Data collected on 29-NOV-95 at 16:44:36
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.01E+00		LLD<3.01E+00	
TH-234	7.11E+01	+- 1.25E+01	7.11E+01	+- 1.25E+01
TH-230	LLD<1.85E+02		LLD<1.85E+02	
XE-133	LLD<1.05E+00		LLD<1.05E+00	
CD-109	LLD<1.09E+01		LLD<1.09E+01	
SCL-000	LLD<4.35E-01		LLD<4.35E-01	
CO-57	LLD<1.45E-01		LLD<1.45E-01	
PA-234	LLD<5.42E-01		LLD<5.42E-01	
CE-144	LLD<9.67E-01		LLD<9.67E-01	
TC-99M	LLD<1.64E-01		LLD<1.64E-01	
U-235	3.04E+00	+- 5.91E-01	3.04E+00	+- 5.91E-01
CE-141	LLD<2.04E-01		LLD<2.04E-01	
KR-85M	LLD<1.38E-01		LLD<1.38E-01	
XE-131M	8.43E+00	+- 2.96E+00	8.43E+00	+- 2.96E+00
BA-139	LLD<6.85E-01		LLD<6.85E-01	
[illegible]-139	LLD<1.14E-01		LLD<1.14E-01	
[illegible]A-226	5.17E+01	+- 2.96E+00	5.17E+01	+- 2.96E+00
BA-141	LLD<1.23E+00		LLD<1.23E+00	
KR-89	LLD<5.63E+00		LLD<5.63E+00	
TE-132	LLD<1.02E-01		LLD<1.02E-01	
XE-133M	LLD<1.04E+00		LLD<1.04E+00	
TH-227	LLD<7.39E-01		LLD<7.39E-01	
PB-212	8.69E-01	+- 1.80E-01	8.69E-01	+- 1.80E-01
RA-224	LLD<2.62E+00		LLD<2.62E+00	
XE-135	LLD<1.05E-01		LLD<1.05E-01	
XE-138	LLD<9.21E-01		LLD<9.21E-01	
SE-75	LLD<1.70E-01		LLD<1.70E-01	
NP-239	LLD<6.77E-01		LLD<6.77E-01	
HG-203	LLD<1.24E-01		LLD<1.24E-01	
IR-192	LLD<1.21E-01		LLD<1.21E-01	
CR-51	LLD<8.86E-01		LLD<8.86E-01	
SCM-000	LLD<4.05E-01		LLD<4.05E-01	
BI-211	LLD<1.50E+01		LLD<1.50E+01	
PB-214	2.03E+00	+- 3.63E-01	2.03E+00	+- 3.63E-01
BA-133	LLD<2.67E-01		LLD<2.67E-01	
I-131	LLD<1.21E-01		LLD<1.21E-01	
SN-113	LLD<1.64E-01		LLD<1.64E-01	
KR-87	LLD<2.80E-01		LLD<2.80E-01	
PB-211	LLD<6.83E+00		LLD<6.83E+00	
AU-198	LLD<1.15E-01		LLD<1.15E-01	
[illegible]B-125	LLD<3.72E-01		LLD<3.72E-01	
[illegible]-212	LLD<4.11E+01		LLD<4.11E+01	
BE-7	LLD<1.08E+00		LLD<1.08E+00	
HF-181	LLD<1.34E-01		LLD<1.34E-01	
RU-103	LLD<1.20E-01		LLD<1.20E-01	
KR-85	LLD<2.82E+01		LLD<2.82E+01	

SR-85	LLD<1.23E-01	LLD<1.23E-01
I-133	LLD<1.22E-01	LLD<1.22E-01
BA-140	LLD<4.05E-01	LLD<4.05E-01
Y-91M	LLD<1.68E-01	LLD<1.68E-01
[illegible]-207	LLD<1.12E-01	LLD<1.12E-01
[illegible]-208	LLD<2.20E+00	LLD<2.20E+00
SB-124	LLD<1.32E-01	LLD<1.32E-01
CS-134	LLD<2.50E-01	LLD<2.50E-01
BI-214	1.98E+00 +- 4.51E-01	1.98E+00 +- 4.51E-01
RU-106	LLD<1.26E+00	LLD<1.26E+00
LA-142	LLD<2.90E-01	LLD<2.90E-01
AG-110M	LLD<2.61E-01	LLD<2.61E-01
NB-97	LLD<3.11E-01	LLD<3.11E-01
CS-137	3.18E-01 +- 1.10E-01	3.18E-01 +- 1.10E-01
I-132	LLD<1.93E-01	LLD<1.93E-01
W-187	LLD<5.12E-01	LLD<5.12E-01
ZR-97	LLD<1.36E-01	LLD<1.36E-01
ZR-95	LLD<2.94E-01	LLD<2.94E-01
NB-95	1.92E-01 +- 8.57E-02	1.92E-01 +- 8.57E-02
TL-210	LLD<4.75E+00	LLD<4.75E+00
CO-58	LLD<1.52E-01	LLD<1.52E-01
CS-136	LLD<1.23E-01	LLD<1.23E-01
MN-54	LLD<1.41E-01	LLD<1.41E-01
CO-56	LLD<1.29E-01	LLD<1.29E-01
I-134	LLD<2.04E-01	LLD<2.04E-01
TL-207	LLD<5.07E+02	LLD<5.07E+02
Y-88	LLD<1.50E-01	LLD<1.50E-01
AC-228	8.07E-01 +- 3.86E-01	8.07E-01 +- 3.86E-01
EU-152	LLD<1.48E+00	LLD<1.48E+00
[illegible]-234M	3.68E+01 +- 8.01E+00	3.68E+01 +- 8.01E+00
[illegible]-91	LLD<4.79E-01	LLD<4.79E-01
RB-89	LLD<8.24E-01	LLD<8.24E-01
FE-59	LLD<3.07E-01	LLD<3.07E-01
ZN-65	LLD<4.52E-01	LLD<4.52E-01
SC-46	LLD<1.89E-01	LLD<1.89E-01
TA-182	LLD<5.34E-01	LLD<5.34E-01
I-135	LLD<6.27E-01	LLD<6.27E-01
CL-39	LLD<4.41E-01	LLD<4.41E-01
NA-22	LLD<1.69E-01	LLD<1.69E-01
AR-41	LLD<1.78E-01	LLD<1.78E-01
CO-60	LLD<1.36E-01	LLD<1.36E-01
NA-24	LLD<1.19E-01	LLD<1.19E-01
SR-92	LLD<1.75E-01	LLD<1.75E-01
SCH-000	LLD<4.91E-01	LLD<4.91E-01
CS-138	LLD<2.65E-01	LLD<2.65E-01
K-40	1.79E+01 +- 2.09E+00	1.79E+01 +- 2.09E+00
KR-88	LLD<1.21E+00	LLD<1.21E+00
TL-209	LLD<2.02E+00	LLD<2.02E+00
LA-140	LLD<1.83E-01	LLD<1.83E-01
AL-26	LLD<1.16E-01	LLD<1.16E-01
MN-56	LLD<4.00E-01	LLD<4.00E-01
RB-88	LLD<9.84E-01	LLD<9.84E-01
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Total	1.95E+02 +- 1.56E+01	1.95E+02 +- 1.56E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0059

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
411.90	205.83	121.	58.0	2.11E+00
590.88	295.25	123.	37.9	3.28E+00
1167.34	583.37	100.	34.1	5.21E+00
1766.35	882.95	19.	71.6	1.46E+00
2561.27	1280.78	20.	84.6	2.07E+00
3528.15	1765.12	24.	57.0	3.03E+00

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GAMMA SPECTROSCOPY RESULTS FROM 11/30/95

FOR

CELLS 29,30,12,31,32,33,34,35,36,BACKGROUND FROM NES OFFICE,3,2,45,40,44,42,43,41,39

0:♥♠ Antocal 11/30

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*                                                                     *
*        G A M M A   S P E C T R U M   R E C A L I B R A T I O N      *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 08:05:05

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Angular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 30-NOV-95 at 07:37:08

COLLECT Live Time: 1200. sec.

hgtrw 30-NOV-95 08:05:05

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.71	39.89	1.7	30780.	3679.	19.4	
2C	91.42	45.75	1.7	25998.	1859.	24.2	
3C	149.44	74.72	3.2	48568.	2455.	33.7	PB-214
4$	167.98	83.98	3.2	76958.	3278.	29.0	
5$	173.94	86.96	3.2	83746.	4465.	22.3	PB-214
6$	180.16	90.07	3.2	90840.	2695.	31.2	
7?	239.01	119.46	1.5	34692.	12541.	46.2	
8?	244.04	121.97	1.5	32331.	180737.	3.3	SE-75,SCL-000, CO-57
9?	485.40	242.54	1.6	13069.	2686.	38.7	PB-214
10?	489.96	244.82	1.6	12742.	35072.	4.1	
11?	495.49	247.59	1.6	12346.	1214.	68.7	
12	592.52	296.07	1.8	9317.	1695.	17.8	PB-214
13?	683.27	341.41	1.7	8873.	5005.	38.0	CS-136
14?	689.08	344.32	1.7	9622.	89095.	2.3	BA-141, SCM-000
15	736.08	367.81	1.8	6887.	2994.	9.5	
16C	822.74	411.12	1.7	5562.	6334.	7.3	AU-198
17C	832.94	416.21	1.7	5130.	405.	52.6	
18?	883.98	441.72	1.6	4830.	524.	50.1	
19?	888.44	443.95	1.6	4923.	7789.	5.3	
20	977.84	488.64	1.6	4850.	825.	26.4	
21C	1128.55	563.98	1.8	5039.	923.	30.9	CS-134,SB-122
22C	1132.72	566.06	1.8	5060.	358.	52.0	
23	1172.98	586.19	1.4	5193.	771.	29.8	
24	1357.64	678.52	1.6	4875.	662.	34.3	AG110M
25	1377.92	688.67	1.7	4194.	1583.	13.6	
26	1439.26	719.34	1.9	4507.	395.	53.5	
27?	1552.71	776.08	1.9	3841.	1263.	22.6	BR-82
28?	1558.15	778.80	1.9	3796.	18888.	2.9	MO-99
29?	1563.81	781.63	1.9	3749.	593.	40.8	
30	1620.97	810.22	2.3	2972.	528.	31.5	I-132,CO-58
31	1735.16	867.34	2.0	4515.	5666.	4.7	
32C	1838.76	919.17	1.7	2184.	521.	44.4	
33	1928.40	964.03	2.1	3313.	18851.	1.8	EU-152
34	2010.35	1005.03	2.1	1955.	831.	18.6	
35?	2171.89	1085.87	2.2	2144.	12255.	3.1	EU-152
36?	2179.54	1089.70	2.2	2035.	2083.	12.4	
37	2224.46	1112.18	2.2	2612.	16085.	1.9	TE-129,EU-152
38	2246.83	1123.38	2.7	1708.	327.	42.5	I-135
39	2426.22	1213.17	2.3	1328.	1540.	9.5	
40	2598.49	1299.42	2.1	557.	1531.	7.2	
41	2816.40	1408.54	2.4	646.	19720.	1.5	EU-152,BI-214, SCH-000
42C	2915.46	1458.15	2.4	57.	479.	11.7	I-135
43C	2922.01	1461.43	2.4	54.	277.	16.2	K-40
44	3059.85	1530.48	4.3	65.	516.	10.3	KR-88

Error Quotation at 1.96 sigma

Peak Confidence Level at 95.0%

12 Multiplets processed.

- Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.558650E-07*Ch^2 + 4.993675E-01*Ch + 9.127687E-02

New Calibration Coefficients:

Energy = 2.408874E-07*Ch^2 + 4.992761E-01*Ch + 1.064480E-01

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Daily Source check 11/30

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 08:28:51

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1130
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 08:07:28

COLLECT Live Time: 600. seconds
Real Time: 759. seconds
Dead Time: 20.95 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

30-NOV-95 08:28:51

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.98	40.04	1.7	14662.	2342.	20.3	
2C	91.31	45.70	1.7	12286.	1451.	24.2	
3$	170.18	85.08	2.8	33853.	2186.	27.1	
4$	175.59	87.78	2.8	36177.	1894.	30.9	PB-214,CD-109
5$	181.34	90.65	2.8	38648.	1277.	38.1	
6?	239.78	119.84	1.5	16414.	6906.	48.5	
7?	244.28	122.09	1.5	15423.	89448.	3.8	SE-75,SCL-000, CO-57
8?	485.72	242.67	1.5	6434.	1249.	45.1	PB-214
9?	490.19	244.91	1.5	6220.	17248.	4.9	
10	592.72	296.12	1.5	5504.	965.	25.2	PB-214
11?	683.67	341.56	1.7	4210.	2660.	36.1	CS-136
12?	689.32	344.38	1.7	4533.	44838.	2.4	BA-141, SCM-000
13	736.39	367.90	1.9	3555.	1555.	13.1	
14	823.10	411.23	1.6	3372.	2988.	7.1	AU-198
15	888.71	444.01	1.7	3162.	3977.	5.5	
16	978.06	488.66	1.7	2354.	526.	29.1	
17	1128.95	564.07	2.5	2979.	618.	29.1	CS-134,SB-122
18	1378.23	688.68	2.1	2509.	713.	24.0	
19?	1552.69	775.91	1.9	1971.	662.	31.9	BR-82
20?	1558.45	778.79	1.9	2114.	9415.	3.6	MO-99
21	1735.40	867.28	2.0	2284.	2880.	6.6	
22	1839.72	919.45	2.1	1479.	219.	58.5	
23	1928.71	963.96	2.0	1575.	9686.	2.4	EU-152
24	2010.62	1004.94	1.8	937.	558.	20.0	
25	2172.29	1085.81	2.0	2231.	5497.	3.9	EU-152
26C	2218.62	1109.00	2.1	1025.	511.	23.6	
27C	2224.68	1112.03	2.1	1067.	7427.	3.3	TE-129,EU-152
28	2426.54	1213.04	1.7	692.	725.	14.3	
29	2598.87	1299.29	2.0	336.	766.	10.8	I-133
30	2816.62	1408.29	2.3	327.	9885.	2.1	EU-152,BI-214, SCH-000
31	2915.46	1457.77	2.8	117.	245.	19.8	I-135
32	3058.94	1529.62	3.5	58.	267.	15.7	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

7 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 30-NOV-95 08:28:51

Sample: Eu-152 Standard
Data collected on 30-NOV-95 at 08:07:28
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.88E+01		LLD<2.88E+01	
TH-234	LLD<2.21E+02		LLD<2.21E+02	
TH-230	LLD<1.82E+03		LLD<1.82E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	2.61E+02	+- 8.11E+01	2.61E+02	+- 8.11E+01
SCL-000	9.43E+02	+- 3.81E+01	9.43E+02	+- 3.81E+01
CO-57	3.13E+02	+- 1.26E+01	3.13E+02	+- 1.26E+01
PA-234	LLD<9.14E+00		LLD<9.14E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.97E+00		LLD<1.97E+00	
U-235	LLD<1.57E+01		LLD<1.57E+01	
CE-141	LLD<3.60E+00		LLD<3.60E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.85E+01		LLD<8.85E+01	
BA-139	LLD<1.08E+01		LLD<1.08E+01	
LA-139	LLD<2.18E+00		LLD<2.18E+00	
RA-226	LLD<5.23E+01		LLD<5.23E+01	
BA-141	LLD<4.52E+00		LLD<4.52E+00	
KR-89	LLD<2.77E+01		LLD<2.77E+01	
TE-132	LLD<2.17E+00		LLD<2.17E+00	
XE-133M	LLD<1.88E+01		LLD<1.88E+01	
TH-227	LLD<1.40E+01		LLD<1.40E+01	
PB-212	LLD<5.07E+00		LLD<5.07E+00	
RA-224	LLD<9.84E+01		LLD<9.84E+01	
XE-135	LLD<4.47E+00		LLD<4.47E+00	
XE-138	LLD<8.34E+00		LLD<8.34E+00	
SE-75	LLD<3.24E+00		LLD<3.24E+00	
NP-239	LLD<1.37E+01		LLD<1.37E+01	
HG-203	LLD<2.52E+00		LLD<2.52E+00	
IR-192	LLD<2.40E+00		LLD<2.40E+00	
CR-51	LLD<2.03E+01		LLD<2.03E+01	
SCM-000	9.44E+02	+- 2.72E+01	9.44E+02	+- 2.72E+01
BI-211	LLD<9.34E+01		LLD<9.34E+01	
PB-214	LLD<7.01E+00		LLD<7.01E+00	
BA-133	LLD<3.10E+00		LLD<3.10E+00	
I-131	LLD<2.77E+00		LLD<2.77E+00	
SN-113	LLD<3.04E+00		LLD<3.04E+00	
KR-87	LLD<4.20E+00		LLD<4.20E+00	
PB-211	LLD<8.24E+01		LLD<8.24E+01	
AU-198	2.09E+01	+- 1.55E+00	2.09E+01	+- 1.55E+00
SB-125	LLD<6.97E+00		LLD<6.97E+00	
BI-212	LLD<6.51E+02		LLD<6.51E+02	
BE-7	LLD<2.16E+01		LLD<2.16E+01	
HF-181	LLD<2.70E+00		LLD<2.70E+00	
RU-103	LLD<2.58E+00		LLD<2.58E+00	
KR-85	LLD<5.60E+02		LLD<5.60E+02	

SR-85	LLD<2.45E+00	LLD<2.45E+00
I-133	LLD<2.84E+00	LLD<2.84E+00
BA-140	LLD<1.03E+01	LLD<1.03E+01
91M	LLD<3.25E+00	LLD<3.25E+00
-207	LLD<2.99E+00	LLD<2.99E+00
TL-208	LLD<1.10E+01	LLD<1.10E+01
SB-124	LLD<2.70E+00	LLD<2.70E+00
CS-134	LLD<2.72E+00	LLD<2.72E+00
BI-214	LLD<7.14E+00	LLD<7.14E+00
RU-106	LLD<2.77E+01	LLD<2.77E+01
LA-142	LLD<5.86E+00	LLD<5.86E+00
AG-110M	LLD<3.03E+00	LLD<3.03E+00
NB-97	LLD<3.09E+00	LLD<3.09E+00
CS-137	LLD<3.46E+00	LLD<3.46E+00
I-132	LLD<3.29E+00	LLD<3.29E+00
W-187	LLD<1.09E+01	LLD<1.09E+01
ZR-97	LLD<3.46E+00	LLD<3.46E+00
ZR-95	LLD<6.15E+00	LLD<6.15E+00
NB-95	LLD<3.15E+00	LLD<3.15E+00
TL-210	LLD<2.28E+01	LLD<2.28E+01
CO-58	LLD<3.30E+00	LLD<3.30E+00
CS-136	LLD<3.29E+00	LLD<3.29E+00
MN-54	LLD<3.42E+00	LLD<3.42E+00
CO-56	LLD<3.79E+00	LLD<3.79E+00
I-134	LLD<4.04E+00	LLD<4.04E+00
TL-207	LLD<3.38E+03	LLD<3.38E+03
Y-88	LLD<3.78E+00	LLD<3.78E+00
AC-228	LLD<1.13E+01	LLD<1.13E+01
-152	1.04E+03 +- 3.53E+01	1.04E+03 +- 3.53E+01
-234M	LLD<4.79E+01	LLD<4.79E+01
SR-91	LLD<8.78E+00	LLD<8.78E+00
RB-89	LLD<6.40E+00	LLD<6.40E+00
FE-59	LLD<5.42E+00	LLD<5.42E+00
ZN-65	LLD<1.34E+01	LLD<1.34E+01
SC-46	LLD<3.52E+00	LLD<3.52E+00
TA-182	LLD<9.26E+00	LLD<9.26E+00
I-135	LLD<8.07E+00	LLD<8.07E+00
CL-39	LLD<4.87E+00	LLD<4.87E+00
NA-22	LLD<2.29E+00	LLD<2.29E+00
AR-41	LLD<4.24E+00	LLD<4.24E+00
CO-60	LLD<1.34E+00	LLD<1.34E+00
NA-24	LLD<1.29E+00	LLD<1.29E+00
SR-92	LLD<1.32E+00	LLD<1.32E+00
SCH-000	9.66E+02 +- 3.62E+01	9.66E+02 +- 3.62E+01
CS-138	LLD<1.16E+00	LLD<1.16E+00
K-40	LLD<1.03E+01	LLD<1.03E+01
KR-88	LLD<9.61E+00	LLD<9.61E+00
TL-209	LLD<2.17E+00	LLD<2.17E+00
LA-140	LLD<5.25E-01	LLD<5.25E-01
AL-26	LLD<3.02E-01	LLD<3.02E-01
MN-56	LLD<8.66E-01	LLD<8.66E-01
RB-88	LLD<1.26E+00	LLD<1.26E+00
	---	---
Total	4.49E+03 +- 1.07E+02	4.49E+03 +- 1.07E+02

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1130

PEAKS NOT USED IN ANALYSIS

:troid ..annel	Energy keV	Net Area counts	Error %	Gammas/sec
79.98	40.04	2342.	20.3	8.93E+03
91.31	45.70	1451.	24.2	2.74E+03
170.18	85.08	2186.	27.1	4.00E+02
181.34	90.65	1277.	38.1	2.01E+02
239.78	119.84	6906.	48.5	6.92E+02
485.72	242.67	1249.	45.1	1.68E+02
490.19	244.91	17248.	4.9	2.36E+03
592.72	296.12	965.	25.2	1.55E+02
683.67	341.56	2660.	36.1	4.87E+02
736.39	367.90	1555.	13.1	3.06E+02
888.71	444.01	3977.	5.5	9.43E+02
978.06	488.66	526.	29.1	1.38E+02
1128.95	564.07	618.	29.1	1.88E+02
1378.23	688.68	713.	24.0	2.65E+02
1552.69	775.91	662.	31.9	2.76E+02
1558.45	778.79	9415.	3.6	3.94E+03
1735.40	867.28	2880.	6.6	1.33E+03
1839.72	919.45	219.	58.5	1.07E+02
2010.62	1004.94	558.	20.0	2.94E+02
2218.62	1109.00	511.	23.6	2.91E+02
2426.54	1213.04	725.	14.3	4.40E+02
2598.87	1299.29	766.	10.8	4.87E+02
2915.46	1457.77	245.	19.8	1.67E+02
58.94	1529.62	267.	15.7	1.87E+02

C-29

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 08:57:26

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0054
Measured by: dlv

Sample Description: C-29 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.4000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 08:30:03

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hqtrw

30-NOV-95 08:57:26

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1$	478.59	239.11	1.6	49.	145.	26.8	PB-212
2	591.80	295.66	1.3	21.	52.	37.7	PB-214
3	704.86	352.15	1.6	22.	76.	29.2	PB-214
4	1166.82	583.00	1.3	15.	38.	44.7	TL-208
5	1220.13	609.65	1.4	16.	33.	50.6	BI-214
6	1324.54	661.84	1.6	13.	36.	45.6	CS-137
7	1823.72	911.45	0.8	10.	16.	78.0	AC-228
8	1938.45	968.83	1.7	4.	18.	55.5	AC-228,RU-105
9	2922.79	1461.44	2.3	6.	91.	22.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 30-NOV-95 08:57:26

ample: C-29 Soil
ata collected on 30-NOV-95 at 08:30:03
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.31E+00		LLD<3.31E+00	
TH-234	LLD<2.18E+01		LLD<2.18E+01	
TH-230	LLD<1.85E+02		LLD<1.85E+02	
XE-133	LLD<1.61E+00		LLD<1.61E+00	
CD-109	LLD<1.06E+01		LLD<1.06E+01	
SCL-000	LLD<7.17E-01		LLD<7.17E-01	
CO-57	LLD<2.38E-01		LLD<2.38E-01	
PA-234	LLD<9.26E-01		LLD<9.26E-01	
CE-144	LLD<1.80E+00		LLD<1.80E+00	
TC-99M	LLD<1.96E-01		LLD<1.96E-01	
U-235	LLD<1.68E+00		LLD<1.68E+00	
CE-141	LLD<3.81E-01		LLD<3.81E-01	
KR-85M	LLD<2.29E-01		LLD<2.29E-01	
XE-131M	LLD<7.88E+00		LLD<7.88E+00	
BA-139	LLD<1.07E+00		LLD<1.07E+00	
[illegible]-139	LLD<2.18E-01		LLD<2.18E-01	
RA-226	LLD<4.01E+00		LLD<4.01E+00	
BA-141	LLD<5.07E-01		LLD<5.07E-01	
KR-89	LLD<2.63E+00		LLD<2.63E+00	
TE-132	LLD<2.03E-01		LLD<2.03E-01	
XE-133M	LLD<2.40E+00		LLD<2.40E+00	
TH-227	LLD<1.50E+00		LLD<1.50E+00	
PB-212	1.55E+00	+- 4.18E-01	1.55E+00	+- 4.18E-01
RA-224	LLD<5.94E+00		LLD<5.94E+00	
XE-135	LLD<2.18E-01		LLD<2.18E-01	
XE-138	LLD<7.14E-01		LLD<7.14E-01	
SE-75	LLD<3.55E-01		LLD<3.55E-01	
NP-239	LLD<1.59E+00		LLD<1.59E+00	
HG-203	LLD<2.88E-01		LLD<2.88E-01	
IR-192	LLD<2.31E-01		LLD<2.31E-01	
CR-51	LLD<2.30E+00		LLD<2.30E+00	
SCM-000	LLD<9.61E-01		LLD<9.61E-01	
BI-211	LLD<7.72E+00		LLD<7.72E+00	
PB-214	1.59E+00	+- 4.66E-01	1.59E+00	+- 4.66E-01
BA-133	LLD<6.41E-01		LLD<6.41E-01	
I-131	LLD<2.24E-01		LLD<2.24E-01	
SN-113	LLD<3.19E-01		LLD<3.19E-01	
KR-87	LLD<5.25E-01		LLD<5.25E-01	
PB-211	LLD<9.11E+00		LLD<9.11E+00	
AU-198	LLD<2.43E-01		LLD<2.43E-01	
[illegible]-125	LLD<7.94E-01		LLD<7.94E-01	
[illegible]-212	LLD<7.48E+01		LLD<7.48E+01	
BE-7	LLD<2.17E+00		LLD<2.17E+00	
HF-181	LLD<2.52E-01		LLD<2.52E-01	
RU-103	LLD<2.53E-01		LLD<2.53E-01	
KR-85	LLD<5.60E+01		LLD<5.60E+01	

SR-85	LLD<2.45E-01		LLD<2.45E-01		
I-133	LLD<2.84E-01		LLD<2.84E-01		
BA-140	LLD<8.92E-01		LLD<8.92E-01		
91M	LLD<3.01E-01		LLD<3.01E-01		
PB-207	LLD<2.76E-01		LLD<2.76E-01		
TL-208	LLD<1.11E+00		LLD<1.11E+00		
SB-124	LLD<3.19E-01		LLD<3.19E-01		
CS-134	LLD<5.33E-01		LLD<5.33E-01		
BI-214	1.03E+00	+- 5.20E-01	1.03E+00	+-	5.20E-01
RU-106	LLD<2.60E+00		LLD<2.60E+00		
LA-142	LLD<5.48E-01		LLD<5.48E-01		
AG-110M	LLD<5.90E-01		LLD<5.90E-01		
NB-97	LLD<5.94E-01		LLD<5.94E-01		
CS-137	5.21E-01	+- 2.38E-01	5.21E-01	+-	2.38E-01
I-132	LLD<5.10E-01		LLD<5.10E-01		
W-187	LLD<8.73E-01		LLD<8.73E-01		
ZR-97	LLD<3.53E-01		LLD<3.53E-01		
ZR-95	LLD<5.75E-01		LLD<5.75E-01		
NB-95	LLD<2.69E-01		LLD<2.69E-01		
TL-210	LLD<2.01E+00		LLD<2.01E+00		
CO-58	LLD<3.74E-01		LLD<3.74E-01		
CS-136	LLD<3.35E-01		LLD<3.35E-01		
MN-54	LLD<2.66E-01		LLD<2.66E-01		
CO-56	LLD<2.76E-01		LLD<2.76E-01		
I-134	LLD<3.30E-01		LLD<3.30E-01		
TL-207	LLD<2.53E+02		LLD<2.53E+02		
Y-88	LLD<3.05E-01		LLD<3.05E-01		
AC-228	1.04E+00	+- 8.08E-01	1.04E+00	+-	8.08E-01
EU-152	LLD<3.82E+00		LLD<3.82E+00		
PA-234M	LLD<3.48E+00		LLD<3.48E+00		
SR-91	LLD<9.40E-01		LLD<9.40E-01		
RB-89	LLD<5.83E-01		LLD<5.83E-01		
FE-59	LLD<6.63E-01		LLD<6.63E-01		
ZN-65	LLD<1.48E+00		LLD<1.48E+00		
SC-46	LLD<4.76E-01		LLD<4.76E-01		
TA-182	LLD<1.36E+00		LLD<1.36E+00		
I-135	LLD<1.63E+00		LLD<1.63E+00		
CL-39	LLD<1.01E+00		LLD<1.01E+00		
NA-22	LLD<3.96E-01		LLD<3.96E-01		
AR-41	LLD<3.62E-01		LLD<3.62E-01		
CO-60	LLD<3.98E-01		LLD<3.98E-01		
NA-24	LLD<2.50E-01		LLD<2.50E-01		
SR-92	LLD<7.42E-02		LLD<7.42E-02		
SCH-000	LLD<1.51E+00		LLD<1.51E+00		
CS-138	LLD<5.07E-01		LLD<5.07E-01		
K-40	2.13E+01	+- 4.81E+00	2.13E+01	+-	4.81E+00
KR-88	LLD<3.38E+00		LLD<3.38E+00		
TL-209	LLD<1.55E+00		LLD<1.55E+00		
LA-140	LLD<5.03E-01		LLD<5.03E-01		
AL-26	LLD<4.29E-01		LLD<4.29E-01		
MN-56	LLD<9.54E-01		LLD<9.54E-01		
RB-88	LLD<1.14E+00		LLD<1.14E+00		
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Total	2.71E+01	+- 4.95E+00	2.71E+01	+-	4.95E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0054

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.80	295.66	52.	37.7	8.38E+00
1166.82	583.00	38.	44.7	1.20E+01
1938.45	968.83	18.	55.5	9.30E+00

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C-32

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 10:03:54

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0052
Measured by: dlv

Sample Description: C-32 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 09:51:29

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

bctrw

30-NOV-95 10:03:54

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.79	238.71	1.4	86.	147.	25.8	PB-212
2	677.55	338.50	1.0	18.	40.	45.6	AC-228
3	704.43	351.93	1.7	31.	71.	34.0	BI-211,PB-214
4	1022.33	510.78	2.5	11.	22.	61.8	TL-208,NA-22, ANN-RD
5	1218.95	609.06	1.9	17.	65.	31.9	XE-135,BI-214
6	1323.63	661.38	2.1	4.	45.	32.5	CS-137
7	2922.50	1461.30	1.6	6.	86.	23.5	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 30-NOV-95 10:03:54

Sample: C-32 Soil
Data collected on 30-NOV-95 at 09:51:29
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.50E+00		LLD<3.50E+00	
TH-234	LLD<2.81E+01		LLD<2.81E+01	
TH-230	LLD<2.24E+02		LLD<2.24E+02	
XE-133	LLD<1.50E+00		LLD<1.50E+00	
CD-109	LLD<1.05E+01		LLD<1.05E+01	
SCL-000	LLD<7.52E-01		LLD<7.52E-01	
CO-57	LLD<2.50E-01		LLD<2.50E-01	
PA-234	LLD<1.04E+00		LLD<1.04E+00	
CE-144	LLD<1.76E+00		LLD<1.76E+00	
TC-99M	LLD<2.23E-01		LLD<2.23E-01	
U-235	LLD<1.65E+00		LLD<1.65E+00	
CE-141	LLD<4.06E-01		LLD<4.06E-01	
KR-85M	LLD<2.53E-01		LLD<2.53E-01	
XE-131M	LLD<8.51E+00		LLD<8.51E+00	
BA-139	LLD<1.08E+00		LLD<1.08E+00	
[illegible]E-139	LLD<2.19E-01		LLD<2.19E-01	
[illegible]A-226	LLD<4.97E+00		LLD<4.97E+00	
BA-141	LLD<5.17E-01		LLD<5.17E-01	
KR-89	LLD<2.56E+00		LLD<2.56E+00	
TE-132	LLD<2.21E-01		LLD<2.21E-01	
XE-133M	LLD<2.52E+00		LLD<2.52E+00	
TH-227	LLD<1.87E+00		LLD<1.87E+00	
PB-212	1.66E+00	+- 4.31E-01	1.66E+00	+- 4.31E-01
RA-224	LLD<6.66E+00		LLD<6.66E+00	
XE-135	LLD<2.52E-01		LLD<2.52E-01	
XE-138	LLD<8.97E-01		LLD<8.97E-01	
SE-75	LLD<4.39E-01		LLD<4.39E-01	
NP-239	LLD<1.54E+00		LLD<1.54E+00	
HG-203	LLD<2.81E-01		LLD<2.81E-01	
IR-192	LLD<2.64E-01		LLD<2.64E-01	
CR-51	LLD<2.52E+00		LLD<2.52E+00	
SCM-000	LLD<1.24E+00		LLD<1.24E+00	
BI-211	1.35E+01	+- 4.60E+00	1.35E+01	+- 4.60E+00
PB-214	1.58E+00	+- 5.37E-01	1.58E+00	+- 5.37E-01
BA-133	LLD<7.24E-01		LLD<7.24E-01	
I-131	LLD<2.54E-01		LLD<2.54E-01	
SN-113	LLD<3.85E-01		LLD<3.85E-01	
KR-87	LLD<5.29E-01		LLD<5.29E-01	
PB-211	LLD<1.06E+01		LLD<1.06E+01	
AU-198	LLD<2.85E-01		LLD<2.85E-01	
SB-125	LLD<8.62E-01		LLD<8.62E-01	
[illegible]-212	LLD<6.97E+01		LLD<6.97E+01	
BE-7	LLD<2.49E+00		LLD<2.49E+00	
HF-181	LLD<3.55E-01		LLD<3.55E-01	
RU-103	LLD<2.48E-01		LLD<2.48E-01	
KR-85	LLD<7.55E+01		LLD<7.55E+01	

SR-85	LLD<3.30E-01	LLD<3.30E-01
I-133	LLD<2.69E-01	LLD<2.69E-01
BA-140	LLD<9.25E-01	LLD<9.25E-01
91M	LLD<2.72E-01	LLD<2.72E-01
-207	LLD<2.76E-01	LLD<2.76E-01
TL-208	LLD<1.18E+00	LLD<1.18E+00
SB-124	LLD<3.07E-01	LLD<3.07E-01
CS-134	LLD<6.97E-01	LLD<6.97E-01
BI-214	2.12E+00 +- 6.79E-01	2.12E+00 +- 6.79E-01
RU-106	LLD<2.66E+00	LLD<2.66E+00
LA-142	LLD<5.57E-01	LLD<5.57E-01
AG-110M	LLD<5.98E-01	LLD<5.98E-01
NB-97	LLD<6.02E-01	LLD<6.02E-01
CS-137	6.96E-01 +- 2.27E-01	6.96E-01 +- 2.27E-01
I-132	LLD<4.45E-01	LLD<4.45E-01
W-187	LLD<9.07E-01	LLD<9.07E-01
ZR-97	LLD<3.56E-01	LLD<3.56E-01
ZR-95	LLD<5.08E-01	LLD<5.08E-01
NB-95	LLD<2.94E-01	LLD<2.94E-01
TL-210	LLD<2.28E+00	LLD<2.28E+00
CO-58	LLD<3.02E-01	LLD<3.02E-01
CS-136	LLD<3.44E-01	LLD<3.44E-01
MN-54	LLD<3.80E-01	LLD<3.80E-01
CO-56	LLD<3.17E-01	LLD<3.17E-01
I-134	LLD<3.42E-01	LLD<3.42E-01
TL-207	LLD<2.77E+02	LLD<2.77E+02
Y-88	LLD<3.53E-01	LLD<3.53E-01
AC-228	LLD<1.77E+00	LLD<1.77E+00
EU-152	LLD<3.56E+00	LLD<3.56E+00
-234M	LLD<3.95E+00	LLD<3.95E+00
R-91	LLD<1.17E+00	LLD<1.17E+00
RB-89	LLD<7.49E-01	LLD<7.49E-01
FE-59	LLD<7.14E-01	LLD<7.14E-01
ZN-65	LLD<1.17E+00	LLD<1.17E+00
SC-46	LLD<4.79E-01	LLD<4.79E-01
TA-182	LLD<1.39E+00	LLD<1.39E+00
I-135	LLD<1.30E+00	LLD<1.30E+00
CL-39	LLD<5.53E-01	LLD<5.53E-01
NA-22	LLD<3.80E-01	LLD<3.80E-01
AR-41	LLD<5.29E-01	LLD<5.29E-01
CO-60	LLD<3.34E-01	LLD<3.34E-01
NA-24	LLD<4.08E-01	LLD<4.08E-01
SR-92	LLD<5.15E-01	LLD<5.15E-01
SCH-000	LLD<1.49E+00	LLD<1.49E+00
CS-138	LLD<5.80E-01	LLD<5.80E-01
K-40	2.11E+01 +- 5.03E+00	2.11E+01 +- 5.03E+00
KR-88	LLD<1.86E+00	LLD<1.86E+00
TL-209	LLD<1.17E+00	LLD<1.17E+00
LA-140	LLD<4.72E-01	LLD<4.72E-01
AL-26	LLD<3.52E-01	LLD<3.52E-01
MN-56	LLD<7.99E-01	LLD<7.99E-01
RB-88	LLD<1.96E+00	LLD<1.96E+00
	---	---
Total	4.07E+01 +- 6.88E+00	4.07E+01 +- 6.88E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0052

PEAKS NOT USED IN ANALYSIS

ıtroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
677.55	338.50	40.	45.6	7.28E+00
1022.33	510.78	22.	61.8	6.02E+00

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0↕♥♠ C-33

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 10:55:14

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0053
Measured by: dlv

Sample Description: C-33 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.9400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 10:04:46

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 10:55:14

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.85	238.74	1.5	93.	114.	32.4	PB-212
2	704.84	352.14	2.0	31.	106.	25.3	PB-214
3	1167.51	583.34	1.2	18.	34.	51.2	TL-208
4	1219.93	609.55	3.0	9.	42.	37.5	BI-214
5	1824.14	911.66	2.1	3.	31.	39.9	AC-228
6	2922.34	1461.22	2.1	4.	84.	22.7	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 30-NOV-95 10:55:14

Sample: C-33 Soil
Data collected on 30-NOV-95 at 10:04:46
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<3.25E+00		LLD<3.25E+00	
TH-234	LLD<2.52E+01		LLD<2.52E+01	
TH-230	LLD<2.21E+02		LLD<2.21E+02	
XE-133	LLD<1.64E+00		LLD<1.64E+00	
CD-109	LLD<1.03E+01		LLD<1.03E+01	
SCL-000	LLD<7.53E-01		LLD<7.53E-01	
CO-57	LLD<2.50E-01		LLD<2.50E-01	
PA-234	LLD<9.64E-01		LLD<9.64E-01	
CE-144	LLD<2.14E+00		LLD<2.14E+00	
TC-99M	LLD<2.21E-01		LLD<2.21E-01	
U-235	LLD<1.74E+00		LLD<1.74E+00	
CE-141	LLD<4.12E-01		LLD<4.12E-01	
KR-85M	LLD<2.42E-01		LLD<2.42E-01	
XE-131M	LLD<8.58E+00		LLD<8.58E+00	
BA-139	LLD<9.92E-01		LLD<9.92E-01	
[illegible]-139	LLD<2.01E-01		LLD<2.01E-01	
[illegible]A-226	LLD<5.31E+00		LLD<5.31E+00	
BA-141	LLD<5.55E-01		LLD<5.55E-01	
KR-89	LLD<2.17E+00		LLD<2.17E+00	
TE-132	LLD<2.17E-01		LLD<2.17E-01	
XE-133M	LLD<2.79E+00		LLD<2.79E+00	
TH-227	LLD<1.73E+00		LLD<1.73E+00	
PB-212	1.30E+00	+- 4.25E-01	1.30E+00	+- 4.25E-01
RA-224	LLD<5.77E+00		LLD<5.77E+00	
XE-135	LLD<2.15E-01		LLD<2.15E-01	
XE-138	LLD<8.34E-01		LLD<8.34E-01	
SE-75	LLD<3.78E-01		LLD<3.78E-01	
NP-239	LLD<1.50E+00		LLD<1.50E+00	
HG-203	LLD<2.72E-01		LLD<2.72E-01	
IR-192	LLD<2.58E-01		LLD<2.58E-01	
CR-51	LLD<2.27E+00		LLD<2.27E+00	
SCM-000	LLD<1.19E+00		LLD<1.19E+00	
BI-211	LLD<9.24E+00		LLD<9.24E+00	
PB-214	2.37E+00	+- 6.01E-01	2.37E+00	+- 6.01E-01
BA-133	LLD<7.60E-01		LLD<7.60E-01	
I-131	LLD<2.66E-01		LLD<2.66E-01	
SN-113	LLD<3.16E-01		LLD<3.16E-01	
KR-87	LLD<4.95E-01		LLD<4.95E-01	
PB-211	LLD<1.01E+01		LLD<1.01E+01	
AU-198	LLD<2.82E-01		LLD<2.82E-01	
[illegible]B-125	LLD<9.05E-01		LLD<9.05E-01	
[illegible]-212	LLD<7.45E+01		LLD<7.45E+01	
BE-7	LLD<2.57E+00		LLD<2.57E+00	
HF-181	LLD<3.28E-01		LLD<3.28E-01	
RU-103	LLD<2.44E-01		LLD<2.44E-01	
KR-85	LLD<7.57E+01		LLD<7.57E+01	

SR-85	LLD<3.31E-01		LLD<3.31E-01		
I-133	LLD<3.80E-01		LLD<3.80E-01		
BA-140	LLD<1.11E+00		LLD<1.11E+00		
91M	LLD<3.15E-01		LLD<3.15E-01		
-207	LLD<3.03E-01		LLD<3.03E-01		
TL-208	LLD<1.32E+00		LLD<1.32E+00		
SB-124	LLD<3.43E-01		LLD<3.43E-01		
CS-134	LLD<5.47E-01		LLD<5.47E-01		
BI-214	1.37E+00	+- 5.16E-01	1.37E+00	+-	5.16E-01
RU-106	LLD<2.80E+00		LLD<2.80E+00		
LA-142	LLD<4.55E-01		LLD<4.55E-01		
AG-110M	LLD<4.65E-01		LLD<4.65E-01		
NB-97	LLD<4.68E-01		LLD<4.68E-01		
CS-137	LLD<4.20E-01		LLD<4.20E-01		
I-132	LLD<4.01E-01		LLD<4.01E-01		
W-187	LLD<8.69E-01		LLD<8.69E-01		
ZR-97	LLD<3.63E-01		LLD<3.63E-01		
ZR-95	LLD<4.68E-01		LLD<4.68E-01		
NB-95	LLD<3.25E-01		LLD<3.25E-01		
TL-210	LLD<2.37E+00		LLD<2.37E+00		
CO-58	LLD<3.39E-01		LLD<3.39E-01		
CS-136	LLD<2.65E-01		LLD<2.65E-01		
MN-54	LLD<3.35E-01		LLD<3.35E-01		
CO-56	LLD<4.17E-01		LLD<4.17E-01		
I-134	LLD<4.40E-01		LLD<4.40E-01		
TL-207	LLD<3.00E+02		LLD<3.00E+02		
Y-88	LLD<3.76E-01		LLD<3.76E-01		
AC-228	2.14E+00	+- 8.56E-01	2.14E+00	+-	8.56E-01
EU-152	LLD<3.28E+00		LLD<3.28E+00		
-234M	LLD<4.15E+00		LLD<4.15E+00		
-91	LLD<1.44E+00		LLD<1.44E+00		
RB-89	LLD<1.14E+00		LLD<1.14E+00		
FE-59	LLD<6.42E-01		LLD<6.42E-01		
ZN-65	LLD<8.04E-01		LLD<8.04E-01		
SC-46	LLD<3.40E-01		LLD<3.40E-01		
TA-182	LLD<1.12E+00		LLD<1.12E+00		
I-135	LLD<1.31E+00		LLD<1.31E+00		
CL-39	LLD<8.22E-01		LLD<8.22E-01		
NA-22	LLD<3.89E-01		LLD<3.89E-01		
AR-41	LLD<4.34E-01		LLD<4.34E-01		
CO-60	LLD<3.67E-01		LLD<3.67E-01		
NA-24	LLD<3.79E-01		LLD<3.79E-01		
SR-92	LLD<3.51E-01		LLD<3.51E-01		
SCH-000	LLD<1.93E+00		LLD<1.93E+00		
CS-138	LLD<3.56E-01		LLD<3.56E-01		
K-40	2.10E+01	+- 4.82E+00	2.10E+01	+-	4.82E+00
KR-88	LLD<1.87E+00		LLD<1.87E+00		
TL-209	LLD<1.51E+00		LLD<1.51E+00		
LA-140	LLD<3.60E-01		LLD<3.60E-01		
AL-26	LLD<2.15E-01		LLD<2.15E-01		
MN-56	LLD<8.06E-01		LLD<8.06E-01		
RB-88	LLD<1.22E+00		LLD<1.22E+00		
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Total	2.82E+01	+- 4.97E+00	2.82E+01	+-	4.97E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0053

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1167.51	583.34	34.	51.2	1.07E+01

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C-34

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 12:01:31

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0049
Measured by: dlv

Sample Description: C-34 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.3200E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 11:45:00

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

30-NOV-95 12:01:31

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.14	238.88	1.6	84.	122.	29.3	PB-212
2	591.65	295.59	1.5	20.	46.	40.6	PB-214
3	677.38	338.41	2.1	21.	32.	54.6	AC-228
4	1022.05	510.64	2.7	7.	22.	53.3	TL-208,NA-22, ANN-RD
5	1167.19	583.19	1.3	11.	23.	62.8	TL-208
6	1219.59	609.38	2.3	8.	49.	33.2	BI-214
7	1323.20	661.17	1.7	16.	22.	71.3	CS-137
8	2922.57	1461.33	2.5	0.	86.	21.1	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 30-NOV-95 12:01:31

Sample: C-34 Soil
Data collected on 30-NOV-95 at 11:45:00
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.69E+00		LLD<3.69E+00	
TH-234	LLD<2.83E+01		LLD<2.83E+01	
TH-230	LLD<2.31E+02		LLD<2.31E+02	
XE-133	LLD<1.64E+00		LLD<1.64E+00	
CD-109	LLD<1.16E+01		LLD<1.16E+01	
SCL-000	LLD<8.39E-01		LLD<8.39E-01	
CO-57	LLD<2.79E-01		LLD<2.79E-01	
PA-234	LLD<9.38E-01		LLD<9.38E-01	
CE-144	LLD<1.84E+00		LLD<1.84E+00	
TC-99M	LLD<2.16E-01		LLD<2.16E-01	
U-235	LLD<1.70E+00		LLD<1.70E+00	
CE-141	LLD<4.11E-01		LLD<4.11E-01	
KR-85M	LLD<2.82E-01		LLD<2.82E-01	
XE-131M	LLD<7.73E+00		LLD<7.73E+00	
BA-139	LLD<1.09E+00		LLD<1.09E+00	
[illegible]-139	LLD<2.21E-01		LLD<2.21E-01	
[illegible]A-226	LLD<6.38E+00		LLD<6.38E+00	
BA-141	LLD<5.18E-01		LLD<5.18E-01	
KR-89	LLD<2.68E+00		LLD<2.68E+00	
TE-132	LLD<2.31E-01		LLD<2.31E-01	
XE-133M	LLD<2.57E+00		LLD<2.57E+00	
TH-227	LLD<1.94E+00		LLD<1.94E+00	
PB-212	1.53E+00	+- 4.50E-01	1.53E+00	+- 4.50E-01
RA-224	LLD<6.58E+00		LLD<6.58E+00	
XE-135	LLD<2.55E-01		LLD<2.55E-01	
XE-138	LLD<8.29E-01		LLD<8.29E-01	
SE-75	LLD<3.75E-01		LLD<3.75E-01	
NP-239	LLD<1.37E+00		LLD<1.37E+00	
HG-203	LLD<2.47E-01		LLD<2.47E-01	
IR-192	LLD<3.02E-01		LLD<3.02E-01	
CR-51	LLD<2.63E+00		LLD<2.63E+00	
SCM-000	LLD<1.30E+00		LLD<1.30E+00	
BI-211	LLD<8.88E+00		LLD<8.88E+00	
PB-214	LLD<8.84E-01		LLD<8.84E-01	
BA-133	LLD<7.62E-01		LLD<7.62E-01	
I-131	LLD<2.81E-01		LLD<2.81E-01	
SN-113	LLD<3.53E-01		LLD<3.53E-01	
KR-87	LLD<5.06E-01		LLD<5.06E-01	
PB-211	LLD<7.78E+00		LLD<7.78E+00	
AU-198	LLD<2.42E-01		LLD<2.42E-01	
SB-125	LLD<9.10E-01		LLD<9.10E-01	
[illegible]-212	LLD<7.14E+01		LLD<7.14E+01	
BE-7	LLD<2.87E+00		LLD<2.87E+00	
HF-181	LLD<3.44E-01		LLD<3.44E-01	
RU-103	LLD<2.86E-01		LLD<2.86E-01	
KR-85	LLD<7.34E+01		LLD<7.34E+01	

SR-85	LLD<3.21E-01	LLD<3.21E-01
I-133	LLD<2.75E-01	LLD<2.75E-01
BA-140	LLD<9.63E-01	LLD<9.63E-01
Y-91M	LLD<3.53E-01	LLD<3.53E-01
207	LLD<3.14E-01	LLD<3.14E-01
-208	9.14E-01 +- 5.74E-01	9.14E-01 +- 5.74E-01
SB-124	LLD<3.42E-01	LLD<3.42E-01
CS-134	LLD<6.48E-01	LLD<6.48E-01
BI-214	1.75E+00 +- 5.83E-01	1.75E+00 +- 5.83E-01
RU-106	LLD<2.72E+00	LLD<2.72E+00
LA-142	LLD<5.52E-01	LLD<5.52E-01
AG-110M	LLD<4.92E-01	LLD<4.92E-01
NB-97	LLD<4.96E-01	LLD<4.96E-01
CS-137	3.77E-01 +- 2.69E-01	3.77E-01 +- 2.69E-01
I-132	LLD<3.87E-01	LLD<3.87E-01
W-187	LLD<1.21E+00	LLD<1.21E+00
ZR-97	LLD<3.12E-01	LLD<3.12E-01
ZR-95	LLD<5.85E-01	LLD<5.85E-01
NB-95	LLD<2.86E-01	LLD<2.86E-01
TL-210	LLD<2.25E+00	LLD<2.25E+00
CO-58	LLD<3.20E-01	LLD<3.20E-01
CS-136	LLD<2.27E-01	LLD<2.27E-01
MN-54	LLD<3.92E-01	LLD<3.92E-01
CO-56	LLD<4.40E-01	LLD<4.40E-01
I-134	LLD<4.45E-01	LLD<4.45E-01
TL-207	LLD<3.56E+02	LLD<3.56E+02
Y-88	LLD<4.28E-01	LLD<4.28E-01
AC-228	LLD<1.80E+00	LLD<1.80E+00
EU-152	LLD<4.01E+00	LLD<4.01E+00
-234M	LLD<3.40E+00	LLD<3.40E+00
91	LLD<1.39E+00	LLD<1.39E+00
RB-89	LLD<1.18E+00	LLD<1.18E+00
FE-59	LLD<8.13E-01	LLD<8.13E-01
ZN-65	LLD<1.22E+00	LLD<1.22E+00
SC-46	LLD<4.66E-01	LLD<4.66E-01
TA-182	LLD<1.33E+00	LLD<1.33E+00
I-135	LLD<1.36E+00	LLD<1.36E+00
CL-39	LLD<8.54E-01	LLD<8.54E-01
NA-22	LLD<4.88E-01	LLD<4.88E-01
AR-41	LLD<4.24E-01	LLD<4.24E-01
CO-60	LLD<2.78E-01	LLD<2.78E-01
NA-24	LLD<3.46E-01	LLD<3.46E-01
SR-92	LLD<4.04E-01	LLD<4.04E-01
SCH-000	LLD<1.38E+00	LLD<1.38E+00
CS-138	LLD<4.67E-01	LLD<4.67E-01
K-40	2.35E+01 +- 5.04E+00	2.35E+01 +- 5.04E+00
KR-88	LLD<3.82E+00	LLD<3.82E+00
TL-209	LLD<2.70E-01	LLD<2.70E-01
LA-140	LLD<2.68E-01	LLD<2.68E-01
AL-26	LLD<2.36E-01	LLD<2.36E-01
MN-56	LLD<1.39E+00	LLD<1.39E+00
RB-88	LLD<2.17E+00	LLD<2.17E+00
	---	---
Total	2.81E+01 +- 5.13E+00	2.81E+01 +- 5.13E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0049

PEAKS NOT USED IN ANALYSIS

ntroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.65	295.59	46.	40.6	7.36E+00
677.38	338.41	32.	54.6	5.87E+00

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C-35

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 12:25:52

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0055
Measured by: dlv

Sample Description: C-35 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 12:02:25

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 12:25:52

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.53	239.08	1.4	67.	138.	25.1	PB-212
2	678.23	338.84	2.1	13.	30.	49.4	AC-228
3	704.95	352.19	1.4	24.	81.	29.2	PB-214
4	1167.67	583.43	1.2	13.	32.	49.8	TL-208
5	1219.53	609.35	1.9	13.	58.	32.4	BI-214
6	1279.72	639.43	1.2	7.	13.	85.6	
7	1324.37	661.75	2.5	5.	45.	33.0	CS-137
8	1824.01	911.59	2.5	6.	25.	50.1	AC-228
9C	1938.66	968.94	1.6	4.	13.	65.5	AC-228,RU-105
10	2294.59	1147.01	0.6	5.	9.	100.6	
11	2922.04	1461.07	1.2	0.	79.	22.1	K-40
12	3530.60	1765.85	3.1	0.	9.	65.3	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

- Multiplet Analysis converged normally

hgtrw 30-NOV-95 12:25:52

Sample: C-35 Soil
Data collected on 30-NOV-95 at 12:02:25
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.85E+00		LLD<3.85E+00	
TH-234	LLD<2.61E+01		LLD<2.61E+01	
TH-230	LLD<2.21E+02		LLD<2.21E+02	
XE-133	LLD<1.59E+00		LLD<1.59E+00	
CD-109	LLD<1.06E+01		LLD<1.06E+01	
SCL-000	LLD<7.18E-01		LLD<7.18E-01	
CO-57	LLD<2.39E-01		LLD<2.39E-01	
PA-234	LLD<1.04E+00		LLD<1.04E+00	
CE-144	LLD<1.98E+00		LLD<1.98E+00	
TC-99M	LLD<2.12E-01		LLD<2.12E-01	
U-235	LLD<1.66E+00		LLD<1.66E+00	
CE-141	LLD<3.69E-01		LLD<3.69E-01	
KR-85M	LLD<2.45E-01		LLD<2.45E-01	
XE-131M	LLD<8.23E+00		LLD<8.23E+00	
[illegible]-139	LLD<1.10E+00		LLD<1.10E+00	
[illegible]-139	LLD<2.23E-01		LLD<2.23E-01	
RA-226	LLD<5.31E+00		LLD<5.31E+00	
BA-141	LLD<5.15E-01		LLD<5.15E-01	
KR-89	LLD<2.20E+00		LLD<2.20E+00	
TE-132	LLD<2.19E-01		LLD<2.19E-01	
XE-133M	LLD<2.44E+00		LLD<2.44E+00	
TH-227	LLD<1.78E+00		LLD<1.78E+00	
PB-212	1.60E+00	+- 4.04E-01	1.60E+00	+- 4.04E-01
RA-224	LLD<5.77E+00		LLD<5.77E+00	
XE-135	LLD<2.39E-01		LLD<2.39E-01	
XE-138	LLD<8.36E-01		LLD<8.36E-01	
SE-75	LLD<3.94E-01		LLD<3.94E-01	
NP-239	LLD<1.55E+00		LLD<1.55E+00	
HG-203	LLD<2.82E-01		LLD<2.82E-01	
IR-192	LLD<2.78E-01		LLD<2.78E-01	
CR-51	LLD<2.18E+00		LLD<2.18E+00	
SCM-000	LLD<1.15E+00		LLD<1.15E+00	
BI-211	LLD<8.46E+00		LLD<8.46E+00	
PB-214	1.82E+00	+- 5.34E-01	1.82E+00	+- 5.34E-01
BA-133	LLD<7.02E-01		LLD<7.02E-01	
I-131	LLD<2.91E-01		LLD<2.91E-01	
SN-113	LLD<3.71E-01		LLD<3.71E-01	
KR-87	LLD<5.48E-01		LLD<5.48E-01	
PB-211	LLD<1.02E+01		LLD<1.02E+01	
AU-198	LLD<2.73E-01		LLD<2.73E-01	
[illegible]-125	LLD<8.77E-01		LLD<8.77E-01	
BI-212	LLD<7.98E+01		LLD<7.98E+01	
BE-7	LLD<2.56E+00		LLD<2.56E+00	
HF-181	LLD<3.16E-01		LLD<3.16E-01	
RU-103	LLD<3.09E-01		LLD<3.09E-01	
KR-85	LLD<7.98E+01		LLD<7.98E+01	

SR-85	LLD<3.49E-01		LLD<3.49E-01		
I-133	LLD<3.82E-01		LLD<3.82E-01		
BA-140	LLD<1.12E+00		LLD<1.12E+00		
Y-91M	LLD<3.29E-01		LLD<3.29E-01		
207	LLD<2.70E-01		LLD<2.70E-01		
208	LLD<1.10E+00		LLD<1.10E+00		
SB-124	LLD<3.48E-01		LLD<3.48E-01		
CS-134	LLD<6.44E-01		LLD<6.44E-01		
BI-214	1.92E+00	+- 6.24E-01	1.92E+00	+-	6.24E-01
RU-106	LLD<2.68E+00		LLD<2.68E+00		
LA-142	LLD<6.43E-01		LLD<6.43E-01		
AG-110M	LLD<6.77E-01		LLD<6.77E-01		
NB-97	LLD<6.82E-01		LLD<6.82E-01		
CS-137	7.10E-01	+- 2.35E-01	7.10E-01	+-	2.35E-01
I-132	LLD<6.02E-01		LLD<6.02E-01		
W-187	LLD<1.03E+00		LLD<1.03E+00		
ZR-97	LLD<3.21E-01		LLD<3.21E-01		
ZR-95	LLD<5.28E-01		LLD<5.28E-01		
NB-95	LLD<3.41E-01		LLD<3.41E-01		
TL-210	LLD<1.80E+00		LLD<1.80E+00		
CO-58	LLD<3.49E-01		LLD<3.49E-01		
CS-136	LLD<3.72E-01		LLD<3.72E-01		
MN-54	LLD<3.02E-01		LLD<3.02E-01		
CO-56	LLD<2.80E-01		LLD<2.80E-01		
I-134	LLD<3.01E-01		LLD<3.01E-01		
TL-207	LLD<2.99E+02		LLD<2.99E+02		
Y-88	LLD<3.88E-01		LLD<3.88E-01		
AC-228	1.75E+00	+- 8.80E-01	1.75E+00	+-	8.80E-01
EU-152	LLD<3.70E+00		LLD<3.70E+00		
234M	LLD<4.03E+00		LLD<4.03E+00		
91	LLD<1.12E+00		LLD<1.12E+00		
RB-89	LLD<5.44E-01		LLD<5.44E-01		
FE-59	LLD<5.92E-01		LLD<5.92E-01		
ZN-65	LLD<8.93E-01		LLD<8.93E-01		
SC-46	LLD<3.24E-01		LLD<3.24E-01		
TA-182	LLD<1.02E+00		LLD<1.02E+00		
I-135	LLD<1.67E+00		LLD<1.67E+00		
CL-39	LLD<1.02E+00		LLD<1.02E+00		
NA-22	LLD<4.83E-01		LLD<4.83E-01		
AR-41	LLD<3.91E-01		LLD<3.91E-01		
CO-60	LLD<3.53E-01		LLD<3.53E-01		
NA-24	LLD<3.53E-01		LLD<3.53E-01		
SR-92	LLD<1.77E-01		LLD<1.77E-01		
SCH-000	LLD<1.79E+00		LLD<1.79E+00		
CS-138	LLD<4.42E-01		LLD<4.42E-01		
K-40	1.99E+01	+- 4.44E+00	1.99E+01	+-	4.44E+00
KR-88	LLD<2.39E+00		LLD<2.39E+00		
TL-209	LLD<1.39E+00		LLD<1.39E+00		
LA-140	LLD<2.73E-01		LLD<2.73E-01		
AL-26	LLD<8.00E-02		LLD<8.00E-02		
MN-56	LLD<3.00E-01		LLD<3.00E-01		
RB-88	LLD<1.23E+00		LLD<1.23E+00		
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Total	2.77E+01	+- 4.63E+00	2.77E+01	+-	4.63E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0055

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
678.23	338.84	30.	49.4	5.54E+00
1167.67	583.43	32.	49.8	1.00E+01
1279.72	639.43	13.	85.6	4.48E+00
1938.66	968.94	13.	65.5	6.59E+00
2294.59	1147.01	9.	100.6	5.32E+00
3530.60	1765.85	9.	65.3	6.68E+00

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C-36

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 12:46:25

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0058
Measured by: dlv

Sample Description: C-36 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 12:27:27

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 12:46:25

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	478.53	239.08	1.3	36.	169.	20.8	PB-212
2C	484.89	242.26	1.3	27.	38.	45.1	PB-214
3	591.73	295.63	1.6	33.	35.	60.7	PB-214
4	678.32	338.89	0.7	17.	29.	55.1	AC-228
5	705.56	352.50	1.4	21.	66.	32.3	PB-214
6	885.40	442.36	1.3	12.	11.	114.1	
7	1220.10	609.63	1.6	10.	54.	32.8	BI-214
8	1759.74	879.45	0.7	0.	8.	69.3	
9	1823.79	911.48	1.8	3.	37.	35.9	AC-228
10C	2923.18	1461.64	2.5	9.	100.	22.1	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 30-NOV-95 12:46:25

Sample: C-36 Soil
Data collected on 30-NOV-95 at 12:27:27
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.28E+00		LLD<3.28E+00	
TH-234	LLD<2.43E+01		LLD<2.43E+01	
TH-230	LLD<1.97E+02		LLD<1.97E+02	
XE-133	LLD<1.64E+00		LLD<1.64E+00	
CD-109	LLD<1.17E+01		LLD<1.17E+01	
SCL-000	LLD<7.40E-01		LLD<7.40E-01	
CO-57	LLD<2.46E-01		LLD<2.46E-01	
PA-234	LLD<1.04E+00		LLD<1.04E+00	
CE-144	LLD<1.91E+00		LLD<1.91E+00	
TC-99M	LLD<2.26E-01		LLD<2.26E-01	
U-235	LLD<1.64E+00		LLD<1.64E+00	
CE-141	LLD<3.44E-01		LLD<3.44E-01	
KR-85M	LLD<2.76E-01		LLD<2.76E-01	
XE-131M	LLD<8.15E+00		LLD<8.15E+00	
BA-139	LLD<1.02E+00		LLD<1.02E+00	
[illegible]E-139	LLD<2.06E-01		LLD<2.06E-01	
[illegible]A-226	LLD<5.49E+00		LLD<5.49E+00	
BA-141	LLD<5.40E-01		LLD<5.40E-01	
KR-89	LLD<2.01E+00		LLD<2.01E+00	
TE-132	LLD<2.28E-01		LLD<2.28E-01	
XE-133M	LLD<2.45E+00		LLD<2.45E+00	
TH-227	LLD<1.79E+00		LLD<1.79E+00	
PB-212	1.91E+00	+- 4.02E-01	1.91E+00	+- 4.02E-01
RA-224	LLD<6.08E+00		LLD<6.08E+00	
XE-135	LLD<2.01E-01		LLD<2.01E-01	
XE-138	LLD<8.41E-01		LLD<8.41E-01	
SE-75	LLD<3.45E-01		LLD<3.45E-01	
NP-239	LLD<1.55E+00		LLD<1.55E+00	
HG-203	LLD<2.84E-01		LLD<2.84E-01	
IR-192	LLD<2.86E-01		LLD<2.86E-01	
CR-51	LLD<2.29E+00		LLD<2.29E+00	
SCM-000	LLD<1.21E+00		LLD<1.21E+00	
BI-211	LLD<7.87E+00		LLD<7.87E+00	
PB-214	1.46E+00	+- 4.74E-01	1.46E+00	+- 4.74E-01
BA-133	LLD<6.10E-01		LLD<6.10E-01	
I-131	LLD<2.63E-01		LLD<2.63E-01	
SN-113	LLD<3.38E-01		LLD<3.38E-01	
KR-87	LLD<4.88E-01		LLD<4.88E-01	
PB-211	LLD<9.53E+00		LLD<9.53E+00	
AU-198	LLD<2.32E-01		LLD<2.32E-01	
SB-125	LLD<8.64E-01		LLD<8.64E-01	
[illegible]I-212	LLD<6.28E+01		LLD<6.28E+01	
BE-7	LLD<2.37E+00		LLD<2.37E+00	
HF-181	LLD<3.22E-01		LLD<3.22E-01	
RU-103	LLD<2.27E-01		LLD<2.27E-01	
KR-85	LLD<7.20E+01		LLD<7.20E+01	

SR-85	LLD<3.15E-01	LLD<3.15E-01
I-133	LLD<3.01E-01	LLD<3.01E-01
BA-140	LLD<1.01E+00	LLD<1.01E+00
Y-91M	LLD<2.79E-01	LLD<2.79E-01
207	LLD<2.90E-01	LLD<2.90E-01
-208	LLD<1.21E+00	LLD<1.21E+00
SB-124	LLD<3.19E-01	LLD<3.19E-01
CS-134	LLD<5.85E-01	LLD<5.85E-01
BI-214	1.77E+00 +- 5.82E-01	1.77E+00 +- 5.82E-01
RU-106	LLD<2.82E+00	LLD<2.82E+00
LA-142	LLD<5.41E-01	LLD<5.41E-01
AG-110M	LLD<4.03E-01	LLD<4.03E-01
NB-97	LLD<4.06E-01	LLD<4.06E-01
CS-137	LLD<3.85E-01	LLD<3.85E-01
I-132	LLD<3.64E-01	LLD<3.64E-01
W-187	LLD<9.86E-01	LLD<9.86E-01
ZR-97	LLD<3.47E-01	LLD<3.47E-01
ZR-95	LLD<5.67E-01	LLD<5.67E-01
NB-95	LLD<3.20E-01	LLD<3.20E-01
TL-210	LLD<1.90E+00	LLD<1.90E+00
CO-58	LLD<3.47E-01	LLD<3.47E-01
CS-136	LLD<4.02E-01	LLD<4.02E-01
MN-54	LLD<4.13E-01	LLD<4.13E-01
CO-56	LLD<2.88E-01	LLD<2.88E-01
I-134	LLD<2.86E-01	LLD<2.86E-01
TL-207	LLD<2.46E+02	LLD<2.46E+02
Y-88	LLD<3.22E-01	LLD<3.22E-01
AC-228	2.53E+00 +- 9.08E-01	2.53E+00 +- 9.08E-01
EU-152	LLD<3.77E+00	LLD<3.77E+00
-234M	LLD<4.05E+00	LLD<4.05E+00
-91	LLD<1.20E+00	LLD<1.20E+00
RB-89	LLD<9.15E-01	LLD<9.15E-01
FE-59	LLD<8.12E-01	LLD<8.12E-01
ZN-65	LLD<1.01E+00	LLD<1.01E+00
SC-46	LLD<5.52E-01	LLD<5.52E-01
TA-182	LLD<1.48E+00	LLD<1.48E+00
I-135	LLD<1.58E+00	LLD<1.58E+00
CL-39	LLD<8.56E-01	LLD<8.56E-01
NA-22	LLD<4.53E-01	LLD<4.53E-01
AR-41	LLD<5.05E-01	LLD<5.05E-01
CO-60	LLD<5.25E-01	LLD<5.25E-01
NA-24	LLD<2.89E-01	LLD<2.89E-01
SR-92	LLD<4.09E-01	LLD<4.09E-01
SCH-000	LLD<1.45E+00	LLD<1.45E+00
CS-138	LLD<4.22E-01	LLD<4.22E-01
K-40	2.46E+01 +- 5.51E+00	2.46E+01 +- 5.51E+00
KR-88	LLD<3.80E+00	LLD<3.80E+00
TL-209	LLD<1.28E+00	LLD<1.28E+00
LA-140	LLD<3.87E-01	LLD<3.87E-01
AL-26	LLD<4.15E-01	LLD<4.15E-01
MN-56	LLD<1.26E+00	LLD<1.26E+00
RB-88	LLD<1.65E+00	LLD<1.65E+00
	---	---
Total	3.22E+01 +- 5.65E+00	3.22E+01 +- 5.65E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0058

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
484.89	242.26	38.	45.1	5.16E+00
591.73	295.63	35.	60.7	5.60E+00
678.32	338.89	29.	55.1	5.36E+00
885.40	442.36	11.	114.1	2.60E+00
1759.74	879.45	8.	69.3	3.75E+00

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Bkg Soil
NES office

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 13:00:41

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0059
Measured by: dlv

Sample Description: Bkg Soil (NES L.A. o
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.2600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 12:47:17

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

-w

30-NOV-95 13:00:41

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.69	239.16	1.6	44.	115.	25.3	PB-212
2	556.93	278.24	2.1	17.	16.	88.8	TL-208,NP-239, HG-203
3	705.46	352.45	2.0	19.	61.	33.8	PB-214
4	1022.50	510.87	3.0	7.	22.	55.9	TL-208,NA-22, ANN-RD
5	1167.72	583.45	1.9	11.	30.	51.0	TL-208
6	1220.03	609.59	2.4	10.	46.	35.9	BI-214
7	2923.09	1461.59	2.4	6.	82.	24.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 30-NOV-95 13:00:41

Sample: Bkg Soil (NES L.A. o
Data collected on 30-NOV-95 at 12:47:17
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.54E+00		LLD<3.54E+00	
TH-234	LLD<2.33E+01		LLD<2.33E+01	
TH-230	LLD<2.07E+02		LLD<2.07E+02	
XE-133	LLD<1.72E+00		LLD<1.72E+00	
CD-109	LLD<1.10E+01		LLD<1.10E+01	
SCL-000	LLD<7.59E-01		LLD<7.59E-01	
CO-57	LLD<2.52E-01		LLD<2.52E-01	
PA-234	LLD<9.86E-01		LLD<9.86E-01	
CE-144	LLD<1.95E+00		LLD<1.95E+00	
TC-99M	LLD<2.00E-01		LLD<2.00E-01	
U-235	LLD<1.59E+00		LLD<1.59E+00	
CE-141	LLD<3.29E-01		LLD<3.29E-01	
KR-85M	LLD<2.39E-01		LLD<2.39E-01	
XE-131M	LLD<9.61E+00		LLD<9.61E+00	
BA-139	LLD<1.11E+00		LLD<1.11E+00	
[illegible]-139	LLD<2.26E-01		LLD<2.26E-01	
[illegible]A-226	LLD<5.41E+00		LLD<5.41E+00	
BA-141	LLD<4.71E-01		LLD<4.71E-01	
KR-89	LLD<2.33E+00		LLD<2.33E+00	
TE-132	LLD<2.68E-01		LLD<2.68E-01	
XE-133M	LLD<2.29E+00		LLD<2.29E+00	
TH-227	LLD<1.77E+00		LLD<1.77E+00	
PB-212	1.45E+00	+- 3.70E-01	1.45E+00	+- 3.70E-01
RA-224	LLD<7.62E+00		LLD<7.62E+00	
XE-135	LLD<2.19E-01		LLD<2.19E-01	
XE-138	LLD<8.94E-01		LLD<8.94E-01	
SE-75	LLD<3.61E-01		LLD<3.61E-01	
NP-239	LLD<1.49E+00		LLD<1.49E+00	
HG-203	1.40E-01	+- 1.25E-01	1.40E-01	+- 1.25E-01
IR-192	LLD<2.67E-01		LLD<2.67E-01	
CR-51	LLD<2.19E+00		LLD<2.19E+00	
SCM-000	LLD<1.19E+00		LLD<1.19E+00	
BI-211	LLD<8.20E+00		LLD<8.20E+00	
PB-214	1.52E+00	+- 5.17E-01	1.52E+00	+- 5.17E-01
BA-133	LLD<6.68E-01		LLD<6.68E-01	
I-131	LLD<3.02E-01		LLD<3.02E-01	
SN-113	LLD<3.52E-01		LLD<3.52E-01	
KR-87	LLD<5.21E-01		LLD<5.21E-01	
PB-211	LLD<8.27E+00		LLD<8.27E+00	
AU-198	LLD<2.66E-01		LLD<2.66E-01	
[illegible]B-125	LLD<9.26E-01		LLD<9.26E-01	
[illegible]-212	LLD<7.98E+01		LLD<7.98E+01	
BE-7	LLD<2.85E+00		LLD<2.85E+00	
HF-181	LLD<2.80E-01		LLD<2.80E-01	
RU-103	LLD<3.04E-01		LLD<3.04E-01	
KR-85	LLD<7.69E+01		LLD<7.69E+01	

SR-85	LLD<3.36E-01	LLD<3.36E-01
I-133	LLD<3.50E-01	LLD<3.50E-01
BA-140	LLD<8.65E-01	LLD<8.65E-01
91M	LLD<3.04E-01	LLD<3.04E-01
207	LLD<2.65E-01	LLD<2.65E-01
TL-208	1.21E+00 +- 6.17E-01	1.21E+00 +- 6.17E-01
SB-124	LLD<3.48E-01	LLD<3.48E-01
CS-134	LLD<5.80E-01	LLD<5.80E-01
BI-214	1.68E+00 +- 6.04E-01	1.68E+00 +- 6.04E-01
RU-106	LLD<2.85E+00	LLD<2.85E+00
LA-142	LLD<6.49E-01	LLD<6.49E-01
AG-110M	LLD<3.91E-01	LLD<3.91E-01
NB-97	LLD<3.94E-01	LLD<3.94E-01
CS-137	LLD<4.30E-01	LLD<4.30E-01
I-132	LLD<3.86E-01	LLD<3.86E-01
W-187	LLD<1.11E+00	LLD<1.11E+00
ZR-97	LLD<3.46E-01	LLD<3.46E-01
ZR-95	LLD<7.09E-01	LLD<7.09E-01
NB-95	LLD<4.23E-01	LLD<4.23E-01
TL-210	LLD<2.32E+00	LLD<2.32E+00
CO-58	LLD<3.38E-01	LLD<3.38E-01
CS-136	LLD<3.53E-01	LLD<3.53E-01
MN-54	LLD<4.13E-01	LLD<4.13E-01
CO-56	LLD<4.28E-01	LLD<4.28E-01
I-134	LLD<4.56E-01	LLD<4.56E-01
TL-207	LLD<2.52E+02	LLD<2.52E+02
Y-88	LLD<3.01E-01	LLD<3.01E-01
AC-228	LLD<1.74E+00	LLD<1.74E+00
EU-152	LLD<3.64E+00	LLD<3.64E+00
234M	LLD<3.58E+00	LLD<3.58E+00
-91	LLD<1.20E+00	LLD<1.20E+00
RB-89	LLD<1.20E+00	LLD<1.20E+00
FE-59	LLD<6.77E-01	LLD<6.77E-01
ZN-65	LLD<1.27E+00	LLD<1.27E+00
SC-46	LLD<5.49E-01	LLD<5.49E-01
TA-182	LLD<1.83E+00	LLD<1.83E+00
I-135	LLD<1.92E+00	LLD<1.92E+00
CL-39	LLD<1.17E+00	LLD<1.17E+00
NA-22	LLD<5.67E-01	LLD<5.67E-01
AR-41	LLD<3.07E-01	LLD<3.07E-01
CO-60	LLD<2.59E-01	LLD<2.59E-01
NA-24	LLD<3.87E-01	LLD<3.87E-01
SR-92	LLD<4.87E-01	LLD<4.87E-01
SCH-000	LLD<2.42E+00	LLD<2.42E+00
CS-138	LLD<4.98E-01	LLD<4.98E-01
K-40	2.25E+01 +- 5.51E+00	2.25E+01 +- 5.51E+00
KR-88	LLD<3.05E+00	LLD<3.05E+00
TL-209	LLD<1.13E+00	LLD<1.13E+00
LA-140	LLD<3.80E-01	LLD<3.80E-01
AL-26	LLD<2.38E-01	LLD<2.38E-01
MN-56	LLD<1.80E+00	LLD<1.80E+00
RB-88	LLD<2.19E+00	LLD<2.19E+00
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Total	2.85E+01 +- 5.61E+00	2.85E+01 +- 5.61E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0059

ALL PEAKS USED IN ANALYSIS

C-3

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 13:19:47

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0036
Measured by: dlv

Sample Description: C-3 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.6700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 13:01:46

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 13:19:47

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.19	238.91	1.0	69.	133.	25.0	PB-212
2	590.85	295.19	2.7	30.	46.	46.9	PB-214
3	705.13	352.28	1.2	11.	73.	26.5	PB-214
4	1167.34	583.26	0.9	11.	42.	38.5	TL-208
5	1220.15	609.66	0.8	16.	41.	43.9	BI-214
6	1324.59	661.86	2.1	6.	22.	54.8	CS-137
7	1823.02	911.10	3.4	3.	26.	43.6	AC-228
8	2922.49	1461.29	3.0	4.	89.	22.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 30-NOV-95 13:19:47

mple: C-3 Soil
a collected on 30-NOV-95 at 13:01:46
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.65E+00		LLD<2.65E+00	
TH-234	LLD<2.16E+01		LLD<2.16E+01	
TH-230	LLD<1.80E+02		LLD<1.80E+02	
XE-133	LLD<1.31E+00		LLD<1.31E+00	
CD-109	LLD<9.12E+00		LLD<9.12E+00	
SCL-000	LLD<6.81E-01		LLD<6.81E-01	
CO-57	LLD<2.26E-01		LLD<2.26E-01	
PA-234	LLD<8.14E-01		LLD<8.14E-01	
CE-144	LLD<1.46E+00		LLD<1.46E+00	
TC-99M	LLD<1.84E-01		LLD<1.84E-01	
U-235	LLD<1.51E+00		LLD<1.51E+00	
CE-141	LLD<3.28E-01		LLD<3.28E-01	
KR-85M	LLD<2.06E-01		LLD<2.06E-01	
XE-131M	LLD<7.28E+00		LLD<7.28E+00	
BA-139	LLD<8.86E-01		LLD<8.86E-01	
[illegible]139	LLD<1.80E-01		LLD<1.80E-01	
[illegible]-226	LLD<4.20E+00		LLD<4.20E+00	
BA-141	LLD<4.11E-01		LLD<4.11E-01	
KR-89	LLD<1.93E+00		LLD<1.93E+00	
TE-132	LLD<2.19E-01		LLD<2.19E-01	
XE-133M	LLD<2.10E+00		LLD<2.10E+00	
TH-227	LLD<1.59E+00		LLD<1.59E+00	
PB-212	1.22E+00	+- 3.06E-01	1.22E+00	+- 3.06E-01
RA-224	LLD<5.07E+00		LLD<5.07E+00	
XE-135	LLD<2.12E-01		LLD<2.12E-01	
XE-138	LLD<7.87E-01		LLD<7.87E-01	
SE-75	LLD<2.93E-01		LLD<2.93E-01	
NP-239	LLD<1.28E+00		LLD<1.28E+00	
HG-203	LLD<2.30E-01		LLD<2.30E-01	
IR-192	LLD<2.15E-01		LLD<2.15E-01	
CR-51	LLD<1.96E+00		LLD<1.96E+00	
SCM-000	LLD<9.13E-01		LLD<9.13E-01	
BI-211	LLD<6.17E+00		LLD<6.17E+00	
PB-214	1.30E+00	+- 3.46E-01	1.30E+00	+- 3.46E-01
BA-133	LLD<5.34E-01		LLD<5.34E-01	
I-131	LLD<2.04E-01		LLD<2.04E-01	
SN-113	LLD<2.64E-01		LLD<2.64E-01	
KR-87	LLD<3.76E-01		LLD<3.76E-01	
PB-211	LLD<7.40E+00		LLD<7.40E+00	
AU-198	LLD<1.92E-01		LLD<1.92E-01	
[illegible]-125	LLD<5.57E-01		LLD<5.57E-01	
[illegible] 212	LLD<5.14E+01		LLD<5.14E+01	
[illegible]-7	LLD<2.11E+00		LLD<2.11E+00	
HF-181	LLD<2.80E-01		LLD<2.80E-01	
RU-103	LLD<2.69E-01		LLD<2.69E-01	
KR-85	LLD<5.96E+01		LLD<5.96E+01	

SR-85	LLD<2.61E-01		LLD<2.61E-01		
I-133	LLD<2.34E-01		LLD<2.34E-01		
BA-140	LLD<7.89E-01		LLD<7.89E-01		
[illegible]91M	LLD<2.34E-01		LLD<2.34E-01		
[illegible]-207	LLD<2.36E-01		LLD<2.36E-01		
TL-208	LLD<9.87E-01		LLD<9.87E-01		
SB-124	LLD<2.43E-01		LLD<2.43E-01		
CS-134	LLD<4.78E-01		LLD<4.78E-01		
BI-214	1.07E+00	+- 4.69E-01	1.07E+00	+-	4.69E-01
RU-106	LLD<2.39E+00		LLD<2.39E+00		
LA-142	LLD<3.95E-01		LLD<3.95E-01		
AG-110M	LLD<3.32E-01		LLD<3.32E-01		
NB-97	LLD<3.35E-01		LLD<3.35E-01		
CS-137	2.78E-01	+- 1.52E-01	2.78E-01	+-	1.52E-01
I-132	LLD<3.13E-01		LLD<3.13E-01		
W-187	LLD<8.23E-01		LLD<8.23E-01		
ZR-97	LLD<3.05E-01		LLD<3.05E-01		
ZR-95	LLD<5.05E-01		LLD<5.05E-01		
NB-95	LLD<2.73E-01		LLD<2.73E-01		
TL-210	LLD<1.62E+00		LLD<1.62E+00		
CO-58	LLD<2.34E-01		LLD<2.34E-01		
CS-136	LLD<2.81E-01		LLD<2.81E-01		
MN-54	LLD<2.82E-01		LLD<2.82E-01		
CO-56	LLD<2.56E-01		LLD<2.56E-01		
I-134	LLD<2.88E-01		LLD<2.88E-01		
TL-207	LLD<2.51E+02		LLD<2.51E+02		
Y-88	LLD<3.12E-01		LLD<3.12E-01		
AC-228	1.41E+00	+- 6.18E-01	1.41E+00	+-	6.18E-01
[illegible]U-152	LLD<2.57E+00		LLD<2.57E+00		
[illegible]-234M	LLD<2.12E+00		LLD<2.12E+00		
SR-91	LLD<1.15E+00		LLD<1.15E+00		
RB-89	LLD<6.11E-01		LLD<6.11E-01		
FE-59	LLD<6.03E-01		LLD<6.03E-01		
ZN-65	LLD<8.12E-01		LLD<8.12E-01		
SC-46	LLD<4.16E-01		LLD<4.16E-01		
TA-182	LLD<1.03E+00		LLD<1.03E+00		
I-135	LLD<1.54E+00		LLD<1.54E+00		
CL-39	LLD<5.85E-01		LLD<5.85E-01		
NA-22	LLD<3.38E-01		LLD<3.38E-01		
AR-41	LLD<2.64E-01		LLD<2.64E-01		
CO-60	LLD<2.94E-01		LLD<2.94E-01		
NA-24	LLD<2.84E-01		LLD<2.84E-01		
SR-92	LLD<3.90E-01		LLD<3.90E-01		
SCH-000	LLD<9.30E-01		LLD<9.30E-01		
CS-138	LLD<4.03E-01		LLD<4.03E-01		
K-40	1.78E+01	+- 3.96E+00	1.78E+01	+-	3.96E+00
KR-88	LLD<2.69E+00		LLD<2.69E+00		
TL-209	LLD<8.59E-01		LLD<8.59E-01		
LA-140	LLD<2.16E-01		LLD<2.16E-01		
AL-26	LLD<1.40E-01		LLD<1.40E-01		
MN-56	LLD<5.26E-01		LLD<5.26E-01		
RB-88	LLD<1.58E+00		LLD<1.58E+00		
	---		---		
Total	2.31E+01	+- 4.06E+00	2.31E+01	+-	4.06E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0036

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
590.85	295.19	46.	46.9	7.35E+00
1167.34	583.26	42.	38.5	1.32E+01

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C-2

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 13:33:40

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0037
Measured by: dlv

Sample Description: C-2 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.4700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 13:20:50

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 13:33:40

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.14	238.88	1.1	60.	108.	28.3	PB-212
2	591.55	295.54	1.1	27.	25.	71.8	PB-214
3	1167.90	583.54	0.8	13.	29.	52.8	TL-208
4	1324.38	661.76	2.3	10.	45.	35.7	CS-137
5	1821.45	910.31	1.2	2.	19.	49.2	AC-228
6	2922.18	1461.14	2.0	2.	64.	25.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 30-NOV-95 13:33:40

ple: C-2 Soil
ata collected on 30-NOV-95 at 13:20:50
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.46E+00		LLD<3.46E+00	
TH-234	LLD<2.61E+01		LLD<2.61E+01	
TH-230	LLD<2.15E+02		LLD<2.15E+02	
XE-133	LLD<1.65E+00		LLD<1.65E+00	
CD-109	LLD<1.21E+01		LLD<1.21E+01	
SCL-000	LLD<7.55E-01		LLD<7.55E-01	
CO-57	LLD<2.51E-01		LLD<2.51E-01	
PA-234	LLD<9.82E-01		LLD<9.82E-01	
CE-144	LLD<1.95E+00		LLD<1.95E+00	
TC-99M	LLD<2.28E-01		LLD<2.28E-01	
U-235	LLD<1.77E+00		LLD<1.77E+00	
CE-141	LLD<3.57E-01		LLD<3.57E-01	
KR-85M	LLD<2.62E-01		LLD<2.62E-01	
XE-131M	LLD<9.21E+00		LLD<9.21E+00	
[illegible]-139	LLD<1.11E+00		LLD<1.11E+00	
[illegible]-139	LLD<2.25E-01		LLD<2.25E-01	
RA-226	LLD<5.44E+00		LLD<5.44E+00	
BA-141	LLD<5.92E-01		LLD<5.92E-01	
KR-89	LLD<2.26E+00		LLD<2.26E+00	
TE-132	LLD<2.22E-01		LLD<2.22E-01	
XE-133M	LLD<2.48E+00		LLD<2.48E+00	
TH-227	LLD<1.81E+00		LLD<1.81E+00	
PB-212	1.32E+00	+- 3.76E-01	1.32E+00	+- 3.76E-01
RA-224	LLD<5.95E+00		LLD<5.95E+00	
XE-135	LLD<2.37E-01		LLD<2.37E-01	
XE-138	LLD<9.56E-01		LLD<9.56E-01	
SE-75	LLD<3.42E-01		LLD<3.42E-01	
NP-239	LLD<1.55E+00		LLD<1.55E+00	
HG-203	LLD<2.75E-01		LLD<2.75E-01	
IR-192	LLD<2.86E-01		LLD<2.86E-01	
CR-51	LLD<2.42E+00		LLD<2.42E+00	
SCM-000	LLD<1.14E+00		LLD<1.14E+00	
BI-211	LLD<7.70E+00		LLD<7.70E+00	
PB-214	LLD<9.17E-01		LLD<9.17E-01	
BA-133	LLD<6.85E-01		LLD<6.85E-01	
I-131	LLD<2.69E-01		LLD<2.69E-01	
SN-113	LLD<3.84E-01		LLD<3.84E-01	
KR-87	LLD<5.02E-01		LLD<5.02E-01	
PB-211	LLD<9.28E+00		LLD<9.28E+00	
[illegible]-198	LLD<2.74E-01		LLD<2.74E-01	
[illegible]-125	LLD<7.69E-01		LLD<7.69E-01	
[illegible]-212	LLD<9.02E+01		LLD<9.02E+01	
BE-7	LLD<2.47E+00		LLD<2.47E+00	
HF-181	LLD<3.45E-01		LLD<3.45E-01	
RU-103	LLD<2.43E-01		LLD<2.43E-01	
KR-85	LLD<8.03E+01		LLD<8.03E+01	

SR-85	LLD<3.51E-01		LLD<3.51E-01		
I-133	LLD<3.14E-01		LLD<3.14E-01		
-140	LLD<8.94E-01		LLD<8.94E-01		
91M	LLD<3.38E-01		LLD<3.38E-01		
BI-207	LLD<2.81E-01		LLD<2.81E-01		
TL-208	LLD<1.19E+00		LLD<1.19E+00		
SB-124	LLD<3.45E-01		LLD<3.45E-01		
CS-134	LLD<4.12E-01		LLD<4.12E-01		
BI-214	LLD<1.00E+00		LLD<1.00E+00		
RU-106	LLD<2.93E+00		LLD<2.93E+00		
LA-142	LLD<5.67E-01		LLD<5.67E-01		
AG-110M	LLD<7.67E-01		LLD<7.67E-01		
NB-97	LLD<7.73E-01		LLD<7.73E-01		
CS-137	7.51E-01	+- 2.69E-01	7.51E-01	+-	2.69E-01
I-132	LLD<6.28E-01		LLD<6.28E-01		
W-187	LLD<9.99E-01		LLD<9.99E-01		
ZR-97	LLD<3.05E-01		LLD<3.05E-01		
ZR-95	LLD<5.14E-01		LLD<5.14E-01		
NB-95	LLD<3.31E-01		LLD<3.31E-01		
TL-210	LLD<2.00E+00		LLD<2.00E+00		
CO-58	LLD<3.34E-01		LLD<3.34E-01		
CS-136	LLD<2.85E-01		LLD<2.85E-01		
MN-54	LLD<3.60E-01		LLD<3.60E-01		
CO-56	LLD<3.66E-01		LLD<3.66E-01		
I-134	LLD<3.70E-01		LLD<3.70E-01		
TL-207	LLD<3.20E+02		LLD<3.20E+02		
Y-88	LLD<4.12E-01		LLD<4.12E-01		
AC-228	1.41E+00	+- 6.95E-01	1.41E+00	+-	6.95E-01
-152	LLD<3.37E+00		LLD<3.37E+00		
PA-234M	LLD<4.27E+00		LLD<4.27E+00		
SR-91	LLD<1.31E+00		LLD<1.31E+00		
RB-89	LLD<9.05E-01		LLD<9.05E-01		
FE-59	LLD<6.37E-01		LLD<6.37E-01		
ZN-65	LLD<1.09E+00		LLD<1.09E+00		
SC-46	LLD<4.67E-01		LLD<4.67E-01		
TA-182	LLD<1.56E+00		LLD<1.56E+00		
I-135	LLD<1.59E+00		LLD<1.59E+00		
CL-39	LLD<6.99E-01		LLD<6.99E-01		
NA-22	LLD<4.67E-01		LLD<4.67E-01		
AR-41	LLD<4.91E-01		LLD<4.91E-01		
CO-60	LLD<3.94E-01		LLD<3.94E-01		
NA-24	LLD<3.05E-01		LLD<3.05E-01		
SR-92	LLD<5.46E-01		LLD<5.46E-01		
SCH-000	LLD<1.83E+00		LLD<1.83E+00		
CS-138	LLD<5.40E-01		LLD<5.40E-01		
K-40	1.70E+01	+- 4.45E+00	1.70E+01	+-	4.45E+00
KR-88	LLD<1.64E+00		LLD<1.64E+00		
TL-209	LLD<5.85E-01		LLD<5.85E-01		
LA-140	LLD<3.14E-01		LLD<3.14E-01		
AL-26	LLD<3.62E-01		LLD<3.62E-01		
MN-56	LLD<1.43E+00		LLD<1.43E+00		
RB-88	LLD<4.80E-01		LLD<4.80E-01		
	---		---		
tal	2.05E+01	+- 4.53E+00	2.05E+01	+-	4.53E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0037

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.55	295.54	25.	71.8	4.08E+00
1167.90	583.54	29.	52.8	9.26E+00

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C-45

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          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                    *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 13:50:09

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0038
Measured by: dlv

Sample Description: C-45 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.3900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 13:34:29

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 13:50:09

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.16	238.90	1.3	66.	90.	33.7	PB-212
2	591.54	295.53	0.7	23.	42.	46.4	PB-214
3	677.52	338.48	2.6	15.	26.	58.3	AC-228
4	704.97	352.20	1.9	30.	60.	38.0	PB-214
5	1167.77	583.47	1.4	8.	40.	38.0	TL-208
6	1219.41	609.29	1.3	5.	56.	28.9	BI-214
7	1821.71	910.44	0.7	7.	32.	43.8	AC-228
8	2922.60	1461.35	1.3	6.	65.	27.5	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 30-NOV-95 13:50:09

Sample: C-45 Soil
Data collected on 30-NOV-95 at 13:34:29
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.30E+00		LLD<3.30E+00	
TH-234	LLD<2.66E+01		LLD<2.66E+01	
TH-230	LLD<2.30E+02		LLD<2.30E+02	
XE-133	LLD<1.62E+00		LLD<1.62E+00	
CD-109	LLD<1.04E+01		LLD<1.04E+01	
SCL-000	LLD<7.58E-01		LLD<7.58E-01	
CO-57	LLD<2.52E-01		LLD<2.52E-01	
PA-234	LLD<1.00E+00		LLD<1.00E+00	
CE-144	LLD<1.84E+00		LLD<1.84E+00	
TC-99M	LLD<2.22E-01		LLD<2.22E-01	
U-235	LLD<1.87E+00		LLD<1.87E+00	
CE-141	LLD<4.07E-01		LLD<4.07E-01	
KR-85M	LLD<2.54E-01		LLD<2.54E-01	
XE-131M	LLD<8.73E+00		LLD<8.73E+00	
BA-139	LLD<1.01E+00		LLD<1.01E+00	
[illegible]-139	LLD<2.06E-01		LLD<2.06E-01	
[illegible]-226	LLD<5.24E+00		LLD<5.24E+00	
BA-141	LLD<5.31E-01		LLD<5.31E-01	
KR-89	LLD<2.51E+00		LLD<2.51E+00	
TE-132	LLD<2.32E-01		LLD<2.32E-01	
XE-133M	LLD<2.35E+00		LLD<2.35E+00	
TH-227	LLD<1.79E+00		LLD<1.79E+00	
PB-212	1.11E+00	+- 3.77E-01	1.11E+00	+- 3.77E-01
RA-224	LLD<5.94E+00		LLD<5.94E+00	
XE-135	LLD<2.61E-01		LLD<2.61E-01	
XE-138	LLD<9.37E-01		LLD<9.37E-01	
SE-75	LLD<3.44E-01		LLD<3.44E-01	
NP-239	LLD<1.60E+00		LLD<1.60E+00	
HG-203	LLD<3.01E-01		LLD<3.01E-01	
IR-192	LLD<2.02E-01		LLD<2.02E-01	
CR-51	LLD<2.33E+00		LLD<2.33E+00	
SCM-000	LLD<1.09E+00		LLD<1.09E+00	
BI-211	LLD<8.57E+00		LLD<8.57E+00	
PB-214	1.46E+00	+- 5.54E-01	1.46E+00	+- 5.54E-01
BA-133	LLD<6.87E-01		LLD<6.87E-01	
I-131	LLD<2.73E-01		LLD<2.73E-01	
SN-113	LLD<3.63E-01		LLD<3.63E-01	
KR-87	LLD<5.18E-01		LLD<5.18E-01	
PB-211	LLD<1.10E+01		LLD<1.10E+01	
AU-198	LLD<2.84E-01		LLD<2.84E-01	
SB-125	LLD<8.06E-01		LLD<8.06E-01	
[illegible] 212	LLD<8.67E+01		LLD<8.67E+01	
[illegible]-7	LLD<2.56E+00		LLD<2.56E+00	
HF-181	LLD<3.25E-01		LLD<3.25E-01	
RU-103	LLD<2.42E-01		LLD<2.42E-01	
KR-85	LLD<7.74E+01		LLD<7.74E+01	

SR-85	LLD<3.38E-01		LLD<3.38E-01		
I-133	LLD<3.36E-01		LLD<3.36E-01		
[illegible]-140	LLD<1.17E+00		LLD<1.17E+00		
Y-91M	LLD<3.18E-01		LLD<3.18E-01		
BI-207	LLD<3.09E-01		LLD<3.09E-01		
TL-208	LLD<1.30E+00		LLD<1.30E+00		
SB-124	LLD<3.23E-01		LLD<3.23E-01		
CS-134	LLD<6.56E-01		LLD<6.56E-01		
BI-214	2.01E+00	+- 5.83E-01	2.01E+00	+-	5.83E-01
RU-106	LLD<3.26E+00		LLD<3.26E+00		
LA-142	LLD<5.93E-01		LLD<5.93E-01		
AG-110M	LLD<4.23E-01		LLD<4.23E-01		
NB-97	LLD<4.26E-01		LLD<4.26E-01		
CS-137	LLD<4.41E-01		LLD<4.41E-01		
I-132	LLD<4.21E-01		LLD<4.21E-01		
W-187	LLD<1.24E+00		LLD<1.24E+00		
ZR-97	LLD<3.91E-01		LLD<3.91E-01		
ZR-95	LLD<4.95E-01		LLD<4.95E-01		
NB-95	LLD<3.89E-01		LLD<3.89E-01		
TL-210	LLD<1.99E+00		LLD<1.99E+00		
CO-58	LLD<3.37E-01		LLD<3.37E-01		
CS-136	LLD<3.19E-01		LLD<3.19E-01		
MN-54	LLD<4.37E-01		LLD<4.37E-01		
CO-56	LLD<3.27E-01		LLD<3.27E-01		
I-134	LLD<3.51E-01		LLD<3.51E-01		
TL-207	LLD<3.03E+02		LLD<3.03E+02		
Y-88	LLD<3.94E-01		LLD<3.94E-01		
[illegible]-228	2.36E+00	+- 1.04E+00	2.36E+00	+-	1.04E+00
[illegible]-152	LLD<3.76E+00		LLD<3.76E+00		
PA-234M	LLD<3.10E+00		LLD<3.10E+00		
SR-91	LLD<1.22E+00		LLD<1.22E+00		
RB-89	LLD<9.33E-01		LLD<9.33E-01		
FE-59	LLD<9.62E-01		LLD<9.62E-01		
ZN-65	LLD<1.03E+00		LLD<1.03E+00		
SC-46	LLD<4.69E-01		LLD<4.69E-01		
TA-182	LLD<1.34E+00		LLD<1.34E+00		
I-135	LLD<1.38E+00		LLD<1.38E+00		
CL-39	LLD<9.80E-01		LLD<9.80E-01		
NA-22	LLD<4.59E-01		LLD<4.59E-01		
AR-41	LLD<6.04E-01		LLD<6.04E-01		
CO-60	LLD<4.40E-01		LLD<4.40E-01		
NA-24	LLD<3.85E-01		LLD<3.85E-01		
SR-92	LLD<3.42E-01		LLD<3.42E-01		
SCH-000	LLD<2.54E+00		LLD<2.54E+00		
CS-138	LLD<3.50E-01		LLD<3.50E-01		
K-40	1.76E+01	+- 4.87E+00	1.76E+01	+-	4.87E+00
KR-88	LLD<4.41E+00		LLD<4.41E+00		
TL-209	LLD<1.11E+00		LLD<1.11E+00		
LA-140	LLD<3.53E-01		LLD<3.53E-01		
AL-26	LLD<3.47E-01		LLD<3.47E-01		
MN-56	LLD<7.14E-01		LLD<7.14E-01		
RB-88	LLD<1.08E+00		LLD<1.08E+00		
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[illegible]tal	2.45E+01	+- 5.06E+00	2.45E+01	+-	5.06E+00

Error Quotation at 1.96 Sigma

Results saved in File SD0038

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.54	295.53	42.	46.4	6.66E+00
677.52	338.48	26.	58.3	4.71E+00
1167.77	583.47	40.	38.0	1.25E+01

0↕©

C-40

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 14:08:24

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

[illegible]D Calculation Performed.
[illegible]tiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0039
Measured by: dlv

Sample Description: C-40 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.8800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 13:51:02

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw

30-NOV-95 14:08:24

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	373.06	186.40	1.2	39.	47.	48.1	U-235,RA-226
2	478.67	239.15	1.2	58.	108.	29.2	PB-212
3	592.23	295.88	1.4	37.	21.	103.6	PB-214
4	678.40	338.93	1.1	12.	32.	47.0	AC-228
5	704.97	352.20	1.5	16.	60.	32.2	PB-214
6	1167.76	583.47	1.8	13.	23.	64.4	TL-208
7	1220.23	609.70	0.9	11.	33.	45.7	BI-214
8N	1541.82	770.47	3.2	6.	15.	75.1	
9	1822.24	910.71	1.3	3.	18.	56.2	AC-228
10	2922.65	1461.37	2.3	6.	54.	31.3	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

N - Multiplet Analysis did NOT converge

hgtrw 30-NOV-95 14:08:24

ple: C-40 Soil
ata collected on 30-NOV-95 at 13:51:02
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.70E+00		LLD<3.70E+00	
TH-234	LLD<2.48E+01		LLD<2.48E+01	
TH-230	LLD<2.30E+02		LLD<2.30E+02	
XE-133	LLD<1.79E+00		LLD<1.79E+00	
CD-109	LLD<1.15E+01		LLD<1.15E+01	
SCL-000	LLD<8.60E-01		LLD<8.60E-01	
CO-57	LLD<2.85E-01		LLD<2.85E-01	
PA-234	LLD<1.17E+00		LLD<1.17E+00	
CE-144	LLD<1.88E+00		LLD<1.88E+00	
TC-99M	LLD<2.41E-01		LLD<2.41E-01	
U-235	LLD<1.75E+00		LLD<1.75E+00	
CE-141	LLD<4.01E-01		LLD<4.01E-01	
KR-85M	LLD<2.91E-01		LLD<2.91E-01	
XE-131M	LLD<9.60E+00		LLD<9.60E+00	
[illegible]-139	LLD<1.09E+00		LLD<1.09E+00	
[illegible]-139	LLD<2.21E-01		LLD<2.21E-01	
RA-226	6.27E+00	+- 3.02E+00	6.27E+00	+- 3.02E+00
BA-141	LLD<6.06E-01		LLD<6.06E-01	
KR-89	LLD<2.46E+00		LLD<2.46E+00	
TE-132	LLD<2.27E-01		LLD<2.27E-01	
XE-133M	LLD<2.56E+00		LLD<2.56E+00	
TH-227	LLD<1.89E+00		LLD<1.89E+00	
PB-212	1.46E+00	+- 4.30E-01	1.46E+00	+- 4.30E-01
RA-224	LLD<6.27E+00		LLD<6.27E+00	
XE-135	LLD<2.31E-01		LLD<2.31E-01	
XE-138	LLD<9.27E-01		LLD<9.27E-01	
SE-75	LLD<3.60E-01		LLD<3.60E-01	
NP-239	LLD<1.67E+00		LLD<1.67E+00	
HG-203	LLD<3.05E-01		LLD<3.05E-01	
IR-192	LLD<2.97E-01		LLD<2.97E-01	
CR-51	LLD<2.54E+00		LLD<2.54E+00	
SCM-000	LLD<1.38E+00		LLD<1.38E+00	
BI-211	LLD<8.49E+00		LLD<8.49E+00	
PB-214	1.58E+00	+- 5.08E-01	1.58E+00	+- 5.08E-01
BA-133	LLD<7.40E-01		LLD<7.40E-01	
I-131	LLD<2.96E-01		LLD<2.96E-01	
SN-113	LLD<3.81E-01		LLD<3.81E-01	
KR-87	LLD<4.50E-01		LLD<4.50E-01	
PB-211	LLD<1.21E+01		LLD<1.21E+01	
[illegible]-198	LLD<3.00E-01		LLD<3.00E-01	
[illegible]-125	LLD<8.52E-01		LLD<8.52E-01	
[illegible]-212	LLD<8.36E+01		LLD<8.36E+01	
BE-7	LLD<3.20E+00		LLD<3.20E+00	
HF-181	LLD<3.58E-01		LLD<3.58E-01	
RU-103	LLD<3.05E-01		LLD<3.05E-01	
KR-85	LLD<8.33E+01		LLD<8.33E+01	

SR-85	LLD<3.64E-01		LLD<3.64E-01		
I-133	LLD<3.12E-01		LLD<3.12E-01		
[illegible]-140	LLD<1.10E+00		LLD<1.10E+00		
[illegible]-91M	LLD<3.33E-01		LLD<3.33E-01		
BI-207	LLD<3.40E-01		LLD<3.40E-01		
TL-208	LLD<1.20E+00		LLD<1.20E+00		
SB-124	LLD<3.33E-01		LLD<3.33E-01		
CS-134	LLD<5.49E-01		LLD<5.49E-01		
BI-214	1.27E+00	+- 5.82E-01	1.27E+00	+-	5.82E-01
RU-106	LLD<2.71E+00		LLD<2.71E+00		
LA-142	LLD<6.54E-01		LLD<6.54E-01		
AG-110M	LLD<7.01E-01		LLD<7.01E-01		
NB-97	LLD<7.07E-01		LLD<7.07E-01		
CS-137	LLD<5.91E-01		LLD<5.91E-01		
I-132	LLD<6.41E-01		LLD<6.41E-01		
W-187	LLD<1.08E+00		LLD<1.08E+00		
ZR-97	LLD<3.06E-01		LLD<3.06E-01		
ZR-95	LLD<6.52E-01		LLD<6.52E-01		
NB-95	LLD<4.38E-01		LLD<4.38E-01		
TL-210	LLD<1.61E+00		LLD<1.61E+00		
CO-58	LLD<3.03E-01		LLD<3.03E-01		
CS-136	LLD<3.31E-01		LLD<3.31E-01		
MN-54	LLD<3.67E-01		LLD<3.67E-01		
CO-56	LLD<3.85E-01		LLD<3.85E-01		
I-134	LLD<4.16E-01		LLD<4.16E-01		
TL-207	LLD<3.33E+02		LLD<3.33E+02		
Y-88	LLD<4.52E-01		LLD<4.52E-01		
[illegible]C-228	1.48E+00	+- 8.34E-01	1.48E+00	+-	8.34E-01
[illegible]-152	LLD<3.07E+00		LLD<3.07E+00		
PA-234M	LLD<4.71E+00		LLD<4.71E+00		
SR-91	LLD<1.42E+00		LLD<1.42E+00		
RB-89	LLD<9.22E-01		LLD<9.22E-01		
FE-59	LLD<7.57E-01		LLD<7.57E-01		
ZN-65	LLD<9.92E-01		LLD<9.92E-01		
SC-46	LLD<4.29E-01		LLD<4.29E-01		
TA-182	LLD<1.42E+00		LLD<1.42E+00		
I-135	LLD<1.08E+00		LLD<1.08E+00		
CL-39	LLD<1.06E+00		LLD<1.06E+00		
NA-22	LLD<4.47E-01		LLD<4.47E-01		
AR-41	LLD<5.92E-01		LLD<5.92E-01		
CO-60	LLD<3.10E-01		LLD<3.10E-01		
NA-24	LLD<4.12E-01		LLD<4.12E-01		
SR-92	LLD<6.26E-01		LLD<6.26E-01		
SCH-000	LLD<2.22E+00		LLD<2.22E+00		
CS-138	LLD<6.90E-01		LLD<6.90E-01		
K-40	1.58E+01	+- 4.97E+00	1.58E+01	+-	4.97E+00
KR-88	LLD<2.53E+00		LLD<2.53E+00		
TL-209	LLD<1.33E+00		LLD<1.33E+00		
LA-140	LLD<5.34E-01		LLD<5.34E-01		
AL-26	LLD<3.99E-01		LLD<3.99E-01		
MN-56	LLD<1.50E+00		LLD<1.50E+00		
RB-88	LLD<3.08E+00		LLD<3.08E+00		
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[illegible]tal	2.78E+01	+- 5.94E+00	2.78E+01	+-	5.94E+00

Error Quotation at 1.96 Sigma

Results saved in File SD0039

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
592.23	295.88	21.	103.6	3.30E+00
678.40	338.93	32.	47.0	5.90E+00
1167.76	583.47	23.	64.4	7.22E+00
1541.82	770.47	15.	75.1	6.21E+00

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C-44

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 14:25:40

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0040
Measured by: dlv

Sample Description: C-44 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.3200E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 14:09:15

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 14:25:40

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.93	239.28	1.2	93.	128.	29.4	PB-212
2	591.92	295.72	1.8	45.	32.	73.6	PB-214
3	704.99	352.21	1.5	24.	73.	31.5	PB-214
4$	1022.70	510.97	1.2	14.	23.	62.1	TL-208,NA-22, ANN-RD
5	1219.80	609.48	1.6	4.	55.	28.9	BI-214
6	1324.26	661.70	1.7	8.	41.	37.4	CS-137
7	1823.51	911.34	2.0	11.	19.	74.7	AC-228
8N	1938.90	969.06	0.9	9.	13.	90.4	AC-228,RU-105
9	2241.58	1120.48	0.9	1.	21.	45.8	BI-214,SC-46, TA-182
10	2922.25	1461.18	0.9	2.	85.	22.1	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 30-NOV-95 14:25:40

mple: C-44 Soil
a collected on 30-NOV-95 at 14:09:15
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.44E+00		LLD<3.44E+00	
TH-234	LLD<2.94E+01		LLD<2.94E+01	
TH-230	LLD<2.26E+02		LLD<2.26E+02	
XE-133	LLD<1.66E+00		LLD<1.66E+00	
CD-109	LLD<1.09E+01		LLD<1.09E+01	
SCL-000	LLD<8.39E-01		LLD<8.39E-01	
CO-57	LLD<2.79E-01		LLD<2.79E-01	
PA-234	LLD<1.04E+00		LLD<1.04E+00	
CE-144	LLD<2.09E+00		LLD<2.09E+00	
TC-99M	LLD<2.14E-01		LLD<2.14E-01	
U-235	LLD<1.88E+00		LLD<1.88E+00	
CE-141	LLD<4.11E-01		LLD<4.11E-01	
KR-85M	LLD<2.59E-01		LLD<2.59E-01	
XE-131M	LLD<9.33E+00		LLD<9.33E+00	
BA-139	LLD<1.14E+00		LLD<1.14E+00	
[illegible]-139	LLD<2.31E-01		LLD<2.31E-01	
[illegible]-226	LLD<5.70E+00		LLD<5.70E+00	
BA-141	LLD<4.88E-01		LLD<4.88E-01	
KR-89	LLD<2.90E+00		LLD<2.90E+00	
TE-132	LLD<2.52E-01		LLD<2.52E-01	
XE-133M	LLD<2.54E+00		LLD<2.54E+00	
TH-227	LLD<1.94E+00		LLD<1.94E+00	
PB-212	1.61E+00	+- 4.76E-01	1.61E+00	+- 4.76E-01
RA-224	LLD<6.18E+00		LLD<6.18E+00	
XE-135	LLD<2.60E-01		LLD<2.60E-01	
XE-138	LLD<8.69E-01		LLD<8.69E-01	
SE-75	LLD<3.82E-01		LLD<3.82E-01	
NP-239	LLD<1.58E+00		LLD<1.58E+00	
HG-203	LLD<2.69E-01		LLD<2.69E-01	
IR-192	LLD<2.91E-01		LLD<2.91E-01	
CR-51	LLD<2.29E+00		LLD<2.29E+00	
SCM-000	LLD<1.18E+00		LLD<1.18E+00	
BI-211	LLD<8.77E+00		LLD<8.77E+00	
PB-214	1.78E+00	+- 5.63E-01	1.78E+00	+- 5.63E-01
BA-133	LLD<7.51E-01		LLD<7.51E-01	
I-131	LLD<2.54E-01		LLD<2.54E-01	
SN-113	LLD<3.81E-01		LLD<3.81E-01	
KR-87	LLD<4.88E-01		LLD<4.88E-01	
PB-211	LLD<1.03E+01		LLD<1.03E+01	
AU-198	LLD<2.89E-01		LLD<2.89E-01	
[illegible]B-125	LLD<9.03E-01		LLD<9.03E-01	
[illegible]-212	LLD<9.06E+01		LLD<9.06E+01	
[illegible]-7	LLD<2.80E+00		LLD<2.80E+00	
HF-181	LLD<3.61E-01		LLD<3.61E-01	
RU-103	LLD<2.47E-01		LLD<2.47E-01	
KR-85	LLD<8.32E+01		LLD<8.32E+01	

SR-85	LLD<3.64E-01		LLD<3.64E-01		
I-133	LLD<3.23E-01		LLD<3.23E-01		
[illegible]-140	LLD<1.10E+00		LLD<1.10E+00		
[illegible]-91M	LLD<3.05E-01		LLD<3.05E-01		
BI-207	LLD<3.20E-01		LLD<3.20E-01		
TL-208	LLD<1.39E+00		LLD<1.39E+00		
SB-124	LLD<3.13E-01		LLD<3.13E-01		
CS-134	LLD<6.32E-01		LLD<6.32E-01		
BI-214	1.99E+00	+- 5.77E-01	1.99E+00	+-	5.77E-01
RU-106	LLD<3.63E+00		LLD<3.63E+00		
LA-142	LLD<6.09E-01		LLD<6.09E-01		
AG-110M	LLD<7.18E-01		LLD<7.18E-01		
NB-97	LLD<7.23E-01		LLD<7.23E-01		
CS-137	6.91E-01	+- 2.59E-01	6.91E-01	+-	2.59E-01
I-132	LLD<5.72E-01		LLD<5.72E-01		
W-187	LLD<9.27E-01		LLD<9.27E-01		
ZR-97	LLD<2.55E-01		LLD<2.55E-01		
ZR-95	LLD<5.51E-01		LLD<5.51E-01		
NB-95	LLD<3.35E-01		LLD<3.35E-01		
TL-210	LLD<1.88E+00		LLD<1.88E+00		
CO-58	LLD<3.41E-01		LLD<3.41E-01		
CS-136	LLD<3.22E-01		LLD<3.22E-01		
MN-54	LLD<3.98E-01		LLD<3.98E-01		
CO-56	LLD<3.27E-01		LLD<3.27E-01		
I-134	LLD<3.46E-01		LLD<3.46E-01		
TL-207	LLD<3.76E+02		LLD<3.76E+02		
Y-88	LLD<5.00E-01		LLD<5.00E-01		
[illegible]C-228	1.40E+00	+- 1.05E+00	1.40E+00	+-	1.05E+00
[illegible]-152	LLD<4.05E+00		LLD<4.05E+00		
PA-234M	LLD<3.35E+00		LLD<3.35E+00		
SR-91	LLD<1.62E+00		LLD<1.62E+00		
RB-89	LLD<9.27E-01		LLD<9.27E-01		
FE-59	LLD<8.61E-01		LLD<8.61E-01		
ZN-65	LLD<1.73E+00		LLD<1.73E+00		
SC-46	LLD<5.64E-01		LLD<5.64E-01		
TA-182	LLD<1.52E+00		LLD<1.52E+00		
I-135	LLD<1.55E+00		LLD<1.55E+00		
CL-39	LLD<6.83E-01		LLD<6.83E-01		
NA-22	LLD<4.21E-01		LLD<4.21E-01		
AR-41	LLD<5.90E-01		LLD<5.90E-01		
CO-60	LLD<4.39E-01		LLD<4.39E-01		
NA-24	LLD<3.46E-01		LLD<3.46E-01		
SR-92	LLD<4.37E-01		LLD<4.37E-01		
SCH-000	LLD<1.48E+00		LLD<1.48E+00		
CS-138	LLD<5.18E-01		LLD<5.18E-01		
K-40	2.32E+01	+- 5.19E+00	2.32E+01	+-	5.19E+00
KR-88	LLD<3.82E+00		LLD<3.82E+00		
TL-209	LLD<1.24E+00		LLD<1.24E+00		
LA-140	LLD<5.23E-01		LLD<5.23E-01		
AL-26	LLD<3.90E-01		LLD<3.90E-01		
MN-56	LLD<8.85E-01		LLD<8.85E-01		
RB-88	LLD<1.09E+00		LLD<1.09E+00		
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[illegible]tal	3.07E+01	+- 5.38E+00	3.07E+01	+-	5.38E+00

Error Quotation at 1.96 Sigma

Results saved in File SD0040

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.92	295.72	32.	73.6	5.12E+00
1022.70	510.97	23.	62.1	6.37E+00
1938.90	969.06	13.	90.4	6.75E+00
2241.58	1120.48	21.	45.8	1.23E+01

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C-42

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 14:47:37

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0047
Measured by: dlv

Sample Description: C-42 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.2300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 14:26:34

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 14:47:37

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	373.71	186.73	1.4	47.	26.	85.4	RA-226
2	478.62	239.12	1.5	73.	156.	23.5	PB-212
3	677.10	338.28	1.9	21.	25.	67.5	AC-228
4	704.93	352.18	1.5	19.	41.	44.9	PB-214
5	1167.53	583.35	1.1	16.	33.	52.0	TL-208
6	1220.35	609.76	2.0	15.	38.	44.5	BI-214
7	1324.54	661.84	1.6	10.	35.	43.4	CS-137
8	1823.63	911.40	1.2	2.	23.	45.3	AC-228
9	1938.87	969.05	0.7	7.	16.	72.7	AC-228,RU-105
10	2923.27	1461.68	2.4	8.	65.	28.4	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 30-NOV-95 14:47:37

Sample: C-42 Soil
Data collected on 30-NOV-95 at 14:26:34
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.49E+00		LLD<3.49E+00	
TH-234	LLD<2.76E+01		LLD<2.76E+01	
TH-230	LLD<2.29E+02		LLD<2.29E+02	
XE-133	LLD<1.66E+00		LLD<1.66E+00	
CD-109	LLD<1.15E+01		LLD<1.15E+01	
SCL-000	LLD<7.77E-01		LLD<7.77E-01	
CO-57	LLD<2.58E-01		LLD<2.58E-01	
PA-234	LLD<1.06E+00		LLD<1.06E+00	
CE-144	LLD<1.90E+00		LLD<1.90E+00	
TC-99M	LLD<2.19E-01		LLD<2.19E-01	
U-235	LLD<1.86E+00		LLD<1.86E+00	
CE-141	LLD<4.42E-01		LLD<4.42E-01	
KR-85M	LLD<2.50E-01		LLD<2.50E-01	
XE-131M	LLD<7.32E+00		LLD<7.32E+00	
BA-139	LLD<1.13E+00		LLD<1.13E+00	
[illegible]-139	LLD<2.29E-01		LLD<2.29E-01	
[illegible]-226	3.32E+00	+- 2.83E+00	3.32E+00	+- 2.83E+00
BA-141	LLD<5.44E-01		LLD<5.44E-01	
KR-89	LLD<2.50E+00		LLD<2.50E+00	
TE-132	LLD<2.56E-01		LLD<2.56E-01	
XE-133M	LLD<2.33E+00		LLD<2.33E+00	
TH-227	LLD<2.18E+00		LLD<2.18E+00	
PB-212	1.98E+00	+- 4.69E-01	1.98E+00	+- 4.69E-01
RA-224	LLD<6.59E+00		LLD<6.59E+00	
XE-135	LLD<2.68E-01		LLD<2.68E-01	
XE-138	LLD<9.93E-01		LLD<9.93E-01	
SE-75	LLD<3.80E-01		LLD<3.80E-01	
NP-239	LLD<1.68E+00		LLD<1.68E+00	
HG-203	LLD<2.75E-01		LLD<2.75E-01	
IR-192	LLD<2.73E-01		LLD<2.73E-01	
CR-51	LLD<2.18E+00		LLD<2.18E+00	
SCM-000	LLD<1.16E+00		LLD<1.16E+00	
BI-211	LLD<7.84E+00		LLD<7.84E+00	
PB-214	1.03E+00	+- 4.64E-01	1.03E+00	+- 4.64E-01
BA-133	LLD<6.21E-01		LLD<6.21E-01	
I-131	LLD<3.02E-01		LLD<3.02E-01	
SN-113	LLD<3.75E-01		LLD<3.75E-01	
KR-87	LLD<4.74E-01		LLD<4.74E-01	
PB-211	LLD<1.06E+01		LLD<1.06E+01	
AU-198	LLD<2.60E-01		LLD<2.60E-01	
SB-125	LLD<9.11E-01		LLD<9.11E-01	
[illegible]-212	LLD<8.59E+01		LLD<8.59E+01	
[illegible]-7	LLD<2.56E+00		LLD<2.56E+00	
HF-181	LLD<3.84E-01		LLD<3.84E-01	
RU-103	LLD<3.40E-01		LLD<3.40E-01	
KR-85	LLD<8.18E+01		LLD<8.18E+01	

SR-85	LLD<3.58E-01		LLD<3.58E-01		
I-133	LLD<3.08E-01		LLD<3.08E-01		
BA-140	LLD<1.05E+00		LLD<1.05E+00		
Y-91M	LLD<3.76E-01		LLD<3.76E-01		
PB-207	LLD<2.40E-01		LLD<2.40E-01		
TL-208	LLD<1.27E+00		LLD<1.27E+00		
SB-124	LLD<3.61E-01		LLD<3.61E-01		
CS-134	LLD<6.25E-01		LLD<6.25E-01		
BI-214	1.38E+00	+- 6.14E-01	1.38E+00	+-	6.14E-01
RU-106	LLD<2.99E+00		LLD<2.99E+00		
LA-142	LLD<5.60E-01		LLD<5.60E-01		
AG-110M	LLD<7.37E-01		LLD<7.37E-01		
NB-97	LLD<7.43E-01		LLD<7.43E-01		
CS-137	6.10E-01	+- 2.65E-01	6.10E-01	+-	2.65E-01
I-132	LLD<6.17E-01		LLD<6.17E-01		
W-187	LLD<1.03E+00		LLD<1.03E+00		
ZR-97	LLD<3.29E-01		LLD<3.29E-01		
ZR-95	LLD<6.74E-01		LLD<6.74E-01		
NB-95	LLD<3.34E-01		LLD<3.34E-01		
TL-210	LLD<2.14E+00		LLD<2.14E+00		
CO-58	LLD<3.32E-01		LLD<3.32E-01		
CS-136	LLD<3.34E-01		LLD<3.34E-01		
MN-54	LLD<3.86E-01		LLD<3.86E-01		
CO-56	LLD<3.57E-01		LLD<3.57E-01		
I-134	LLD<3.59E-01		LLD<3.59E-01		
TL-207	LLD<1.38E+02		LLD<1.38E+02		
Y-88	LLD<2.24E-01		LLD<2.24E-01		
AC-228	1.75E+00	+- 7.93E-01	1.75E+00	+-	7.93E-01
EU-152	LLD<3.89E+00		LLD<3.89E+00		
PA-234M	LLD<4.76E+00		LLD<4.76E+00		
KR-91	LLD<1.27E+00		LLD<1.27E+00		
RB-89	LLD<9.89E-01		LLD<9.89E-01		
FE-59	LLD<6.89E-01		LLD<6.89E-01		
ZN-65	LLD<1.30E+00		LLD<1.30E+00		
SC-46	LLD<5.48E-01		LLD<5.48E-01		
TA-182	LLD<1.65E+00		LLD<1.65E+00		
I-135	LLD<1.42E+00		LLD<1.42E+00		
CL-39	LLD<5.81E-01		LLD<5.81E-01		
NA-22	LLD<4.10E-01		LLD<4.10E-01		
AR-41	LLD<5.49E-01		LLD<5.49E-01		
CO-60	LLD<4.79E-01		LLD<4.79E-01		
NA-24	LLD<4.59E-01		LLD<4.59E-01		
SR-92	LLD<6.24E-01		LLD<6.24E-01		
SCH-000	LLD<1.45E+00		LLD<1.45E+00		
CS-138	LLD<5.25E-01		LLD<5.25E-01		
K-40	1.80E+01	+- 5.17E+00	1.80E+01	+-	5.17E+00
KR-88	LLD<3.74E+00		LLD<3.74E+00		
TL-209	LLD<1.69E+00		LLD<1.69E+00		
LA-140	LLD<4.35E-01		LLD<4.35E-01		
AL-26	LLD<1.95E-01		LLD<1.95E-01		
MN-56	LLD<1.33E+00		LLD<1.33E+00		
RB-88	LLD<1.85E+00		LLD<1.85E+00		
	---		---		
Total	2.81E+01	+- 6.02E+00	2.81E+01	+-	6.02E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0047

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
677.10	338.28	25.	67.5	4.49E+00
1167.53	583.35	33.	52.0	1.03E+01
1938.87	969.05	16.	72.7	8.16E+00

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C-43

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*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 15:05:32

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0048
Measured by: dlv

Sample Description: C-43 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.4100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 14:48:27

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 15:05:32

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.60	239.11	1.4	99.	116.	32.8	PB-212
2	704.82	352.13	1.8	28.	61.	37.0	PB-214
3	1022.39	510.82	1.2	11.	24.	57.8	TL-208,NA-22, ANN-RD
4	1220.50	609.83	0.8	9.	53.	32.1	BI-214
5	1324.62	661.88	1.7	22.	96.	25.1	CS-137
6	2124.70	1062.01	0.8	2.	6.	100.3	
7	2922.62	1461.36	2.2	4.	113.	19.5	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

-trw 30-NOV-95 15:05:32

Sample: C-43 Soil
Data collected on 30-NOV-95 at 14:48:27
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<3.00E+00		LLD<3.00E+00	
TH-234	LLD<2.19E+01		LLD<2.19E+01	
TH-230	LLD<1.85E+02		LLD<1.85E+02	
XE-133	LLD<1.38E+00		LLD<1.38E+00	
CD-109	LLD<9.40E+00		LLD<9.40E+00	
SCL-000	LLD<6.59E-01		LLD<6.59E-01	
CO-57	LLD<2.19E-01		LLD<2.19E-01	
PA-234	LLD<8.40E-01		LLD<8.40E-01	
CE-144	LLD<1.62E+00		LLD<1.62E+00	
TC-99M	LLD<1.96E-01		LLD<1.96E-01	
U-235	LLD<1.71E+00		LLD<1.71E+00	
CE-141	LLD<3.45E-01		LLD<3.45E-01	
KR-85M	LLD<2.10E-01		LLD<2.10E-01	
[illegible]-131M	LLD<8.41E+00		LLD<8.41E+00	
[illegible]-139	LLD<1.02E+00		LLD<1.02E+00	
CE-139	LLD<2.07E-01		LLD<2.07E-01	
RA-226	LLD<4.92E+00		LLD<4.92E+00	
BA-141	LLD<4.17E-01		LLD<4.17E-01	
KR-89	LLD<2.11E+00		LLD<2.11E+00	
TE-132	LLD<1.82E-01		LLD<1.82E-01	
XE-133M	LLD<2.08E+00		LLD<2.08E+00	
TH-227	LLD<1.49E+00		LLD<1.49E+00	
PB-212	1.09E+00	+- 3.60E-01	1.09E+00	+- 3.60E-01
RA-224	LLD<5.17E+00		LLD<5.17E+00	
XE-135	LLD<1.89E-01		LLD<1.89E-01	
XE-138	LLD<7.12E-01		LLD<7.12E-01	
SE-75	LLD<2.85E-01		LLD<2.85E-01	
NP-239	LLD<1.36E+00		LLD<1.36E+00	
HG-203	LLD<2.28E-01		LLD<2.28E-01	
IR-192	LLD<2.15E-01		LLD<2.15E-01	
CR-51	LLD<1.92E+00		LLD<1.92E+00	
SCM-000	LLD<1.00E+00		LLD<1.00E+00	
BI-211	LLD<6.39E+00		LLD<6.39E+00	
PB-214	1.13E+00	+- 4.19E-01	1.13E+00	+- 4.19E-01
BA-133	LLD<5.55E-01		LLD<5.55E-01	
I-131	LLD<2.31E-01		LLD<2.31E-01	
SN-113	LLD<3.73E-01		LLD<3.73E-01	
KR-87	LLD<4.59E-01		LLD<4.59E-01	
[illegible]-211	LLD<7.92E+00		LLD<7.92E+00	
[illegible]-198	LLD<2.27E-01		LLD<2.27E-01	
SB-125	LLD<6.95E-01		LLD<6.95E-01	
BI-212	LLD<7.66E+01		LLD<7.66E+01	
BE-7	LLD<2.15E+00		LLD<2.15E+00	
HF-181	LLD<2.68E-01		LLD<2.68E-01	
RU-103	LLD<2.46E-01		LLD<2.46E-01	
KR-85	LLD<6.52E+01		LLD<6.52E+01	

SR-85	LLD<2.85E-01		LLD<2.85E-01		
I-133	LLD<2.59E-01		LLD<2.59E-01		
BA-140	LLD<8.37E-01		LLD<8.37E-01		
Y-91M	LLD<3.15E-01		LLD<3.15E-01		
I-207	LLD<2.30E-01		LLD<2.30E-01		
TL-208	LLD<9.90E-01		LLD<9.90E-01		
SB-124	LLD<3.01E-01		LLD<3.01E-01		
CS-134	LLD<4.38E-01		LLD<4.38E-01		
BI-214	1.43E+00	+- 4.61E-01	1.43E+00	+-	4.61E-01
RU-106	LLD<2.32E+00		LLD<2.32E+00		
LA-142	LLD<5.23E-01		LLD<5.23E-01		
AG-110M	LLD<7.86E-01		LLD<7.86E-01		
NB-97	LLD<7.92E-01		LLD<7.92E-01		
CS-137	1.23E+00	+- 3.10E-01	1.23E+00	+-	3.10E-01
I-132	LLD<6.93E-01		LLD<6.93E-01		
W-187	LLD<8.40E-01		LLD<8.40E-01		
ZR-97	LLD<2.61E-01		LLD<2.61E-01		
ZR-95	LLD<4.86E-01		LLD<4.86E-01		
NB-95	LLD<2.84E-01		LLD<2.84E-01		
TL-210	LLD<1.49E+00		LLD<1.49E+00		
CO-58	LLD<2.71E-01		LLD<2.71E-01		
CS-136	LLD<3.11E-01		LLD<3.11E-01		
MN-54	LLD<2.86E-01		LLD<2.86E-01		
CO-56	LLD<2.62E-01		LLD<2.62E-01		
I-134	LLD<3.03E-01		LLD<3.03E-01		
TL-207	LLD<2.76E+02		LLD<2.76E+02		
Y-88	LLD<3.57E-01		LLD<3.57E-01		
AC-228	LLD<1.40E+00		LLD<1.40E+00		
EU-152	LLD<2.14E+00		LLD<2.14E+00		
PA-234M	LLD<3.09E+00		LLD<3.09E+00		
ER-91	LLD<8.70E-01		LLD<8.70E-01		
RB-89	LLD<8.94E-01		LLD<8.94E-01		
FE-59	LLD<6.32E-01		LLD<6.32E-01		
ZN-65	LLD<1.06E+00		LLD<1.06E+00		
SC-46	LLD<4.48E-01		LLD<4.48E-01		
TA-182	LLD<1.22E+00		LLD<1.22E+00		
I-135	LLD<1.17E+00		LLD<1.17E+00		
CL-39	LLD<8.19E-01		LLD<8.19E-01		
NA-22	LLD<4.34E-01		LLD<4.34E-01		
AR-41	LLD<4.37E-01		LLD<4.37E-01		
CO-60	LLD<3.30E-01		LLD<3.30E-01		
NA-24	LLD<3.17E-01		LLD<3.17E-01		
SR-92	LLD<3.28E-01		LLD<3.28E-01		
SCH-000	LLD<1.43E+00		LLD<1.43E+00		
CS-138	LLD<3.89E-01		LLD<3.89E-01		
K-40	2.32E+01	+- 4.60E+00	2.32E+01	+-	4.60E+00
KR-88	LLD<3.07E+00		LLD<3.07E+00		
TL-209	LLD<9.70E-01		LLD<9.70E-01		
LA-140	LLD<1.77E-01		LLD<1.77E-01		
AL-26	LLD<1.77E-01		LLD<1.77E-01		
MN-56	LLD<1.10E+00		LLD<1.10E+00		
RB-88	LLD<8.17E-01		LLD<8.17E-01		
	---		---		
Total	2.80E+01	+- 4.66E+00	2.80E+01	+-	4.66E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0048

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1022.39	510.82	24.	57.8	6.57E+00
2124.70	1062.01	6.	100.3	3.50E+00

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C-41

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 15:31:36

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0050
Measured by: dlv

Sample Description: C-41 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.5100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 15:06:22

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 15:31:36

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.51	239.07	1.3	99.	140.	28.0	PB-212
2	592.14	295.83	1.7	33.	47.	44.7	PB-214
3	705.62	352.52	2.1	34.	63.	38.5	PB-214
4	1167.33	583.26	1.6	7.	37.	37.8	TL-208
5	1219.99	609.58	1.0	16.	56.	34.8	BI-214
6	1325.14	662.14	1.7	6.	35.	39.4	CS-137
7	1822.75	910.96	0.8	7.	22.	54.9	AC-228
8	2922.21	1461.16	2.4	0.	94.	20.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 30-NOV-95 15:31:36

Sample: C-41 Soil
a collected on 30-NOV-95 at 15:06:22
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.82E+00		LLD<3.82E+00	
TH-234	LLD<2.83E+01		LLD<2.83E+01	
TH-230	LLD<2.34E+02		LLD<2.34E+02	
XE-133	LLD<1.88E+00		LLD<1.88E+00	
CD-109	LLD<1.19E+01		LLD<1.19E+01	
SCL-000	LLD<8.39E-01		LLD<8.39E-01	
CO-57	LLD<2.78E-01		LLD<2.78E-01	
PA-234	LLD<1.08E+00		LLD<1.08E+00	
CE-144	LLD<2.17E+00		LLD<2.17E+00	
TC-99M	LLD<2.36E-01		LLD<2.36E-01	
U-235	LLD<1.90E+00		LLD<1.90E+00	
CE-141	LLD<4.33E-01		LLD<4.33E-01	
KR-85M	LLD<2.61E-01		LLD<2.61E-01	
XE-131M	LLD<9.24E+00		LLD<9.24E+00	
BA-139	LLD<1.18E+00		LLD<1.18E+00	
[illegible]-139	LLD<2.39E-01		LLD<2.39E-01	
[illegible]-226	LLD<6.47E+00		LLD<6.47E+00	
BA-141	LLD<5.51E-01		LLD<5.51E-01	
KR-89	LLD<2.73E+00		LLD<2.73E+00	
TE-132	LLD<2.78E-01		LLD<2.78E-01	
XE-133M	LLD<2.80E+00		LLD<2.80E+00	
TH-227	LLD<1.93E+00		LLD<1.93E+00	
PB-212	1.70E+00	+- 4.80E-01	1.70E+00	+- 4.80E-01
RA-224	LLD<6.96E+00		LLD<6.96E+00	
XE-135	LLD<2.56E-01		LLD<2.56E-01	
XE-138	LLD<8.57E-01		LLD<8.57E-01	
SE-75	LLD<4.28E-01		LLD<4.28E-01	
NP-239	LLD<1.57E+00		LLD<1.57E+00	
HG-203	LLD<3.11E-01		LLD<3.11E-01	
IR-192	LLD<2.72E-01		LLD<2.72E-01	
CR-51	LLD<2.71E+00		LLD<2.71E+00	
SCM-000	LLD<1.22E+00		LLD<1.22E+00	
BI-211	LLD<8.95E+00		LLD<8.95E+00	
PB-214	1.50E+00	+- 5.78E-01	1.50E+00	+- 5.78E-01
BA-133	LLD<6.68E-01		LLD<6.68E-01	
I-131	LLD<3.24E-01		LLD<3.24E-01	
SN-113	LLD<4.17E-01		LLD<4.17E-01	
KR-87	LLD<5.86E-01		LLD<5.86E-01	
PB-211	LLD<1.29E+01		LLD<1.29E+01	
AU-198	LLD<2.97E-01		LLD<2.97E-01	
SB-125	LLD<8.55E-01		LLD<8.55E-01	
[illegible]-212	LLD<7.94E+01		LLD<7.94E+01	
[illegible]-7	LLD<2.80E+00		LLD<2.80E+00	
HF-181	LLD<3.71E-01		LLD<3.71E-01	
RU-103	LLD<2.90E-01		LLD<2.90E-01	
KR-85	LLD<7.51E+01		LLD<7.51E+01	

SR-85	LLD<3.28E-01		LLD<3.28E-01		
I-133	LLD<2.83E-01		LLD<2.83E-01		
BA-140	LLD<9.95E-01		LLD<9.95E-01		
[illegible]91M	LLD<3.49E-01		LLD<3.49E-01		
[illegible]I-207	LLD<3.04E-01		LLD<3.04E-01		
TL-208	LLD<1.21E+00		LLD<1.21E+00		
SB-124	LLD<3.23E-01		LLD<3.23E-01		
CS-134	LLD<6.72E-01		LLD<6.72E-01		
BI-214	1.96E+00	+- 6.83E-01	1.96E+00	+-	6.83E-01
RU-106	LLD<2.68E+00		LLD<2.68E+00		
LA-142	LLD<7.00E-01		LLD<7.00E-01		
AG-110M	LLD<6.52E-01		LLD<6.52E-01		
NB-97	LLD<6.57E-01		LLD<6.57E-01		
CS-137	5.72E-01	+- 2.26E-01	5.72E-01	+-	2.26E-01
I-132	LLD<6.24E-01		LLD<6.24E-01		
W-187	LLD<1.31E+00		LLD<1.31E+00		
ZR-97	LLD<4.01E-01		LLD<4.01E-01		
ZR-95	LLD<6.63E-01		LLD<6.63E-01		
NB-95	LLD<3.61E-01		LLD<3.61E-01		
TL-210	LLD<1.83E+00		LLD<1.83E+00		
CO-58	LLD<3.84E-01		LLD<3.84E-01		
CS-136	LLD<3.52E-01		LLD<3.52E-01		
MN-54	LLD<3.92E-01		LLD<3.92E-01		
CO-56	LLD<4.37E-01		LLD<4.37E-01		
I-134	LLD<4.51E-01		LLD<4.51E-01		
TL-207	LLD<3.81E+02		LLD<3.81E+02		
Y-88	LLD<5.02E-01		LLD<5.02E-01		
AC-228	1.60E+00	+- 8.81E-01	1.60E+00	+-	8.81E-01
[illegible]U-152	LLD<3.90E+00		LLD<3.90E+00		
[illegible]-234M	LLD<5.37E+00		LLD<5.37E+00		
SR-91	LLD<1.27E+00		LLD<1.27E+00		
RB-89	LLD<8.41E-01		LLD<8.41E-01		
FE-59	LLD<8.03E-01		LLD<8.03E-01		
ZN-65	LLD<1.13E+00		LLD<1.13E+00		
SC-46	LLD<5.04E-01		LLD<5.04E-01		
TA-182	LLD<1.42E+00		LLD<1.42E+00		
I-135	LLD<1.51E+00		LLD<1.51E+00		
CL-39	LLD<5.13E-01		LLD<5.13E-01		
NA-22	LLD<4.30E-01		LLD<4.30E-01		
AR-41	LLD<4.83E-01		LLD<4.83E-01		
CO-60	LLD<4.32E-01		LLD<4.32E-01		
NA-24	LLD<3.85E-01		LLD<3.85E-01		
SR-92	LLD<4.68E-01		LLD<4.68E-01		
SCH-000	LLD<1.29E+00		LLD<1.29E+00		
CS-138	LLD<3.79E-01		LLD<3.79E-01		
K-40	2.49E+01	+- 5.12E+00	2.49E+01	+-	5.12E+00
KR-88	LLD<4.65E+00		LLD<4.65E+00		
TL-209	LLD<7.14E-01		LLD<7.14E-01		
LA-140	LLD<5.72E-01		LLD<5.72E-01		
AL-26	LLD<1.87E-01		LLD<1.87E-01		
MN-56	LLD<7.00E-01		LLD<7.00E-01		
RB-88	LLD<1.30E+00		LLD<1.30E+00		
	---		---		
Total	3.23E+01	+- 5.30E+00	3.23E+01	+-	5.30E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0050

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
592.14	295.83	47.	44.7	7.59E+00
1167.33	583.26	37.	37.8	1.17E+01

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C-39

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 15:48:56

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0051
Measured by: dlv

Sample Description: C-39 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 15:33:39

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

bgtrw 30-NOV-95 15:48:56

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.81	239.22	1.0	70.	148.	23.8	PB-212
2	591.77	295.65	1.5	36.	37.	59.7	PB-214
3	705.18	352.30	1.9	19.	81.	26.7	PB-214
4	1168.27	583.73	2.2	10.	42.	38.2	TL-208
5	1220.48	609.82	2.1	13.	48.	37.0	BI-214
6	1324.73	661.94	1.1	16.	38.	45.5	CS-137
7	1823.53	911.35	1.4	3.	22.	49.4	AC-228
8	2922.66	1461.38	2.5	6.	82.	24.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw

30-NOV-95 15:48:56

Sample: C-39 Soil
Data collected on 30-NOV-95 at 15:33:39
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<3.64E+00		LLD<3.64E+00	
TH-234	LLD<2.65E+01		LLD<2.65E+01	
TH-230	LLD<2.12E+02		LLD<2.12E+02	
XE-133	LLD<1.57E+00		LLD<1.57E+00	
CD-109	LLD<1.07E+01		LLD<1.07E+01	
SCL-000	LLD<7.55E-01		LLD<7.55E-01	
CO-57	LLD<2.51E-01		LLD<2.51E-01	
PA-234	LLD<9.60E-01		LLD<9.60E-01	
CE-144	LLD<1.75E+00		LLD<1.75E+00	
TC-99M	LLD<2.12E-01		LLD<2.12E-01	
U-235	LLD<1.65E+00		LLD<1.65E+00	
CE-141	LLD<3.61E-01		LLD<3.61E-01	
KR-85M	LLD<2.52E-01		LLD<2.52E-01	
XE-131M	LLD<7.59E+00		LLD<7.59E+00	
BA-139	LLD<9.50E-01		LLD<9.50E-01	
[illegible]-139	LLD<1.93E-01		LLD<1.93E-01	
[illegible]-226	LLD<5.09E+00		LLD<5.09E+00	
BA-141	LLD<5.11E-01		LLD<5.11E-01	
KR-89	LLD<2.48E+00		LLD<2.48E+00	
TE-132	LLD<2.34E-01		LLD<2.34E-01	
XE-133M	LLD<2.40E+00		LLD<2.40E+00	
TH-227	LLD<1.77E+00		LLD<1.77E+00	
PB-212	1.66E+00	+- 3.99E-01	1.66E+00	+- 3.99E-01
RA-224	LLD<6.14E+00		LLD<6.14E+00	
XE-135	LLD<2.56E-01		LLD<2.56E-01	
XE-138	LLD<9.26E-01		LLD<9.26E-01	
SE-75	LLD<3.53E-01		LLD<3.53E-01	
NP-239	LLD<1.45E+00		LLD<1.45E+00	
HG-203	LLD<3.05E-01		LLD<3.05E-01	
IR-192	LLD<2.54E-01		LLD<2.54E-01	
CR-51	LLD<2.26E+00		LLD<2.26E+00	
SCM-000	LLD<1.12E+00		LLD<1.12E+00	
BI-211	LLD<8.11E+00		LLD<8.11E+00	
PB-214	1.77E+00	+- 4.75E-01	1.77E+00	+- 4.75E-01
BA-133	LLD<6.81E-01		LLD<6.81E-01	
I-131	LLD<2.48E-01		LLD<2.48E-01	
SN-113	LLD<3.99E-01		LLD<3.99E-01	
KR-87	LLD<5.36E-01		LLD<5.36E-01	
PB-211	LLD<1.23E+01		LLD<1.23E+01	
AU-198	LLD<2.36E-01		LLD<2.36E-01	
[illegible]B-125	LLD<8.23E-01		LLD<8.23E-01	
[illegible]-212	LLD<9.36E+01		LLD<9.36E+01	
[illegible]E-7	LLD<2.85E+00		LLD<2.85E+00	
HF-181	LLD<3.39E-01		LLD<3.39E-01	
RU-103	LLD<2.50E-01		LLD<2.50E-01	
KR-85	LLD<7.26E+01		LLD<7.26E+01	

SR-85	LLD<3.18E-01		LLD<3.18E-01		
I-133	LLD<3.12E-01		LLD<3.12E-01		
BA-140	LLD<1.03E+00		LLD<1.03E+00		
[illegible]91M	LLD<2.98E-01		LLD<2.98E-01		
[illegible]-207	LLD<2.30E-01		LLD<2.30E-01		
TL-208	LLD<1.10E+00		LLD<1.10E+00		
SB-124	LLD<3.39E-01		LLD<3.39E-01		
CS-134	LLD<5.21E-01		LLD<5.21E-01		
BI-214	1.54E+00	+- 5.70E-01	1.54E+00	+-	5.70E-01
RU-106	LLD<2.92E+00		LLD<2.92E+00		
LA-142	LLD<5.51E-01		LLD<5.51E-01		
AG-110M	LLD<7.01E-01		LLD<7.01E-01		
NB-97	LLD<7.06E-01		LLD<7.06E-01		
CS-137	5.82E-01	+- 2.65E-01	5.82E-01	+-	2.65E-01
I-132	LLD<6.48E-01		LLD<6.48E-01		
W-187	LLD<1.09E+00		LLD<1.09E+00		
ZR-97	LLD<2.90E-01		LLD<2.90E-01		
ZR-95	LLD<6.41E-01		LLD<6.41E-01		
NB-95	LLD<2.70E-01		LLD<2.70E-01		
TL-210	LLD<2.28E+00		LLD<2.28E+00		
CO-58	LLD<3.68E-01		LLD<3.68E-01		
CS-136	LLD<3.29E-01		LLD<3.29E-01		
MN-54	LLD<3.17E-01		LLD<3.17E-01		
CO-56	LLD<3.43E-01		LLD<3.43E-01		
I-134	LLD<3.66E-01		LLD<3.66E-01		
TL-207	LLD<2.76E+02		LLD<2.76E+02		
Y-88	LLD<3.76E-01		LLD<3.76E-01		
AC-228	1.50E+00	+- 7.41E-01	1.50E+00	+-	7.41E-01
EU-152	LLD<3.49E+00		LLD<3.49E+00		
[illegible]-234M	LLD<4.68E+00		LLD<4.68E+00		
[illegible]R-91	LLD<1.19E+00		LLD<1.19E+00		
RB-89	LLD<8.35E-01		LLD<8.35E-01		
FE-59	LLD<6.36E-01		LLD<6.36E-01		
ZN-65	LLD<1.14E+00		LLD<1.14E+00		
SC-46	LLD<5.15E-01		LLD<5.15E-01		
TA-182	LLD<1.40E+00		LLD<1.40E+00		
I-135	LLD<2.04E+00		LLD<2.04E+00		
CL-39	LLD<1.21E+00		LLD<1.21E+00		
NA-22	LLD<4.75E-01		LLD<4.75E-01		
AR-41	LLD<4.91E-01		LLD<4.91E-01		
CO-60	LLD<2.89E-01		LLD<2.89E-01		
NA-24	LLD<3.09E-01		LLD<3.09E-01		
SR-92	LLD<3.27E-01		LLD<3.27E-01		
SCH-000	LLD<1.51E+00		LLD<1.51E+00		
CS-138	LLD<4.40E-01		LLD<4.40E-01		
K-40	1.99E+01	+- 4.87E+00	1.99E+01	+-	4.87E+00
KR-88	LLD<1.50E+00		LLD<1.50E+00		
TL-209	LLD<9.38E-01		LLD<9.38E-01		
LA-140	LLD<2.65E-01		LLD<2.65E-01		
AL-26	LLD<3.31E-01		LLD<3.31E-01		
MN-56	LLD<7.90E-01		LLD<7.90E-01		
RB-88	LLD<1.36E+00		LLD<1.36E+00		
	---		---		
Total	2.70E+01	+- 5.01E+00	2.70E+01	+-	5.01E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0051

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.77	295.65	37.	59.7	5.92E+00
1168.27	583.73	42.	38.2	1.33E+01

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C-30

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw

30-NOV-95 09:20:39

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

NID Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0057
Measured by: dlv

Sample Description: C-30 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.1400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 08:58:17

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 09:20:39

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.17	238.40	1.0	90.	109.	32.9	PB-212
2$	664.01	331.74	1.6	22.	20.	80.6	
3	703.38	351.41	1.5	19.	80.	27.7	BI-211,PB-214
4	1020.10	509.67	1.0	11.	17.	75.7	
5	1218.51	608.84	2.2	19.	51.	38.1	XE-135,BI-214
6	2921.93	1461.01	2.4	7.	83.	24.1	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 30-NOV-95 09:20:39

Sample: C-30 Soil
Data collected on 30-NOV-95 at 08:58:17
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.61E+00		LLD<3.61E+00	
TH-234	LLD<2.45E+01		LLD<2.45E+01	
TH-230	LLD<2.47E+02		LLD<2.47E+02	
XE-133	LLD<1.57E+00		LLD<1.57E+00	
CD-109	LLD<1.07E+01		LLD<1.07E+01	
SCL-000	LLD<7.31E-01		LLD<7.31E-01	
CO-57	LLD<2.43E-01		LLD<2.43E-01	
PA-234	LLD<9.05E-01		LLD<9.05E-01	
CE-144	LLD<2.16E+00		LLD<2.16E+00	
TC-99M	LLD<2.18E-01		LLD<2.18E-01	
U-235	LLD<1.69E+00		LLD<1.69E+00	
CE-141	LLD<4.18E-01		LLD<4.18E-01	
KR-85M	LLD<2.44E-01		LLD<2.44E-01	
XE-131M	LLD<8.84E+00		LLD<8.84E+00	
BA-139	LLD<9.53E-01		LLD<9.53E-01	
[illegible]-139	LLD<1.93E-01		LLD<1.93E-01	
[illegible]-226	LLD<5.10E+00		LLD<5.10E+00	
BA-141	LLD<5.57E-01		LLD<5.57E-01	
KR-89	LLD<2.21E+00		LLD<2.21E+00	
TE-132	LLD<2.40E-01		LLD<2.40E-01	
XE-133M	LLD<2.84E+00		LLD<2.84E+00	
TH-227	LLD<1.80E+00		LLD<1.80E+00	
PB-212	1.21E+00	+- 3.99E-01	1.21E+00	+- 3.99E-01
RA-224	LLD<6.94E+00		LLD<6.94E+00	
XE-135	LLD<2.64E-01		LLD<2.64E-01	
XE-138	LLD<9.31E-01		LLD<9.31E-01	
SE-75	LLD<3.50E-01		LLD<3.50E-01	
NP-239	LLD<1.49E+00		LLD<1.49E+00	
HG-203	LLD<2.73E-01		LLD<2.73E-01	
IR-192	LLD<2.85E-01		LLD<2.85E-01	
CR-51	LLD<2.10E+00		LLD<2.10E+00	
SCM-000	LLD<1.05E+00		LLD<1.05E+00	
BI-211	1.50E+01	+- 4.16E+00	1.50E+01	+- 4.16E+00
PB-214	1.75E+00	+- 4.85E-01	1.75E+00	+- 4.85E-01
BA-133	LLD<7.25E-01		LLD<7.25E-01	
I-131	LLD<2.57E-01		LLD<2.57E-01	
SN-113	LLD<3.17E-01		LLD<3.17E-01	
KR-87	LLD<4.87E-01		LLD<4.87E-01	
PB-211	LLD<9.20E+00		LLD<9.20E+00	
AU-198	LLD<2.30E-01		LLD<2.30E-01	
SB-125	LLD<8.51E-01		LLD<8.51E-01	
[illegible]-212	LLD<6.96E+01		LLD<6.96E+01	
[illegible]-7	LLD<1.84E+00		LLD<1.84E+00	
HF-181	LLD<2.93E-01		LLD<2.93E-01	
RU-103	LLD<2.43E-01		LLD<2.43E-01	
KR-85	LLD<7.34E+01		LLD<7.34E+01	

SR-85	LLD<3.21E-01		LLD<3.21E-01		
I-133	LLD<2.72E-01		LLD<2.72E-01		
BA-140	LLD<8.80E-01		LLD<8.80E-01		
[illegible]91M	LLD<2.74E-01		LLD<2.74E-01		
BI-207	LLD<2.78E-01		LLD<2.78E-01		
TL-208	LLD<1.11E+00		LLD<1.11E+00		
SB-124	LLD<3.44E-01		LLD<3.44E-01		
CS-134	LLD<6.31E-01		LLD<6.31E-01		
BI-214	1.64E+00	+- 6.25E-01	1.64E+00	+-	6.25E-01
RU-106	LLD<3.23E+00		LLD<3.23E+00		
LA-142	LLD<6.31E-01		LLD<6.31E-01		
AG-110M	LLD<3.90E-01		LLD<3.90E-01		
NB-97	LLD<3.93E-01		LLD<3.93E-01		
CS-137	LLD<3.88E-01		LLD<3.88E-01		
I-132	LLD<3.27E-01		LLD<3.27E-01		
W-187	LLD<9.96E-01		LLD<9.96E-01		
ZR-97	LLD<3.85E-01		LLD<3.85E-01		
ZR-95	LLD<4.07E-01		LLD<4.07E-01		
NB-95	LLD<3.08E-01		LLD<3.08E-01		
TL-210	LLD<1.72E+00		LLD<1.72E+00		
CO-58	LLD<2.63E-01		LLD<2.63E-01		
CS-136	LLD<2.51E-01		LLD<2.51E-01		
MN-54	LLD<3.26E-01		LLD<3.26E-01		
CO-56	LLD<3.80E-01		LLD<3.80E-01		
I-134	LLD<3.93E-01		LLD<3.93E-01		
TL-207	LLD<2.02E+02		LLD<2.02E+02		
Y-88	LLD<2.83E-01		LLD<2.83E-01		
AC-228	LLD<1.69E+00		LLD<1.69E+00		
[illegible]U-152	LLD<4.11E+00		LLD<4.11E+00		
[illegible]A-234M	LLD<3.71E+00		LLD<3.71E+00		
SR-91	LLD<1.08E+00		LLD<1.08E+00		
RB-89	LLD<6.82E-01		LLD<6.82E-01		
FE-59	LLD<7.91E-01		LLD<7.91E-01		
ZN-65	LLD<1.10E+00		LLD<1.10E+00		
SC-46	LLD<5.41E-01		LLD<5.41E-01		
TA-182	LLD<1.53E+00		LLD<1.53E+00		
I-135	LLD<1.04E+00		LLD<1.04E+00		
CL-39	LLD<9.48E-01		LLD<9.48E-01		
NA-22	LLD<4.36E-01		LLD<4.36E-01		
AR-41	LLD<5.15E-01		LLD<5.15E-01		
CO-60	LLD<2.87E-01		LLD<2.87E-01		
NA-24	LLD<2.76E-01		LLD<2.76E-01		
SR-92	LLD<4.14E-01		LLD<4.14E-01		
SCH-000	LLD<1.74E+00		LLD<1.74E+00		
CS-138	LLD<3.61E-01		LLD<3.61E-01		
K-40	2.02E+01	+- 4.91E+00	2.02E+01	+-	4.91E+00
KR-88	LLD<4.14E+00		LLD<4.14E+00		
TL-209	LLD<2.39E-01		LLD<2.39E-01		
LA-140	LLD<4.74E-01		LLD<4.74E-01		
AL-26	LLD<7.68E-02		LLD<7.68E-02		
MN-56	LLD<2.88E-01		LLD<2.88E-01		
RB-88	LLD<2.10E+00		LLD<2.10E+00		
	---		---		
Total	3.98E+01	+- 6.50E+00	3.98E+01	+-	6.50E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0057

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
664.01	331.74	20.	80.6	3.65E+00
1020.10	509.67	17.	75.7	4.65E+00

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C-12

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                                                                     *
          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                    *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 09:37:06

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0021
Measured by: dlv

Sample Description: C-12 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 9.6000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 09:21:49

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 09:37:06

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.52	238.58	1.7	71.	44.	67.1	PB-212
2	526.42	263.00	1.4	19.	14.	109.9	I-132
3$	590.16	294.84	1.9	21.	34.	61.0	PB-214
4	704.31	351.87	1.9	28.	43.	48.6	BI-211,PB-214
5	1218.83	609.00	2.0	15.	36.	46.6	XE-135,BI-214
6	1324.15	661.65	1.8	11.	62.	30.4	CS-137
7N	1822.17	910.67	0.7	12.	12.	112.4	AC-228
8	2922.29	1461.19	2.1	2.	103.	19.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 30-NOV-95 09:37:06

mple: C-12 Soil
ta collected on 30-NOV-95 at 09:21:49
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.08E+00		LLD<2.08E+00	
TH-234	LLD<1.79E+01		LLD<1.79E+01	
TH-230	LLD<1.41E+02		LLD<1.41E+02	
XE-133	LLD<9.78E-01		LLD<9.78E-01	
CD-109	LLD<6.59E+00		LLD<6.59E+00	
SCL-000	LLD<5.04E-01		LLD<5.04E-01	
CO-57	LLD<1.67E-01		LLD<1.67E-01	
PA-234	LLD<6.73E-01		LLD<6.73E-01	
CE-144	LLD<1.10E+00		LLD<1.10E+00	
TC-99M	LLD<1.42E-01		LLD<1.42E-01	
U-235	LLD<1.07E+00		LLD<1.07E+00	
CE-141	LLD<2.64E-01		LLD<2.64E-01	
KR-85M	LLD<1.62E-01		LLD<1.62E-01	
XE-131M	LLD<5.67E+00		LLD<5.67E+00	
RA-139	LLD<6.58E-01		LLD<6.58E-01	
-139	LLD<1.34E-01		LLD<1.34E-01	
-226	LLD<3.39E+00		LLD<3.39E+00	
BA-141	LLD<3.44E-01		LLD<3.44E-01	
KR-89	LLD<1.83E+00		LLD<1.83E+00	
TE-132	LLD<1.54E-01		LLD<1.54E-01	
XE-133M	LLD<1.41E+00		LLD<1.41E+00	
TH-227	LLD<1.13E+00		LLD<1.13E+00	
PB-212	3.67E-01	+- 2.47E-01	3.67E-01	+- 2.47E-01
RA-224	LLD<3.73E+00		LLD<3.73E+00	
XE-135	LLD<1.57E-01		LLD<1.57E-01	
XE-138	LLD<6.03E-01		LLD<6.03E-01	
SE-75	LLD<2.11E-01		LLD<2.11E-01	
NP-239	LLD<1.23E+00		LLD<1.23E+00	
HG-203	LLD<2.00E-01		LLD<2.00E-01	
IR-192	LLD<1.63E-01		LLD<1.63E-01	
CR-51	LLD<1.49E+00		LLD<1.49E+00	
SCM-000	LLD<7.15E-01		LLD<7.15E-01	
BI-211	6.01E+00	+- 2.92E+00	6.01E+00	+- 2.92E+00
PB-214	7.01E-01	+- 3.41E-01	7.01E-01	+- 3.41E-01
BA-133	LLD<4.45E-01		LLD<4.45E-01	
I-131	LLD<2.05E-01		LLD<2.05E-01	
SN-113	LLD<2.34E-01		LLD<2.34E-01	
KR-87	LLD<3.58E-01		LLD<3.58E-01	
PB-211	LLD<6.45E+00		LLD<6.45E+00	
AU-198	LLD<1.69E-01		LLD<1.69E-01	
-125	LLD<5.90E-01		LLD<5.90E-01	
-212	LLD<5.22E+01		LLD<5.22E+01	
BE-7	LLD<1.45E+00		LLD<1.45E+00	
HF-181	LLD<1.98E-01		LLD<1.98E-01	
RU-103	LLD<2.03E-01		LLD<2.03E-01	
KR-85	LLD<5.69E+01		LLD<5.69E+01	

SR-85	LLD<2.49E-01		LLD<2.49E-01		
I-133	LLD<1.94E-01		LLD<1.94E-01		
BA-140	LLD<5.88E-01		LLD<5.88E-01		
Y-91M	LLD<2.35E-01		LLD<2.35E-01		
BI-207	LLD<1.84E-01		LLD<1.84E-01		
TL-208	LLD<7.65E-01		LLD<7.65E-01		
SB-124	LLD<2.12E-01		LLD<2.12E-01		
CS-134	LLD<4.21E-01		LLD<4.21E-01		
BI-214	8.60E-01	+- 4.01E-01	8.60E-01	+-	4.01E-01
RU-106	LLD<2.02E+00		LLD<2.02E+00		
LA-142	LLD<4.74E-01		LLD<4.74E-01		
AG-110M	LLD<5.53E-01		LLD<5.53E-01		
NB-97	LLD<5.57E-01		LLD<5.57E-01		
CS-137	6.88E-01	+- 2.10E-01	6.88E-01	+-	2.10E-01
I-132	LLD<4.51E-01		LLD<4.51E-01		
W-187	LLD<6.65E-01		LLD<6.65E-01		
ZR-97	LLD<2.02E-01		LLD<2.02E-01		
ZR-95	LLD<3.55E-01		LLD<3.55E-01		
NB-95	LLD<1.95E-01		LLD<1.95E-01		
TL-210	LLD<1.28E+00		LLD<1.28E+00		
CO-58	LLD<2.06E-01		LLD<2.06E-01		
CS-136	LLD<2.51E-01		LLD<2.51E-01		
MN-54	LLD<2.25E-01		LLD<2.25E-01		
CO-56	LLD<2.22E-01		LLD<2.22E-01		
I-134	LLD<2.39E-01		LLD<2.39E-01		
TL-207	LLD<1.93E+02		LLD<1.93E+02		
Y-88	LLD<2.46E-01		LLD<2.46E-01		
AC-228	5.77E-01	+- 6.49E-01	5.77E-01	+-	6.49E-01
EU-152	LLD<2.04E+00		LLD<2.04E+00		
PA-234M	LLD<2.76E+00		LLD<2.76E+00		
SR-91	LLD<8.95E-01		LLD<8.95E-01		
RB-89	LLD<5.21E-01		LLD<5.21E-01		
FE-59	LLD<5.16E-01		LLD<5.16E-01		
ZN-65	LLD<7.78E-01		LLD<7.78E-01		
SC-46	LLD<2.90E-01		LLD<2.90E-01		
TA-182	LLD<8.13E-01		LLD<8.13E-01		
I-135	LLD<8.04E-01		LLD<8.04E-01		
CL-39	LLD<5.10E-01		LLD<5.10E-01		
NA-22	LLD<2.85E-01		LLD<2.85E-01		
AR-41	LLD<3.34E-01		LLD<3.34E-01		
CO-60	LLD<3.43E-01		LLD<3.43E-01		
NA-24	LLD<2.05E-01		LLD<2.05E-01		
SR-92	LLD<3.08E-01		LLD<3.08E-01		
SCH-000	LLD<1.06E+00		LLD<1.06E+00		
CS-138	LLD<3.25E-01		LLD<3.25E-01		
K-40	1.85E+01	+- 3.75E+00	1.85E+01	+-	3.75E+00
KR-88	LLD<4.98E-01		LLD<4.98E-01		
TL-209	LLD<1.78E-01		LLD<1.78E-01		
LA-140	LLD<1.55E-01		LLD<1.55E-01		
AL-26	LLD<5.71E-02		LLD<5.71E-02		
MN-56	LLD<2.14E-01		LLD<2.14E-01		
RB-88	LLD<1.56E+00		LLD<1.56E+00		
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Total	2.77E+01	+- 4.84E+00	2.77E+01	+-	4.84E+00

Error Quotation at 1.96 Sigma

Results saved in File SD0021

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
526.42	263.00	14.	109.9	1.99E+00
590.16	294.84	34.	61.0	5.39E+00

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C-31

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*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 30-NOV-95 09:50:31

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0056
Measured by: dlv

Sample Description: C-31 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.3300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 30-NOV-95 at 09:37:58

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 30-NOV-95
Efficiency Calibration performed 21-NOV-95

hgtrw 30-NOV-95 09:50:31

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.45	238.54	1.5	101.	138.	28.5	PB-212
2	590.70	295.11	1.9	33.	47.	47.5	PB-214
3	704.70	352.06	1.5	28.	59.	37.9	BI-211,PB-214
4$	1018.04	508.64	1.5	7.	17.	81.4	
5$	1021.77	510.50	1.5	9.	18.	78.5	TL-208,NA-22, ANN-RD
6	1166.24	582.71	1.5	18.	31.	55.6	TL-208
7	1217.56	608.36	1.1	7.	53.	31.1	XE-135,BI-214
8	1822.43	910.80	1.0	9.	12.	95.9	AC-228
9	2922.48	1461.29	2.5	6.	92.	22.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 30-NOV-95 09:50:31

mple: C-31 Soil
ta collected on 30-NOV-95 at 09:37:58
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<3.29E+00		LLD<3.29E+00	
TH-234	LLD<2.57E+01		LLD<2.57E+01	
TH-230	LLD<2.19E+02		LLD<2.19E+02	
XE-133	LLD<1.56E+00		LLD<1.56E+00	
CD-109	LLD<1.23E+01		LLD<1.23E+01	
SCL-000	LLD<7.01E-01		LLD<7.01E-01	
CO-57	LLD<2.33E-01		LLD<2.33E-01	
PA-234	LLD<8.97E-01		LLD<8.97E-01	
CE-144	LLD<1.99E+00		LLD<1.99E+00	
TC-99M	LLD<1.91E-01		LLD<1.91E-01	
U-235	LLD<1.66E+00		LLD<1.66E+00	
CE-141	LLD<3.48E-01		LLD<3.48E-01	
KR-85M	LLD<2.68E-01		LLD<2.68E-01	
XE-131M	LLD<9.07E+00		LLD<9.07E+00	
BA-139	LLD<9.90E-01		LLD<9.90E-01	
-139	LLD<2.01E-01		LLD<2.01E-01	
RA-226	LLD<4.80E+00		LLD<4.80E+00	
BA-141	LLD<5.36E-01		LLD<5.36E-01	
KR-89	LLD<2.42E+00		LLD<2.42E+00	
TE-132	LLD<2.64E-01		LLD<2.64E-01	
XE-133M	LLD<2.98E+00		LLD<2.98E+00	
TH-227	LLD<1.89E+00		LLD<1.89E+00	
PB-212	1.49E+00	+- 4.28E-01	1.49E+00	+- 4.28E-01
RA-224	LLD<6.65E+00		LLD<6.65E+00	
XE-135	LLD<2.17E-01		LLD<2.17E-01	
XE-138	LLD<8.70E-01		LLD<8.70E-01	
SE-75	LLD<3.64E-01		LLD<3.64E-01	
NP-239	LLD<1.30E+00		LLD<1.30E+00	
HG-203	LLD<2.46E-01		LLD<2.46E-01	
IR-192	LLD<2.28E-01		LLD<2.28E-01	
CR-51	LLD<2.45E+00		LLD<2.45E+00	
SCM-000	LLD<9.53E-01		LLD<9.53E-01	
BI-211	1.08E+01	+- 4.09E+00	1.08E+01	+- 4.09E+00
PB-214	1.26E+00	+- 4.77E-01	1.26E+00	+- 4.77E-01
BA-133	LLD<6.52E-01		LLD<6.52E-01	
I-131	LLD<2.78E-01		LLD<2.78E-01	
SN-113	LLD<4.08E-01		LLD<4.08E-01	
KR-87	LLD<4.71E-01		LLD<4.71E-01	
PB-211	LLD<9.26E+00		LLD<9.26E+00	
AU-198	LLD<2.54E-01		LLD<2.54E-01	
-125	LLD<7.68E-01		LLD<7.68E-01	
-212	LLD<7.23E+01		LLD<7.23E+01	
BE-7	LLD<2.46E+00		LLD<2.46E+00	
HF-181	LLD<3.10E-01		LLD<3.10E-01	
RU-103	LLD<2.85E-01		LLD<2.85E-01	
KR-85	LLD<7.52E+01		LLD<7.52E+01	

SR-85	LLD<3.29E-01		LLD<3.29E-01		
I-133	LLD<2.76E-01		LLD<2.76E-01		
BA-140	LLD<8.32E-01		LLD<8.32E-01		
[illegible]91M	LLD<3.22E-01		LLD<3.22E-01		
[illegible]-207	LLD<2.68E-01		LLD<2.68E-01		
TL-208	1.08E+00	+- 6.04E-01	1.08E+00	+-	6.04E-01
SB-124	LLD<2.84E-01		LLD<2.84E-01		
CS-134	LLD<5.45E-01		LLD<5.45E-01		
BI-214	1.66E+00	+- 5.17E-01	1.66E+00	+-	5.17E-01
RU-106	LLD<2.94E+00		LLD<2.94E+00		
LA-142	LLD<6.02E-01		LLD<6.02E-01		
AG-110M	LLD<5.27E-01		LLD<5.27E-01		
NB-97	LLD<5.31E-01		LLD<5.31E-01		
CS-137	LLD<4.22E-01		LLD<4.22E-01		
I-132	LLD<3.67E-01		LLD<3.67E-01		
W-187	LLD<7.94E-01		LLD<7.94E-01		
ZR-97	LLD<2.74E-01		LLD<2.74E-01		
ZR-95	LLD<6.20E-01		LLD<6.20E-01		
NB-95	LLD<2.92E-01		LLD<2.92E-01		
TL-210	LLD<2.03E+00		LLD<2.03E+00		
CO-58	LLD<3.46E-01		LLD<3.46E-01		
CS-136	LLD<3.07E-01		LLD<3.07E-01		
MN-54	LLD<4.23E-01		LLD<4.23E-01		
CO-56	LLD<3.31E-01		LLD<3.31E-01		
I-134	LLD<3.40E-01		LLD<3.40E-01		
TL-207	LLD<3.37E+02		LLD<3.37E+02		
Y-88	LLD<4.41E-01		LLD<4.41E-01		
AC-228	7.72E-01	+- 7.41E-01	7.72E-01	+-	7.41E-01
EU-152	LLD<3.58E+00		LLD<3.58E+00		
[illegible]-234M	LLD<3.47E+00		LLD<3.47E+00		
SR-91	LLD<1.08E+00		LLD<1.08E+00		
RB-89	LLD<7.15E-01		LLD<7.15E-01		
FE-59	LLD<6.94E-01		LLD<6.94E-01		
ZN-65	LLD<1.22E+00		LLD<1.22E+00		
SC-46	LLD<4.66E-01		LLD<4.66E-01		
TA-182	LLD<1.39E+00		LLD<1.39E+00		
I-135	LLD<1.67E+00		LLD<1.67E+00		
CL-39	LLD<8.72E-01		LLD<8.72E-01		
NA-22	LLD<4.48E-01		LLD<4.48E-01		
AR-41	LLD<4.46E-01		LLD<4.46E-01		
CO-60	LLD<2.40E-01		LLD<2.40E-01		
NA-24	LLD<3.69E-01		LLD<3.69E-01		
SR-92	LLD<4.50E-01		LLD<4.50E-01		
SCH-000	LLD<1.91E+00		LLD<1.91E+00		
CS-138	LLD<2.67E-01		LLD<2.67E-01		
K-40	2.16E+01	+- 4.94E+00	2.16E+01	+-	4.94E+00
KR-88	LLD<2.76E+00		LLD<2.76E+00		
TL-209	LLD<9.63E-01		LLD<9.63E-01		
LA-140	LLD<4.21E-01		LLD<4.21E-01		
AL-26	LLD<2.32E-01		LLD<2.32E-01		
MN-56	LLD<8.72E-01		LLD<8.72E-01		
RB-88	LLD<9.38E-01		LLD<9.38E-01		
	---		---		
Total	3.86E+01	+- 6.53E+00	3.86E+01	+-	6.53E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0056

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
590.70	295.11	47.	47.5	7.51E+00
1018.04	508.64	17.	81.4	4.59E+00

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GAMMA SPECTROSCOPY RESULTS FROM 12/4/95

FOR

CELLS 21,14,PILE A(123,131),PILE F(134,139),PILE L(108,109),PILE M(114),26,78,PILEB (122,133),PILE K(106,107),PILE E(135,140),PILE P(97,112,113),PILE O(125),PILE H(121),PILE C(137,142),PILE D(129,136,141),PILE Q(94,94A,95,96,110,111),PILE R(79,80),PILE J(101,102,115,116)PILE I(103,104,117,118)

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*                                                                     *
*        G A M M A   S P E C T R U M   R E C A L I B R A T I O N      *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw

04-DEC-95 08:29:28

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 04-DEC-95 at 08:03:37

COLLECT Live Time: 1200. sec.

hgtrw 04-DEC-95 08:29:28

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.56	39.83	1.7	30351.	4923.	15.5	
2C	91.17	45.63	1.7	24611.	2402.	21.5	
3?	236.96	118.43	1.6	37042.	10694.	51.0	
4?	243.81	121.85	1.6	34264.	183778.	3.0	SE-75,SCL-000, CO-57
5?	482.95	241.29	1.6	14034.	1947.	36.8	RA-224,PB-214
6?	489.70	244.66	1.6	13522.	35557.	4.0	
7?	495.12	247.37	1.6	13111.	1364.	50.7	
8	592.17	295.85	1.4	11388.	1369.	25.3	PB-214
9?	681.60	340.53	1.7	9010.	4120.	42.4	CS-136
10?	688.80	344.12	1.7	9812.	90781.	2.1	BA-141, SCM-000
11	735.87	367.64	1.8	7096.	2754.	10.4	
12	822.48	410.91	1.7	6831.	5834.	5.2	AU-198
13C	880.89	440.10	1.7	5266.	354.	49.7	
14C	888.13	443.72	1.7	5367.	7909.	5.1	
15	977.46	488.36	1.5	5674.	993.	24.9	
16	1128.06	563.63	1.8	6368.	1302.	20.7	CS-134,SB-122
17	1172.66	585.92	1.7	5269.	750.	30.8	
18	1357.30	678.22	1.5	5005.	428.	53.3	I-134,AG110M
19	1377.41	688.27	2.0	4701.	1492.	15.5	
20?	1551.25	775.19	2.0	4250.	1081.	31.4	
21?	1557.80	778.46	2.0	4327.	19547.	2.7	MO-99
22$	1621.20	810.17	1.5	3234.	580.	30.7	I-132,CO-58
23	1734.67	866.91	1.9	4734.	5360.	5.0	
24	1838.45	918.82	2.1	3189.	525.	36.8	
25?	1921.23	960.22	2.1	2389.	959.	22.3	
26?	1927.94	963.58	2.1	2299.	18479.	2.8	EU-152
27?	1933.49	966.35	2.1	2225.	573.	42.7	
28	2010.00	1004.63	1.8	1937.	975.	16.0	
29C	2163.92	1081.63	2.2	1770.	806.	16.3	
30C	2171.48	1085.41	2.2	1744.	12434.	2.8	EU-152
31C	2179.28	1089.31	2.2	1718.	2317.	7.7	
32C	2217.21	1108.29	2.2	1891.	978.	15.4	
33C	2223.96	1111.67	2.2	2003.	15516.	2.2	TE-129,EU-152
34	2425.77	1212.65	2.2	1412.	1355.	10.8	
35$	2548.63	1274.14	1.6	479.	243.	50.6	NA-22
36	2598.07	1298.89	2.1	662.	1476.	7.8	I-133
37C	2808.80	1404.38	2.4	330.	1086.	16.3	
38C	2815.87	1407.91	2.4	448.	19075.	1.7	EU-152,BI-214, SCH-000
39C	2914.97	1457.53	2.3	99.	402.	13.3	I-135
40C	2921.33	1460.71	2.3	85.	269.	16.5	K-40
41	3059.18	1529.73	3.0	61.	497.	10.4	KR-88
42$	3286.78	1643.72	2.0	14.	30.	58.1	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

12 Multiplets processed.

C - Multiplet Analysis converged normally
S - Multiplet Analysis Terminated because of no CHI-SQ improvement
- Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.408874E-07*Ch^2 + 4.992761E-01*Ch + 1.064480E-01

New Calibration Coefficients:

Energy = 2.424686E-07*Ch^2 + 4.993353E-01*Ch + 2.041710E-01

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Daily Source check 12/4

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 08:50:12

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1204
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 08:33:04

COLLECT Live Time: 600. seconds
Real Time: 760. seconds
Dead Time: 21.05 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 08:50:12

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.52	39.91	1.7	15786.	2576.	19.9	
2C	91.27	45.78	1.7	12837.	1117.	25.8	
3$	168.80	84.50	2.8	33931.	1210.	41.1	
4$	173.42	86.81	2.8	35991.	1582.	34.4	PB-214
5$	178.56	89.37	2.8	38276.	1208.	38.0	
6?	237.72	118.92	1.6	17755.	5639.	50.9	
7?	243.86	121.99	1.6	16614.	91490.	3.3	SE-75,SCL-000, CO-57
8?	485.40	242.64	1.5	6575.	1098.	32.3	PB-214
9?	489.76	244.82	1.5	6375.	17117.	4.4	
10?	495.13	247.50	1.5	6129.	605.	46.0	
11	592.12	295.96	1.4	4239.	784.	25.4	PB-214
12?	681.92	340.82	1.7	4425.	2245.	39.4	CS-136
13?	688.79	344.26	1.7	4803.	44970.	2.3	BA-141, SCM-000
14	735.73	367.71	1.8	3385.	1787.	11.3	
15C	822.49	411.07	1.7	2815.	2929.	10.5	AU-198
16	888.15	443.88	1.6	3232.	4074.	5.4	
17	977.69	488.63	1.4	2920.	432.	40.8	
18$	1128.16	563.84	1.7	2422.	626.	31.3	CS-134,SB-122
19$	1133.15	566.34	1.7	2489.	220.	47.3	
20	1172.46	585.99	2.2	2291.	454.	33.1	
21	1356.77	678.14	1.8	2630.	323.	52.8	I-134,AG110M
22	1377.51	688.50	1.9	2164.	628.	24.2	
23C	1551.25	775.38	2.0	2069.	538.	26.3	
24C	1557.70	778.61	2.0	2014.	9675.	3.6	MO-99
25	1734.64	867.10	2.0	2392.	2653.	7.1	
26C	1838.60	919.10	2.9	1575.	195.	69.1	
27C	1921.56	960.60	2.1	1292.	501.	27.0	
28C	1927.80	963.72	2.1	1348.	9102.	3.0	EU-152
29	2010.25	1004.97	1.5	966.	509.	22.1	
30C	2171.31	1085.56	2.2	1222.	6042.	3.8	EU-152
31C	2179.00	1089.41	2.2	1060.	1047.	11.0	
32C	2217.06	1108.45	2.2	956.	543.	24.6	
33C	2223.74	1111.80	2.2	1046.	7598.	3.3	TE-129,EU-152
34	2425.53	1212.78	2.6	704.	743.	14.1	
35	2597.92	1299.08	2.4	271.	757.	10.0	I-133
36C	2808.33	1404.41	2.4	148.	523.	20.0	
37C	2815.56	1408.03	2.4	199.	9468.	2.3	EU-152,BI-214, SCH-000
38	2914.90	1457.78	2.5	58.	350.	12.8	I-135
39	3056.65	1528.76	3.1	29.	282.	13.5	KR-88
40	3215.54	1608.34	2.6	0.	10.	62.0	
41N	3528.48	1765.12	0.6	2.	9.	84.3	BI-214

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

12 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
[illegible] - Multiplet Analysis converged but GFIT > 4

hgtrw 04-DEC-95 08:50:12

Sample: Eu-152 Standard
Data collected on 04-DEC-95 at 08:33:04
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.89E+01		LLD<2.89E+01	
TH-234	LLD<2.36E+02		LLD<2.36E+02	
TH-230	LLD<1.84E+03		LLD<1.84E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	LLD<1.10E+02		LLD<1.10E+02	
SCL-000	9.64E+02	+- 3.37E+01	9.64E+02	+- 3.37E+01
CO-57	3.20E+02	+- 1.12E+01	3.20E+02	+- 1.12E+01
PA-234	LLD<9.18E+00		LLD<9.18E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.97E+00		LLD<1.97E+00	
U-235	LLD<1.56E+01		LLD<1.56E+01	
CE-141	LLD<3.56E+00		LLD<3.56E+00	
KR-85M	LLD<2.33E+00		LLD<2.33E+00	
XE-131M	LLD<8.88E+01		LLD<8.88E+01	
BA-139	LLD<1.08E+01		LLD<1.08E+01	
[illegible]-139	LLD<2.16E+00		LLD<2.16E+00	
[illegible]-226	LLD<5.26E+01		LLD<5.26E+01	
BA-141	LLD<4.50E+00		LLD<4.50E+00	
KR-89	LLD<2.76E+01		LLD<2.76E+01	
TE-132	LLD<2.18E+00		LLD<2.18E+00	
XE-133M	LLD<1.90E+01		LLD<1.90E+01	
TH-227	LLD<1.39E+01		LLD<1.39E+01	
PB-212	LLD<5.13E+00		LLD<5.13E+00	
RA-224	LLD<9.84E+01		LLD<9.84E+01	
XE-135	LLD<4.35E+00		LLD<4.35E+00	
XE-138	LLD<8.31E+00		LLD<8.31E+00	
SE-75	LLD<3.28E+00		LLD<3.28E+00	
NP-239	LLD<1.41E+01		LLD<1.41E+01	
HG-203	LLD<2.54E+00		LLD<2.54E+00	
IR-192	LLD<2.38E+00		LLD<2.38E+00	
CR-51	LLD<2.05E+01		LLD<2.05E+01	
SCM-000	9.47E+02	+- 2.62E+01	9.47E+02	+- 2.62E+01
BI-211	LLD<8.65E+01		LLD<8.65E+01	
PB-214	LLD<7.11E+00		LLD<7.11E+00	
BA-133	LLD<3.09E+00		LLD<3.09E+00	
I-131	LLD<2.72E+00		LLD<2.72E+00	
SN-113	LLD<3.00E+00		LLD<3.00E+00	
KR-87	LLD<4.31E+00		LLD<4.31E+00	
PB-211	LLD<8.12E+01		LLD<8.12E+01	
AU-198	2.05E+01	+- 2.18E+00	2.05E+01	+- 2.18E+00
SB-125	LLD<6.91E+00		LLD<6.91E+00	
[illegible]-212	LLD<7.00E+02		LLD<7.00E+02	
[illegible]-7	LLD<2.18E+01		LLD<2.18E+01	
HF-181	LLD<2.75E+00		LLD<2.75E+00	
RU-103	LLD<2.66E+00		LLD<2.66E+00	
KR-85	LLD<5.45E+02		LLD<5.45E+02	

SR-85	LLD<2.38E+00		LLD<2.38E+00		
I-133	LLD<2.92E+00		LLD<2.92E+00		
BA-140	LLD<1.09E+01		LLD<1.09E+01		
Y-91M	LLD<3.04E+00		LLD<3.04E+00		
PB-207	LLD<2.98E+00		LLD<2.98E+00		
TL-208	LLD<1.05E+01		LLD<1.05E+01		
SB-124	LLD<2.84E+00		LLD<2.84E+00		
CS-134	LLD<2.94E+00		LLD<2.94E+00		
BI-214	LLD<7.67E+00		LLD<7.67E+00		
RU-106	LLD<2.91E+01		LLD<2.91E+01		
LA-142	LLD<5.94E+00		LLD<5.94E+00		
AG-110M	LLD<3.22E+00		LLD<3.22E+00		
NB-97	LLD<3.14E+00		LLD<3.14E+00		
CS-137	LLD<3.46E+00		LLD<3.46E+00		
I-132	LLD<3.20E+00		LLD<3.20E+00		
W-187	LLD<1.13E+01		LLD<1.13E+01		
ZR-97	LLD<3.58E+00		LLD<3.58E+00		
ZR-95	LLD<6.14E+00		LLD<6.14E+00		
NB-95	LLD<3.41E+00		LLD<3.41E+00		
TL-210	LLD<2.25E+01		LLD<2.25E+01		
CO-58	LLD<3.38E+00		LLD<3.38E+00		
CS-136	LLD<3.36E+00		LLD<3.36E+00		
MN-54	LLD<3.49E+00		LLD<3.49E+00		
CO-56	LLD<3.55E+00		LLD<3.55E+00		
I-134	LLD<4.24E+00		LLD<4.24E+00		
TL-207	LLD<3.12E+03		LLD<3.12E+03		
Y-88	LLD<3.88E+00		LLD<3.88E+00		
AC-228	LLD<1.20E+01		LLD<1.20E+01		
EU-152	9.76E+02	+- 3.76E+01	9.76E+02	+-	3.76E+01
PA-234M	LLD<4.70E+01		LLD<4.70E+01		
KR-91	LLD<8.41E+00		LLD<8.41E+00		
RB-89	LLD<6.42E+00		LLD<6.42E+00		
FE-59	LLD<5.30E+00		LLD<5.30E+00		
ZN-65	LLD<1.61E+01		LLD<1.61E+01		
SC-46	LLD<3.50E+00		LLD<3.50E+00		
TA-182	LLD<9.33E+00		LLD<9.33E+00		
I-135	LLD<8.43E+00		LLD<8.43E+00		
CL-39	LLD<5.16E+00		LLD<5.16E+00		
NA-22	LLD<2.20E+00		LLD<2.20E+00		
AR-41	LLD<4.01E+00		LLD<4.01E+00		
CO-60	LLD<1.24E+00		LLD<1.24E+00		
NA-24	LLD<1.28E+00		LLD<1.28E+00		
SR-92	LLD<1.25E+00		LLD<1.25E+00		
SCH-000	9.25E+02	+- 3.61E+01	9.25E+02	+-	3.61E+01
CS-138	LLD<1.28E+00		LLD<1.28E+00		
K-40	LLD<1.08E+01		LLD<1.08E+01		
KR-88	LLD<9.44E+00		LLD<9.44E+00		
TL-209	LLD<2.37E+00		LLD<2.37E+00		
LA-140	LLD<4.72E-01		LLD<4.72E-01		
AL-26	LLD<3.76E-01		LLD<3.76E-01		
MN-56	LLD<1.38E+00		LLD<1.38E+00		
RB-88	LLD<1.79E+00		LLD<1.79E+00		
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Total	4.15E+03	+- 6.83E+01	4.15E+03	+-	6.83E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1204

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
79.52	39.91	2576.	19.9	1.00E+04
91.27	45.78	1117.	25.8	2.09E+03
168.80	84.50	1210.	41.1	2.25E+02
173.42	86.81	1582.	34.4	2.75E+02
178.56	89.37	1208.	38.0	1.97E+02
237.72	118.92	5639.	50.9	5.70E+02
485.40	242.64	1098.	32.3	1.48E+02
489.76	244.82	17117.	4.4	2.35E+03
495.13	247.50	605.	46.0	8.34E+01
592.12	295.96	784.	25.4	1.26E+02
681.92	340.82	2245.	39.4	4.10E+02
735.73	367.71	1787.	11.3	3.51E+02
888.15	443.88	4074.	5.4	9.66E+02
977.69	488.63	432.	40.8	1.13E+02
1128.16	563.84	626.	31.3	1.90E+02
1133.15	566.34	220.	47.3	6.71E+01
1172.46	585.99	454.	33.1	1.43E+02
1356.77	678.14	323.	52.8	1.18E+02
1377.51	688.50	628.	24.2	2.33E+02
1551.25	775.38	538.	26.3	2.24E+02
1557.70	778.61	9675.	3.6	4.05E+03
1734.64	867.10	2653.	7.1	1.23E+03
1838.60	919.10	195.	69.1	9.50E+01
1921.56	960.60	501.	27.0	2.54E+02
2010.25	1004.97	509.	22.1	2.68E+02
2179.00	1089.41	1047.	11.0	5.87E+02
2217.06	1108.45	543.	24.6	3.08E+02
2425.53	1212.78	743.	14.1	4.51E+02
2597.92	1299.08	757.	10.0	4.81E+02
2808.33	1404.41	523.	20.0	3.49E+02
2914.90	1457.78	350.	12.8	2.38E+02
3056.65	1528.76	282.	13.5	1.97E+02
3215.54	1608.34	10.	62.0	7.15E+00
3528.48	1765.12	9.	84.3	6.68E+00

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C-21

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 09:13:56

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0008
Measured by: dlv

Sample Description: C-21 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.6000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 08:58:25

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 09:13:56

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.24	239.06	1.4	69.	166.	21.7	PB-212
2$	591.12	295.46	1.8	57.	26.	97.9	PB-214
3C	704.40	352.06	1.8	19.	68.	30.8	BI-211,PB-214
4	1167.13	583.32	1.8	14.	42.	41.9	TL-208
5	1218.89	609.20	2.1	10.	45.	36.5	BI-214
6	1322.89	661.20	1.3	10.	12.	95.9	CS-137
7	1822.48	911.04	2.1	8.	29.	48.1	AC-228
8	2920.98	1460.82	2.2	2.	76.	23.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 04-DEC-95 09:13:56

Sample: C-21 Soil
Data collected on 04-DEC-95 at 08:58:25
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.68E+00		LLD<3.68E+00	
TH-234	LLD<3.03E+01		LLD<3.03E+01	
TH-230	LLD<2.39E+02		LLD<2.39E+02	
XE-133	LLD<1.87E+00		LLD<1.87E+00	
CD-109	LLD<1.23E+01		LLD<1.23E+01	
SCL-000	LLD<7.27E-01		LLD<7.27E-01	
CO-57	LLD<2.41E-01		LLD<2.41E-01	
PA-234	LLD<1.08E+00		LLD<1.08E+00	
CE-144	LLD<2.04E+00		LLD<2.04E+00	
TC-99M	LLD<2.48E-01		LLD<2.48E-01	
U-235	LLD<1.84E+00		LLD<1.84E+00	
CE-141	LLD<4.21E-01		LLD<4.21E-01	
KR-85M	LLD<2.66E-01		LLD<2.66E-01	
XE-131M	LLD<9.03E+00		LLD<9.03E+00	
BA-139	LLD<1.23E+00		LLD<1.23E+00	
[illegible]-139	LLD<2.51E-01		LLD<2.51E-01	
[illegible]-226	LLD<5.64E+00		LLD<5.64E+00	
BA-141	LLD<5.05E-01		LLD<5.05E-01	
KR-89	LLD<2.46E+00		LLD<2.46E+00	
TE-132	LLD<2.35E-01		LLD<2.35E-01	
XE-133M	LLD<2.85E+00		LLD<2.85E+00	
TH-227	LLD<1.95E+00		LLD<1.95E+00	
PB-212	1.99E+00	+- 4.37E-01	1.99E+00	+- 4.37E-01
RA-224	LLD<5.76E+00		LLD<5.76E+00	
XE-135	LLD<2.22E-01		LLD<2.22E-01	
XE-138	LLD<8.45E-01		LLD<8.45E-01	
SE-75	LLD<3.85E-01		LLD<3.85E-01	
NP-239	LLD<1.56E+00		LLD<1.56E+00	
HG-203	LLD<2.95E-01		LLD<2.95E-01	
IR-192	LLD<2.52E-01		LLD<2.52E-01	
CR-51	LLD<2.27E+00		LLD<2.27E+00	
SCM-000	LLD<1.04E+00		LLD<1.04E+00	
BI-211	1.36E+01	+- 4.21E+00	1.36E+01	+- 4.21E+00
PB-214	1.59E+00	+- 4.92E-01	1.59E+00	+- 4.92E-01
BA-133	LLD<7.68E-01		LLD<7.68E-01	
I-131	LLD<2.90E-01		LLD<2.90E-01	
SN-113	LLD<3.69E-01		LLD<3.69E-01	
KR-87	LLD<4.85E-01		LLD<4.85E-01	
PB-211	LLD<9.43E+00		LLD<9.43E+00	
AU-198	LLD<2.36E-01		LLD<2.36E-01	
SB-125	LLD<9.45E-01		LLD<9.45E-01	
[illegible]-212	LLD<8.15E+01		LLD<8.15E+01	
[illegible]-7	LLD<2.35E+00		LLD<2.35E+00	
HF-181	LLD<3.01E-01		LLD<3.01E-01	
RU-103	LLD<2.78E-01		LLD<2.78E-01	
KR-85	LLD<7.46E+01		LLD<7.46E+01	

SR-85	LLD<3.26E-01		LLD<3.26E-01		
I-133	LLD<3.38E-01		LLD<3.38E-01		
BA-140	LLD<9.68E-01		LLD<9.68E-01		
Y-91M	LLD<3.49E-01		LLD<3.49E-01		
PB-207	LLD<3.05E-01		LLD<3.05E-01		
TL-208	LLD<1.25E+00		LLD<1.25E+00		
SB-124	LLD<3.51E-01		LLD<3.51E-01		
CS-134	LLD<6.87E-01		LLD<6.87E-01		
BI-214	1.56E+00	+- 5.72E-01	1.56E+00	+-	5.72E-01
RU-106	LLD<2.74E+00		LLD<2.74E+00		
LA-142	LLD<6.31E-01		LLD<6.31E-01		
AG-110M	LLD<4.53E-01		LLD<4.53E-01		
NB-97	LLD<4.33E-01		LLD<4.33E-01		
CS-137	1.95E-01	+- 1.87E-01	1.95E-01	+-	1.87E-01
I-132	LLD<3.70E-01		LLD<3.70E-01		
W-187	LLD<9.80E-01		LLD<9.80E-01		
ZR-97	LLD<3.05E-01		LLD<3.05E-01		
ZR-95	LLD<8.00E-01		LLD<8.00E-01		
NB-95	LLD<4.45E-01		LLD<4.45E-01		
TL-210	LLD<2.20E+00		LLD<2.20E+00		
CO-58	LLD<2.93E-01		LLD<2.93E-01		
CS-136	LLD<2.71E-01		LLD<2.71E-01		
MN-54	LLD<3.33E-01		LLD<3.33E-01		
CO-56	LLD<2.95E-01		LLD<2.95E-01		
I-134	LLD<3.61E-01		LLD<3.61E-01		
TL-207	LLD<2.03E+02		LLD<2.03E+02		
Y-88	LLD<3.14E-01		LLD<3.14E-01		
AC-228	2.06E+00	+- 9.93E-01	2.06E+00	+-	9.93E-01
EU-152	LLD<4.36E+00		LLD<4.36E+00		
PA-234M	LLD<4.01E+00		LLD<4.01E+00		
ZR-91	LLD<9.00E-01		LLD<9.00E-01		
RB-89	LLD<7.67E-01		LLD<7.67E-01		
FE-59	LLD<8.97E-01		LLD<8.97E-01		
ZN-65	LLD<1.27E+00		LLD<1.27E+00		
SC-46	LLD<5.94E-01		LLD<5.94E-01		
TA-182	LLD<1.58E+00		LLD<1.58E+00		
I-135	LLD<1.62E+00		LLD<1.62E+00		
CL-39	LLD<8.41E-01		LLD<8.41E-01		
NA-22	LLD<4.93E-01		LLD<4.93E-01		
AR-41	LLD<1.99E-01		LLD<1.99E-01		
CO-60	LLD<4.94E-01		LLD<4.94E-01		
NA-24	LLD<3.15E-01		LLD<3.15E-01		
SR-92	LLD<4.62E-01		LLD<4.62E-01		
SCH-000	LLD<1.82E+00		LLD<1.82E+00		
CS-138	LLD<6.32E-01		LLD<6.32E-01		
K-40	1.99E+01	+- 4.69E+00	1.99E+01	+-	4.69E+00
KR-88	LLD<3.53E+00		LLD<3.53E+00		
TL-209	LLD<2.59E-01		LLD<2.59E-01		
LA-140	LLD<4.02E-01		LLD<4.02E-01		
AL-26	LLD<2.26E-01		LLD<2.26E-01		
MN-56	LLD<8.48E-01		LLD<8.48E-01		
RB-88	LLD<2.11E+00		LLD<2.11E+00		
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Total	4.10E+01	+- 6.44E+00	4.10E+01	+-	6.44E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0008

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.12	295.46	26.	97.9	4.16E+00
1167.13	583.32	42.	41.9	1.32E+01

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C-14 (1hr count)

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 10:29:57

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0015
Measured by: dlv

Sample Description: C-14
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.1600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 09:14:53

COLLECT Live Time: 3600. seconds
Real Time: 3610. seconds
Dead Time: 0.28 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 10:29:57

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	127.76	64.00	1.2	993.	630.	17.4	TH-234
2$	186.60	93.39	1.6	1461.	2474.	9.3	TH-234
3	288.99	144.53	2.0	762.	362.	26.3	U-235,CE-141
4C	372.89	186.44	1.5	515.	1809.	5.9	U-235,RA-226
5	478.61	239.25	1.7	500.	712.	12.4	PB-212
6$	591.87	295.83	1.4	176.	220.	28.9	PB-214
7$	601.89	300.84	1.4	140.	70.	45.1	PB-212
8	705.05	352.38	1.6	172.	410.	13.9	PB-214
9	1022.22	510.89	1.5	100.	99.	36.9	TL-208,NA-22, ANN-RD
10	1167.45	583.49	2.1	56.	206.	17.4	TL-208
11	1219.69	609.60	2.0	91.	225.	18.3	BI-214
12	1324.17	661.83	1.8	96.	247.	17.7	CS-137
13$	1533.54	766.53	1.4	41.	49.	57.7	NB-95,PA234M, I-134
14$	1537.12	768.32	1.4	46.	29.	73.3	BI-214
15	1823.33	911.46	2.1	49.	113.	26.9	AC-228
16	2002.65	1001.17	1.4	41.	104.	27.3	PA234M
17	2921.71	1461.19	2.2	34.	432.	10.5	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

3 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 04-DEC-95 10:29:57

Sample: C-14
ta collected on 04-DEC-95 at 09:14:53
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.63E+00		LLD<2.63E+00	
TH-234	LLD<1.63E+01		LLD<1.63E+01	
TH-230	LLD<1.53E+02		LLD<1.53E+02	
XE-133	LLD<9.89E-01		LLD<9.89E-01	
CD-109	LLD<9.14E+00		LLD<9.14E+00	
SCL-000	LLD<4.10E-01		LLD<4.10E-01	
CO-57	LLD<1.36E-01		LLD<1.36E-01	
PA-234	LLD<5.61E-01		LLD<5.61E-01	
CE-144	LLD<9.80E-01		LLD<9.80E-01	
TC-99M	LLD<1.48E-01		LLD<1.48E-01	
U-235	2.13E+00	+- 5.63E-01	2.13E+00	+- 5.63E-01
CE-141	4.84E-01	+- 1.28E-01	4.84E-01	+- 1.28E-01
KR-85M	LLD<1.42E-01		LLD<1.42E-01	
XE-131M	LLD<4.62E+00		LLD<4.62E+00	
BA-139	LLD<6.69E-01		LLD<6.69E-01	
[illegible]-139	LLD<1.11E-01		LLD<1.11E-01	
[illegible]-226	3.82E+01	+- 2.41E+00	3.82E+01	+- 2.41E+00
BA-141	LLD<9.99E-01		LLD<9.99E-01	
KR-89	LLD<6.06E+00		LLD<6.06E+00	
TE-132	LLD<1.09E-01		LLD<1.09E-01	
XE-133M	LLD<1.09E+00		LLD<1.09E+00	
TH-227	LLD<9.29E-01		LLD<9.29E-01	
PB-212	1.58E+00	+- 2.02E-01	1.58E+00	+- 2.02E-01
RA-224	LLD<2.59E+00		LLD<2.59E+00	
XE-135	LLD<1.13E-01		LLD<1.13E-01	
XE-138	LLD<9.81E-01		LLD<9.81E-01	
SE-75	LLD<1.67E-01		LLD<1.67E-01	
NP-239	LLD<6.95E-01		LLD<6.95E-01	
HG-203	LLD<1.28E-01		LLD<1.28E-01	
IR-192	LLD<1.14E-01		LLD<1.14E-01	
CR-51	LLD<1.05E+00		LLD<1.05E+00	
SCM-000	LLD<5.05E-01		LLD<5.05E-01	
BI-211	LLD<1.56E+01		LLD<1.56E+01	
PB-214	3.00E+00	+- 4.18E-01	3.00E+00	+- 4.18E-01
BA-133	LLD<3.07E-01		LLD<3.07E-01	
I-131	LLD<1.25E-01		LLD<1.25E-01	
SN-113	LLD<1.76E-01		LLD<1.76E-01	
KR-87	LLD<2.68E-01		LLD<2.68E-01	
PB-211	LLD<6.94E+00		LLD<6.94E+00	
AU-198	LLD<1.13E-01		LLD<1.13E-01	
SB-125	LLD<3.83E-01		LLD<3.83E-01	
[illegible]-212	LLD<4.09E+01		LLD<4.09E+01	
[illegible]-7	LLD<1.13E+00		LLD<1.13E+00	
HF-181	LLD<1.51E-01		LLD<1.51E-01	
RU-103	LLD<1.21E-01		LLD<1.21E-01	
KR-85	LLD<3.07E+01		LLD<3.07E+01	

SR-85	LLD<1.34E-01		LLD<1.34E-01		
I-133	LLD<1.24E-01		LLD<1.24E-01		
BA-140	LLD<5.36E-01		LLD<5.36E-01		
Y-91M	LLD<2.14E-01		LLD<2.14E-01		
[illegible]-207	LLD<1.20E-01		LLD<1.20E-01		
TL-208	7.66E+00	+- 1.34E+00	7.66E+00	+-	1.34E+00
SB-124	LLD<1.47E-01		LLD<1.47E-01		
CS-134	LLD<2.59E-01		LLD<2.59E-01		
BI-214	2.79E+00	+- 5.14E-01	2.79E+00	+-	5.14E-01
RU-106	LLD<1.35E+00		LLD<1.35E+00		
LA-142	LLD<2.91E-01		LLD<2.91E-01		
AG-110M	LLD<3.16E-01		LLD<3.16E-01		
NB-97	LLD<3.75E-01		LLD<3.75E-01		
CS-137	7.16E-01	+- 1.28E-01	7.16E-01	+-	1.28E-01
I-132	LLD<2.81E-01		LLD<2.81E-01		
W-187	LLD<4.38E-01		LLD<4.38E-01		
ZR-97	LLD<1.37E-01		LLD<1.37E-01		
ZR-95	LLD<2.69E-01		LLD<2.69E-01		
NB-95	1.48E-01	+- 8.55E-02	1.48E-01	+-	8.55E-02
TL-210	LLD<4.97E+00		LLD<4.97E+00		
CO-58	LLD<1.45E-01		LLD<1.45E-01		
CS-136	LLD<1.38E-01		LLD<1.38E-01		
MN-54	LLD<1.46E-01		LLD<1.46E-01		
CO-56	LLD<1.52E-01		LLD<1.52E-01		
I-134	LLD<2.41E-01		LLD<2.41E-01		
TL-207	LLD<5.45E+02		LLD<5.45E+02		
Y-88	LLD<1.72E-01		LLD<1.72E-01		
AC-228	1.53E+00	+- 4.13E-01	1.53E+00	+-	4.13E-01
EU-152	LLD<1.74E+00		LLD<1.74E+00		
[illegible]-234M	2.42E+01	+- 6.62E+00	2.42E+01	+-	6.62E+00
[illegible]-91	LLD<4.49E-01		LLD<4.49E-01		
RB-89	LLD<8.60E-01		LLD<8.60E-01		
FE-59	LLD<3.04E-01		LLD<3.04E-01		
ZN-65	LLD<5.37E-01		LLD<5.37E-01		
SC-46	LLD<2.03E-01		LLD<2.03E-01		
TA-182	LLD<5.34E-01		LLD<5.34E-01		
I-135	LLD<5.84E-01		LLD<5.84E-01		
CL-39	LLD<4.51E-01		LLD<4.51E-01		
NA-22	LLD<1.70E-01		LLD<1.70E-01		
AR-41	LLD<2.23E-01		LLD<2.23E-01		
CO-60	LLD<1.61E-01		LLD<1.61E-01		
NA-24	LLD<1.38E-01		LLD<1.38E-01		
SR-92	LLD<1.98E-01		LLD<1.98E-01		
SCH-000	LLD<7.36E-01		LLD<7.36E-01		
CS-138	LLD<3.28E-01		LLD<3.28E-01		
K-40	2.02E+01	+- 2.25E+00	2.02E+01	+-	2.25E+00
KR-88	LLD<1.07E+00		LLD<1.07E+00		
TL-209	LLD<2.44E+00		LLD<2.44E+00		
LA-140	LLD<1.36E-01		LLD<1.36E-01		
AL-26	LLD<1.17E-01		LLD<1.17E-01		
MN-56	LLD<4.45E-01		LLD<4.45E-01		
RB-88	LLD<1.50E+00		LLD<1.50E+00		
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Total	1.03E+02	+- 7.59E+00	1.03E+02	+-	7.59E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0015

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
127.76	64.00	630.	17.4	4.58E+01
186.60	93.39	2474.	9.3	6.10E+01
591.87	295.83	220.	28.9	5.87E+00
601.89	300.84	70.	45.1	1.90E+00
1537.12	768.32	29.	73.3	1.97E+00

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Pile A C-123, 131

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 10:45:49

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0060
Measured by: dlv

Sample Description: Pile A C-123, 131
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.2300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 10:32:26

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 10:45:49

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.85	239.37	1.4	107.	127.	31.2	PB-212
2C	705.62	352.67	1.9	33.	57.	40.6	PB-214
3	1022.91	511.23	1.7	16.	23.	68.8	TL-208,NA-22, ANN-RD
4	1167.59	583.55	2.1	13.	31.	50.3	TL-208
5	1220.43	609.97	2.2	6.	52.	31.1	BI-214
6	1325.31	662.40	2.8	8.	47.	33.2	CS-137
7$	2921.99	1461.33	1.4	2.	83.	22.5	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 04-DEC-95 10:45:49

Sample: Pile A C-123, 131
Data collected on 04-DEC-95 at 10:32:26
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.70E+00		LLD<3.70E+00	
TH-234	LLD<3.03E+01		LLD<3.03E+01	
TH-230	LLD<2.11E+02		LLD<2.11E+02	
XE-133	LLD<1.40E+00		LLD<1.40E+00	
CD-109	LLD<1.11E+01		LLD<1.11E+01	
SCL-000	LLD<6.88E-01		LLD<6.88E-01	
CO-57	LLD<2.28E-01		LLD<2.28E-01	
PA-234	LLD<9.10E-01		LLD<9.10E-01	
CE-144	LLD<1.67E+00		LLD<1.67E+00	
TC-99M	LLD<1.99E-01		LLD<1.99E-01	
U-235	LLD<1.77E+00		LLD<1.77E+00	
CE-141	LLD<4.04E-01		LLD<4.04E-01	
KR-85M	LLD<2.56E-01		LLD<2.56E-01	
XE-131M	LLD<9.35E+00		LLD<9.35E+00	
BA-139	LLD<1.14E+00		LLD<1.14E+00	
[illegible]-139	LLD<2.31E-01		LLD<2.31E-01	
[illegible]-226	LLD<4.63E+00		LLD<4.63E+00	
BA-141	LLD<4.93E-01		LLD<4.93E-01	
KR-89	LLD<2.56E+00		LLD<2.56E+00	
TE-132	LLD<2.29E-01		LLD<2.29E-01	
XE-133M	LLD<2.31E+00		LLD<2.31E+00	
TH-227	LLD<2.18E+00		LLD<2.18E+00	
PB-212	1.39E+00	+- 4.36E-01	1.39E+00	+- 4.36E-01
RA-224	LLD<5.68E+00		LLD<5.68E+00	
XE-135	LLD<2.27E-01		LLD<2.27E-01	
XE-138	LLD<7.86E-01		LLD<7.86E-01	
SE-75	LLD<3.90E-01		LLD<3.90E-01	
NP-239	LLD<1.53E+00		LLD<1.53E+00	
HG-203	LLD<2.76E-01		LLD<2.76E-01	
IR-192	LLD<2.30E-01		LLD<2.30E-01	
CR-51	LLD<1.92E+00		LLD<1.92E+00	
SCM-000	LLD<1.21E+00		LLD<1.21E+00	
BI-211	LLD<7.63E+00		LLD<7.63E+00	
PB-214	1.22E+00	+- 4.97E-01	1.22E+00	+- 4.97E-01
BA-133	LLD<5.79E-01		LLD<5.79E-01	
I-131	LLD<2.47E-01		LLD<2.47E-01	
SN-113	LLD<3.39E-01		LLD<3.39E-01	
KR-87	LLD<5.51E-01		LLD<5.51E-01	
PB-211	LLD<8.97E+00		LLD<8.97E+00	
AU-198	LLD<2.34E-01		LLD<2.34E-01	
SB-125	LLD<8.66E-01		LLD<8.66E-01	
[illegible]-212	LLD<8.47E+01		LLD<8.47E+01	
[illegible]-7	LLD<2.29E+00		LLD<2.29E+00	
HF-181	LLD<2.93E-01		LLD<2.93E-01	
RU-103	LLD<2.79E-01		LLD<2.79E-01	
KR-85	LLD<6.99E+01		LLD<6.99E+01	

SR-85	LLD<3.06E-01		LLD<3.06E-01		
I-133	LLD<3.24E-01		LLD<3.24E-01		
BA-140	LLD<9.37E-01		LLD<9.37E-01		
Y-91M	LLD<2.79E-01		LLD<2.79E-01		
[illegible]-207	LLD<2.34E-01		LLD<2.34E-01		
TL-208	1.11E+00	+- 5.60E-01	1.11E+00	+-	5.60E-01
SB-124	LLD<3.06E-01		LLD<3.06E-01		
CS-134	LLD<5.40E-01		LLD<5.40E-01		
BI-214	1.65E+00	+- 5.15E-01	1.65E+00	+-	5.15E-01
RU-106	LLD<2.70E+00		LLD<2.70E+00		
LA-142	LLD<5.69E-01		LLD<5.69E-01		
AG-110M	LLD<6.96E-01		LLD<6.96E-01		
NB-97	LLD<6.63E-01		LLD<6.63E-01		
CS-137	6.98E-01	+- 2.33E-01	6.98E-01	+-	2.33E-01
I-132	LLD<6.17E-01		LLD<6.17E-01		
W-187	LLD<1.14E+00		LLD<1.14E+00		
ZR-97	LLD<2.94E-01		LLD<2.94E-01		
ZR-95	LLD<5.29E-01		LLD<5.29E-01		
NB-95	LLD<3.61E-01		LLD<3.61E-01		
TL-210	LLD<2.31E+00		LLD<2.31E+00		
CO-58	LLD<3.03E-01		LLD<3.03E-01		
CS-136	LLD<3.06E-01		LLD<3.06E-01		
MN-54	LLD<3.99E-01		LLD<3.99E-01		
CO-56	LLD<3.47E-01		LLD<3.47E-01		
I-134	LLD<4.01E-01		LLD<4.01E-01		
TL-207	LLD<2.52E+02		LLD<2.52E+02		
Y-88	LLD<3.40E-01		LLD<3.40E-01		
AC-228	LLD<1.48E+00		LLD<1.48E+00		
EU-152	LLD<3.86E+00		LLD<3.86E+00		
[illegible]A-234M	LLD<4.68E+00		LLD<4.68E+00		
[illegible]R-91	LLD<1.07E+00		LLD<1.07E+00		
RB-89	LLD<8.59E-01		LLD<8.59E-01		
FE-59	LLD<5.62E-01		LLD<5.62E-01		
ZN-65	LLD<1.01E+00		LLD<1.01E+00		
SC-46	LLD<5.67E-01		LLD<5.67E-01		
TA-182	LLD<1.62E+00		LLD<1.62E+00		
I-135	LLD<9.79E-01		LLD<9.79E-01		
CL-39	LLD<8.09E-01		LLD<8.09E-01		
NA-22	LLD<4.42E-01		LLD<4.42E-01		
AR-41	LLD<4.21E-01		LLD<4.21E-01		
CO-60	LLD<3.11E-01		LLD<3.11E-01		
NA-24	LLD<2.73E-01		LLD<2.73E-01		
SR-92	LLD<4.09E-01		LLD<4.09E-01		
SCH-000	LLD<1.75E+00		LLD<1.75E+00		
CS-138	LLD<4.53E-01		LLD<4.53E-01		
K-40	1.98E+01	+- 4.50E+00	1.98E+01	+-	4.50E+00
KR-88	LLD<3.21E+00		LLD<3.21E+00		
TL-209	LLD<5.24E-01		LLD<5.24E-01		
LA-140	LLD<2.59E-01		LLD<2.59E-01		
AL-26	LLD<4.51E-01		LLD<4.51E-01		
MN-56	LLD<1.60E+00		LLD<1.60E+00		
RB-88	LLD<1.17E+00		LLD<1.17E+00		
	---		---		
Total	2.58E+01	+- 4.62E+00	2.58E+01	+-	4.62E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0060

ALL PEAKS USED IN ANALYSIS

0↕♥♠ Pile F C-134, 139

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 11:01:15

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0061
Measured by: dlv

Sample Description: Pile F C-134, C-139
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 10:47:40

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 11:01:15

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.48	239.18	1.3	73.	165.	22.5	PB-212
2	677.46	338.59	1.2	36.	29.	74.3	AC-228
3	705.26	352.49	1.5	16.	57.	34.4	PB-214
4	1021.51	510.53	1.3	12.	23.	62.5	TL-208,NA-22, ANN-RD
5	1167.25	583.38	1.5	16.	41.	41.1	TL-208
6	1219.73	609.62	2.0	13.	49.	36.1	BI-214
7	1938.39	969.02	1.9	12.	15.	87.7	AC-228,RU-105
8	2921.95	1461.31	2.3	2.	81.	22.5	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 04-DEC-95 11:01:15

Sample: Pile F C-134, C-139
Data collected on 04-DEC-95 at 10:47:40
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.38E+00		LLD<3.38E+00	
TH-234	LLD<2.90E+01		LLD<2.90E+01	
TH-230	LLD<2.39E+02		LLD<2.39E+02	
XE-133	LLD<1.70E+00		LLD<1.70E+00	
CD-109	LLD<1.20E+01		LLD<1.20E+01	
SCL-000	LLD<7.62E-01		LLD<7.62E-01	
CO-57	LLD<2.53E-01		LLD<2.53E-01	
PA-234	LLD<9.76E-01		LLD<9.76E-01	
CE-144	LLD<1.78E+00		LLD<1.78E+00	
TC-99M	LLD<2.05E-01		LLD<2.05E-01	
U-235	LLD<1.70E+00		LLD<1.70E+00	
CE-141	LLD<3.76E-01		LLD<3.76E-01	
KR-85M	LLD<2.70E-01		LLD<2.70E-01	
XE-131M	LLD<8.42E+00		LLD<8.42E+00	
BA-139	LLD<1.03E+00		LLD<1.03E+00	
[illegible]-139	LLD<2.08E-01		LLD<2.08E-01	
[illegible]A-226	LLD<5.67E+00		LLD<5.67E+00	
BA-141	LLD<4.64E-01		LLD<4.64E-01	
KR-89	LLD<2.27E+00		LLD<2.27E+00	
TE-132	LLD<2.26E-01		LLD<2.26E-01	
XE-133M	LLD<2.53E+00		LLD<2.53E+00	
TH-227	LLD<2.08E+00		LLD<2.08E+00	
PB-212	1.91E+00	+- 4.32E-01	1.91E+00	+- 4.32E-01
RA-224	LLD<5.92E+00		LLD<5.92E+00	
XE-135	LLD<2.19E-01		LLD<2.19E-01	
XE-138	LLD<8.89E-01		LLD<8.89E-01	
SE-75	LLD<3.65E-01		LLD<3.65E-01	
NP-239	LLD<1.53E+00		LLD<1.53E+00	
HG-203	LLD<2.63E-01		LLD<2.63E-01	
IR-192	LLD<2.60E-01		LLD<2.60E-01	
CR-51	LLD<2.26E+00		LLD<2.26E+00	
SCM-000	LLD<1.11E+00		LLD<1.11E+00	
BI-211	LLD<6.87E+00		LLD<6.87E+00	
PB-214	1.29E+00	+- 4.43E-01	1.29E+00	+- 4.43E-01
BA-133	LLD<6.17E-01		LLD<6.17E-01	
I-131	LLD<3.03E-01		LLD<3.03E-01	
SN-113	LLD<3.82E-01		LLD<3.82E-01	
KR-87	LLD<5.18E-01		LLD<5.18E-01	
PB-211	LLD<1.01E+01		LLD<1.01E+01	
AU-198	LLD<2.51E-01		LLD<2.51E-01	
SB-125	LLD<7.87E-01		LLD<7.87E-01	
[illegible]-212	LLD<7.78E+01		LLD<7.78E+01	
BE-7	LLD<2.51E+00		LLD<2.51E+00	
HF-181	LLD<2.85E-01		LLD<2.85E-01	
RU-103	LLD<2.48E-01		LLD<2.48E-01	
KR-85	LLD<8.37E+01		LLD<8.37E+01	

SR-85	LLD<3.66E-01		LLD<3.66E-01	
I-133	LLD<2.83E-01		LLD<2.83E-01	
BA-140	LLD<1.11E+00		LLD<1.11E+00	
[illegible] 91M	LLD<3.22E-01		LLD<3.22E-01	
[illegible]-207	LLD<2.90E-01		LLD<2.90E-01	
[illegible]L-208	1.54E+00	+- 6.33E-01	1.54E+00	+- 6.33E-01
SB-124	LLD<2.69E-01		LLD<2.69E-01	
CS-134	LLD<6.17E-01		LLD<6.17E-01	
BI-214	1.64E+00	+- 5.94E-01	1.64E+00	+- 5.94E-01
RU-106	LLD<2.81E+00		LLD<2.81E+00	
LA-142	LLD<6.23E-01		LLD<6.23E-01	
AG-110M	LLD<3.44E-01		LLD<3.44E-01	
NB-97	LLD<3.29E-01		LLD<3.29E-01	
CS-137	LLD<3.70E-01		LLD<3.70E-01	
I-132	LLD<3.33E-01		LLD<3.33E-01	
W-187	LLD<9.76E-01		LLD<9.76E-01	
ZR-97	LLD<3.10E-01		LLD<3.10E-01	
ZR-95	LLD<4.62E-01		LLD<4.62E-01	
NB-95	LLD<3.23E-01		LLD<3.23E-01	
TL-210	LLD<1.94E+00		LLD<1.94E+00	
CO-58	LLD<4.03E-01		LLD<4.03E-01	
CS-136	LLD<3.62E-01		LLD<3.62E-01	
MN-54	LLD<3.45E-01		LLD<3.45E-01	
CO-56	LLD<3.13E-01		LLD<3.13E-01	
I-134	LLD<3.25E-01		LLD<3.25E-01	
TL-207	LLD<3.19E+02		LLD<3.19E+02	
Y-88	LLD<4.50E-01		LLD<4.50E-01	
AC-228	LLD<1.87E+00		LLD<1.87E+00	
EU-152	LLD<4.48E+00		LLD<4.48E+00	
[illegible]-234M	LLD<3.72E+00		LLD<3.72E+00	
[illegible]-91	LLD<1.08E+00		LLD<1.08E+00	
RB-89	LLD<8.92E-01		LLD<8.92E-01	
FE-59	LLD<6.10E-01		LLD<6.10E-01	
ZN-65	LLD<1.41E+00		LLD<1.41E+00	
SC-46	LLD<4.76E-01		LLD<4.76E-01	
TA-182	LLD<1.53E+00		LLD<1.53E+00	
I-135	LLD<1.08E+00		LLD<1.08E+00	
CL-39	LLD<1.02E+00		LLD<1.02E+00	
NA-22	LLD<4.13E-01		LLD<4.13E-01	
AR-41	LLD<4.90E-01		LLD<4.90E-01	
CO-60	LLD<3.94E-01		LLD<3.94E-01	
NA-24	LLD<4.06E-01		LLD<4.06E-01	
SR-92	LLD<4.88E-01		LLD<4.88E-01	
SCH-000	LLD<1.73E+00		LLD<1.73E+00	
CS-138	LLD<5.29E-01		LLD<5.29E-01	
K-40	2.05E+01	+- 4.66E+00	2.05E+01	+- 4.66E+00
KR-88	LLD<3.11E+00		LLD<3.11E+00	
TL-209	LLD<1.43E+00		LLD<1.43E+00	
LA-140	LLD<6.13E-01		LLD<6.13E-01	
AL-26	LLD<2.49E-01		LLD<2.49E-01	
MN-56	LLD<9.33E-01		LLD<9.33E-01	
RB-88	LLD<2.30E+00		LLD<2.30E+00	
	---		---	
Total	2.68E+01	+- 4.78E+00	2.68E+01	+- 4.78E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0061

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
677.46	338.59	29.	74.3	5.31E+00
1938.39	969.02	15.	87.7	7.65E+00

0↕☺

0↕♥♠ Pile L C-108, 109

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 11:34:06

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0062
Measured by: dlv

Sample Description: Pile L C-108, C-109
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.7900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 11:04:25

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 11:34:06

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	127.99	64.12	0.8	102.	60.	54.7	TH-234
2	186.89	93.53	1.4	195.	302.	18.2	TH-234
3	372.92	186.45	1.6	70.	206.	18.1	U-235,RA-226
4	479.18	239.53	1.4	76.	122.	27.6	PB-212
5	1022.23	510.89	1.7	14.	14.	94.2	TL-208,NA-22, ANN-RD
6	1167.45	583.49	1.5	13.	47.	37.6	TL-208
7	1219.93	609.72	1.1	19.	37.	48.5	BI-214
8	1324.54	662.02	2.5	7.	58.	29.4	CS-137
9	1823.66	911.63	1.0	7.	24.	53.7	AC-228
10	2921.74	1461.20	1.9	8.	66.	28.4	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

N - Multiplet Analysis did NOT converge

hgtrw 04-DEC-95 11:34:06

Sample: Pile L C-108, C-109
Data collected on 04-DEC-95 at 11:04:25
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<5.90E+00		LLD<5.90E+00	
TH-234	LLD<4.06E+01		LLD<4.06E+01	
TH-230	LLD<3.20E+02		LLD<3.20E+02	
XE-133	LLD<2.33E+00		LLD<2.33E+00	
CD-109	LLD<2.02E+01		LLD<2.02E+01	
SCL-000	LLD<1.00E+00		LLD<1.00E+00	
CO-57	LLD<3.33E-01		LLD<3.33E-01	
PA-234	LLD<1.37E+00		LLD<1.37E+00	
CE-144	LLD<2.60E+00		LLD<2.60E+00	
TC-99M	LLD<3.44E-01		LLD<3.44E-01	
U-235	LLD<2.12E+00		LLD<2.12E+00	
CE-141	LLD<5.05E-01		LLD<5.05E-01	
KR-85M	LLD<3.17E-01		LLD<3.17E-01	
XE-131M	LLD<1.11E+01		LLD<1.11E+01	
BA-139	LLD<1.33E+00		LLD<1.33E+00	
[illegible]-139	LLD<2.69E-01		LLD<2.69E-01	
[illegible]-226	2.77E+01	+- 5.07E+00	2.77E+01	+- 5.07E+00
BA-141	LLD<1.05E+00		LLD<1.05E+00	
KR-89	LLD<3.07E+00		LLD<3.07E+00	
TE-132	LLD<2.48E-01		LLD<2.48E-01	
XE-133M	LLD<2.91E+00		LLD<2.91E+00	
TH-227	LLD<2.70E+00		LLD<2.70E+00	
PB-212	1.66E+00	+- 4.62E-01	1.66E+00	+- 4.62E-01
RA-224	LLD<7.43E+00		LLD<7.43E+00	
XE-135	LLD<2.79E-01		LLD<2.79E-01	
XE-138	LLD<1.08E+00		LLD<1.08E+00	
SE-75	LLD<5.19E-01		LLD<5.19E-01	
NP-239	LLD<1.84E+00		LLD<1.84E+00	
HG-203	LLD<3.89E-01		LLD<3.89E-01	
IR-192	LLD<3.12E-01		LLD<3.12E-01	
CR-51	LLD<2.59E+00		LLD<2.59E+00	
SCM-000	LLD<1.29E+00		LLD<1.29E+00	
BI-211	LLD<1.02E+01		LLD<1.02E+01	
PB-214	LLD<9.83E-01		LLD<9.83E-01	
BA-133	LLD<7.93E-01		LLD<7.93E-01	
I-131	LLD<4.11E-01		LLD<4.11E-01	
SN-113	LLD<4.71E-01		LLD<4.71E-01	
KR-87	LLD<6.02E-01		LLD<6.02E-01	
PB-211	LLD<1.07E+01		LLD<1.07E+01	
AU-198	LLD<3.35E-01		LLD<3.35E-01	
SB-125	LLD<9.42E-01		LLD<9.42E-01	
[illegible]-212	LLD<1.11E+02		LLD<1.11E+02	
BE-7	LLD<3.22E+00		LLD<3.22E+00	
HF-181	LLD<3.51E-01		LLD<3.51E-01	
RU-103	LLD<3.45E-01		LLD<3.45E-01	
KR-85	LLD<8.10E+01		LLD<8.10E+01	

SR-85	LLD<3.54E-01		LLD<3.54E-01		
I-133	LLD<3.46E-01		LLD<3.46E-01		
BA-140	LLD<1.41E+00		LLD<1.41E+00		
Y 91M	LLD<3.71E-01		LLD<3.71E-01		
-207	LLD<3.11E-01		LLD<3.11E-01		
TL-208	2.07E+00	+- 7.80E-01	2.07E+00	+-	7.80E-01
SB-124	LLD<4.18E-01		LLD<4.18E-01		
CS-134	LLD<7.40E-01		LLD<7.40E-01		
BI-214	1.47E+00	+- 7.14E-01	1.47E+00	+-	7.14E-01
RU-106	LLD<3.46E+00		LLD<3.46E+00		
LA-142	LLD<6.54E-01		LLD<6.54E-01		
AG-110M	LLD<9.17E-01		LLD<9.17E-01		
NB-97	LLD<8.55E-01		LLD<8.55E-01		
CS-137	1.08E+00	+- 3.20E-01	1.08E+00	+-	3.20E-01
I-132	LLD<7.92E-01		LLD<7.92E-01		
W-187	LLD<1.28E+00		LLD<1.28E+00		
ZR-97	LLD<3.72E-01		LLD<3.72E-01		
ZR-95	LLD<6.84E-01		LLD<6.84E-01		
NB-95	LLD<4.23E-01		LLD<4.23E-01		
TL-210	LLD<2.39E+00		LLD<2.39E+00		
CO-58	LLD<3.42E-01		LLD<3.42E-01		
CS-136	LLD<3.18E-01		LLD<3.18E-01		
MN-54	LLD<4.70E-01		LLD<4.70E-01		
CO-56	LLD<4.47E-01		LLD<4.47E-01		
I-134	LLD<5.31E-01		LLD<5.31E-01		
TL-207	LLD<3.34E+02		LLD<3.34E+02		
Y-88	LLD<4.53E-01		LLD<4.53E-01		
AC-228	1.95E+00	+- 1.05E+00	1.95E+00	+-	1.05E+00
EU-152	LLD<4.14E+00		LLD<4.14E+00		
-234M	LLD<4.48E+00		LLD<4.48E+00		
-91	LLD<1.06E+00		LLD<1.06E+00		
RB-89	LLD<9.06E-01		LLD<9.06E-01		
FE-59	LLD<8.31E-01		LLD<8.31E-01		
ZN-65	LLD<1.25E+00		LLD<1.25E+00		
SC-46	LLD<4.56E-01		LLD<4.56E-01		
TA-182	LLD<1.40E+00		LLD<1.40E+00		
I-135	LLD<1.70E+00		LLD<1.70E+00		
CL-39	LLD<1.15E+00		LLD<1.15E+00		
NA-22	LLD<5.81E-01		LLD<5.81E-01		
AR-41	LLD<6.00E-01		LLD<6.00E-01		
CO-60	LLD<5.37E-01		LLD<5.37E-01		
NA-24	LLD<2.58E-01		LLD<2.58E-01		
SR-92	LLD<7.38E-01		LLD<7.38E-01		
SCH-000	LLD<2.04E+00		LLD<2.04E+00		
CS-138	LLD<6.48E-01		LLD<6.48E-01		
K-40	1.98E+01	+- 5.69E+00	1.98E+01	+-	5.69E+00
KR-88	LLD<2.57E+00		LLD<2.57E+00		
TL-209	LLD<6.54E-01		LLD<6.54E-01		
LA-140	LLD<3.75E-01		LLD<3.75E-01		
AL-26	LLD<2.10E-01		LLD<2.10E-01		
MN-56	LLD<7.88E-01		LLD<7.88E-01		
RB-88	LLD<3.10E+00		LLD<3.10E+00		
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Total	5.58E+01	+- 7.78E+00	5.58E+01	+-	7.78E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0062

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
127.99	64.12	60.	54.7	2.58E+01
186.89	93.53	302.	18.2	4.45E+01

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Pile M C-114

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 11:47:56

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0063
Measured by: dlv

Sample Description: Pile M C-114
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.7700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 11:35:01

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 11:47:56

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	479.04	239.46	1.4	81.	145.	25.2	PB-212
2	541.29	270.56	1.1	37.	23.	90.3	
3	591.63	295.71	0.9	33.	39.	55.4	PB-214
4	678.29	339.01	1.6	34.	21.	96.1	AC-228
5	705.47	352.59	1.6	11.	72.	27.0	PB-214
6	1167.98	583.75	2.3	26.	41.	51.1	TL-208
7	1219.80	609.65	1.6	16.	41.	43.0	BI-214
8	1823.17	911.38	1.9	3.	48.	30.8	AC-228
9	2162.04	1080.92	0.6	2.	6.	105.0	
10	2922.35	1461.51	1.6	2.	62.	26.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 04-DEC-95 11:47:56

Sample: Pile M C-114
Data collected on 04-DEC-95 at 11:35:01
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.73E+00		LLD<3.73E+00	
TH-234	LLD<3.10E+01		LLD<3.10E+01	
TH-230	LLD<2.53E+02		LLD<2.53E+02	
XE-133	LLD<2.15E+00		LLD<2.15E+00	
CD-109	LLD<1.51E+01		LLD<1.51E+01	
SCL-000	LLD<8.31E-01		LLD<8.31E-01	
CO-57	LLD<2.76E-01		LLD<2.76E-01	
PA-234	LLD<1.04E+00		LLD<1.04E+00	
CE-144	LLD<2.29E+00		LLD<2.29E+00	
TC-99M	LLD<2.58E-01		LLD<2.58E-01	
U-235	LLD<2.02E+00		LLD<2.02E+00	
CE-141	LLD<4.55E-01		LLD<4.55E-01	
KR-85M	LLD<2.99E-01		LLD<2.99E-01	
XE-131M	LLD<1.05E+01		LLD<1.05E+01	
BA-139	LLD<1.32E+00		LLD<1.32E+00	
[illegible]-139	LLD<2.68E-01		LLD<2.68E-01	
[illegible]-226	LLD<6.24E+00		LLD<6.24E+00	
BA-141	LLD<5.93E-01		LLD<5.93E-01	
KR-89	LLD<2.89E+00		LLD<2.89E+00	
TE-132	LLD<2.76E-01		LLD<2.76E-01	
XE-133M	LLD<2.75E+00		LLD<2.75E+00	
TH-227	LLD<2.72E+00		LLD<2.72E+00	
PB-212	1.99E+00	+- 5.06E-01	1.99E+00	+- 5.06E-01
RA-224	LLD<6.86E+00		LLD<6.86E+00	
XE-135	LLD<2.84E-01		LLD<2.84E-01	
XE-138	LLD<1.10E+00		LLD<1.10E+00	
SE-75	LLD<4.12E-01		LLD<4.12E-01	
NP-239	LLD<2.10E+00		LLD<2.10E+00	
HG-203	LLD<3.33E-01		LLD<3.33E-01	
IR-192	LLD<2.89E-01		LLD<2.89E-01	
CR-51	LLD<2.95E+00		LLD<2.95E+00	
SCM-000	LLD<1.58E+00		LLD<1.58E+00	
BI-211	LLD<8.92E+00		LLD<8.92E+00	
PB-214	1.94E+00	+- 5.23E-01	1.94E+00	+- 5.23E-01
BA-133	LLD<7.10E-01		LLD<7.10E-01	
I-131	LLD<3.13E-01		LLD<3.13E-01	
SN-113	LLD<4.02E-01		LLD<4.02E-01	
KR-87	LLD<5.84E-01		LLD<5.84E-01	
PB-211	LLD<1.21E+01		LLD<1.21E+01	
AU-198	LLD<3.38E-01		LLD<3.38E-01	
SB-125	LLD<8.43E-01		LLD<8.43E-01	
[illegible]-212	LLD<9.48E+01		LLD<9.48E+01	
BE-7	LLD<2.72E+00		LLD<2.72E+00	
HF-181	LLD<3.45E-01		LLD<3.45E-01	
RU-103	LLD<3.16E-01		LLD<3.16E-01	
KR-85	LLD<9.16E+01		LLD<9.16E+01	

SR-85	LLD<4.01E-01		LLD<4.01E-01		
I-133	LLD<3.36E-01		LLD<3.36E-01		
BA-140	LLD<1.36E+00		LLD<1.36E+00		
Y-91M	LLD<3.61E-01		LLD<3.61E-01		
[illegible]-207	LLD<2.98E-01		LLD<2.98E-01		
TL-208	LLD<1.58E+00		LLD<1.58E+00		
SB-124	LLD<3.98E-01		LLD<3.98E-01		
CS-134	LLD<7.42E-01		LLD<7.42E-01		
BI-214	1.63E+00	+- 7.02E-01	1.63E+00	+-	7.02E-01
RU-106	LLD<3.83E+00		LLD<3.83E+00		
LA-142	LLD<7.22E-01		LLD<7.22E-01		
AG-110M	LLD<4.22E-01		LLD<4.22E-01		
NB-97	LLD<4.11E-01		LLD<4.11E-01		
CS-137	LLD<4.58E-01		LLD<4.58E-01		
I-132	LLD<4.41E-01		LLD<4.41E-01		
W-187	LLD<1.08E+00		LLD<1.08E+00		
ZR-97	LLD<3.81E-01		LLD<3.81E-01		
ZR-95	LLD<7.19E-01		LLD<7.19E-01		
NB-95	LLD<4.15E-01		LLD<4.15E-01		
TL-210	LLD<2.72E+00		LLD<2.72E+00		
CO-58	LLD<4.90E-01		LLD<4.90E-01		
CS-136	LLD<4.03E-01		LLD<4.03E-01		
MN-54	LLD<4.49E-01		LLD<4.49E-01		
CO-56	LLD<3.79E-01		LLD<3.79E-01		
I-134	LLD<4.18E-01		LLD<4.18E-01		
TL-207	LLD<3.03E+02		LLD<3.03E+02		
Y-88	LLD<4.30E-01		LLD<4.30E-01		
AC-228	3.96E+00	+- 1.23E+00	3.96E+00	+-	1.23E+00
EU-152	LLD<4.83E+00		LLD<4.83E+00		
[illegible]-234M	LLD<4.55E+00		LLD<4.55E+00		
[illegible]-91	LLD<1.12E+00		LLD<1.12E+00		
RB-89	LLD<9.69E-01		LLD<9.69E-01		
FE-59	LLD<8.98E-01		LLD<8.98E-01		
ZN-65	LLD<1.15E+00		LLD<1.15E+00		
SC-46	LLD<4.78E-01		LLD<4.78E-01		
TA-182	LLD<1.37E+00		LLD<1.37E+00		
I-135	LLD<1.62E+00		LLD<1.62E+00		
CL-39	LLD<1.13E+00		LLD<1.13E+00		
NA-22	LLD<3.86E-01		LLD<3.86E-01		
AR-41	LLD<5.61E-01		LLD<5.61E-01		
CO-60	LLD<3.89E-01		LLD<3.89E-01		
NA-24	LLD<3.61E-01		LLD<3.61E-01		
SR-92	LLD<4.96E-01		LLD<4.96E-01		
SCH-000	LLD<1.93E+00		LLD<1.93E+00		
CS-138	LLD<6.05E-01		LLD<6.05E-01		
K-40	1.85E+01	+- 4.90E+00	1.85E+01	+-	4.90E+00
KR-88	LLD<3.69E+00		LLD<3.69E+00		
TL-209	LLD<1.02E+00		LLD<1.02E+00		
LA-140	LLD<4.77E-01		LLD<4.77E-01		
AL-26	LLD<5.35E-01		LLD<5.35E-01		
MN-56	LLD<1.22E+00		LLD<1.22E+00		
RB-88	LLD<2.53E+00		LLD<2.53E+00		
	---		---		
Total	2.80E+01	+- 5.15E+00	2.80E+01	+-	5.15E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0063

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
541.29	270.56	23.	90.3	3.39E+00
591.63	295.71	39.	55.4	6.24E+00
678.29	339.01	21.	96.1	3.75E+00
1167.98	583.75	41.	51.1	1.28E+01
2162.04	1080.92	6.	105.0	3.62E+00

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C-26

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 12:06:03

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0076
Measured by: dlv

Sample Description: C-26 Doil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 11:49:04

COLLECT Live Time: 600. seconds
Real Time: 603. seconds
Dead Time: 0.50 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 12:06:03

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	151.18	75.70	1.5	314.	305.	28.1	PB-214
2C	155.72	77.97	1.5	309.	338.	26.2	PB-214
3	187.35	93.76	1.5	458.	152.	47.5	TH-234
4	420.21	210.07	1.3	222.	125.	40.9	NP-239
5	478.75	239.32	1.4	299.	1172.	7.4	PB-212
6	541.74	270.79	1.1	108.	97.	38.7	
7	601.99	300.89	1.3	110.	69.	51.6	PB-212
8	657.27	328.51	0.9	80.	70.	45.0	LA-140
9	678.16	338.95	1.4	76.	229.	17.1	AC-228
10	705.37	352.54	1.4	76.	45.	64.8	PB-214
11C	1022.69	511.12	1.9	52.	97.	30.4	TL-208,NA-22, ANN-RD
12	1167.50	583.51	2.0	56.	299.	13.6	TL-208
13	1455.17	727.33	1.3	44.	52.	49.3	BI-212
14	1571.63	785.57	1.0	18.	15.	101.2	BI-212,PB-214, PA234M
15	1721.46	860.51	1.7	19.	33.	55.0	TL-208,BI-212
16	1822.97	911.28	2.0	26.	192.	16.5	AC-228
17	1938.74	969.20	1.9	58.	80.	38.6	AC-228,RU-105
18	2493.46	1246.79	1.1	2.	8.	85.9	
19	2922.05	1461.36	0.8	9.	48.	35.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 04-DEC-95 12:06:03

Sample: C-26 Doil
Data collected on 04-DEC-95 at 11:49:04
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<6.21E+00		LLD<6.21E+00	
TH-234	LLD<5.05E+01		LLD<5.05E+01	
TH-230	LLD<3.98E+02		LLD<3.98E+02	
XE-133	LLD<3.51E+00		LLD<3.51E+00	
CD-109	LLD<2.03E+01		LLD<2.03E+01	
SCL-000	LLD<1.39E+00		LLD<1.39E+00	
CO-57	LLD<4.60E-01		LLD<4.60E-01	
PA-234	LLD<1.76E+00		LLD<1.76E+00	
CE-144	LLD<3.40E+00		LLD<3.40E+00	
TC-99M	LLD<3.81E-01		LLD<3.81E-01	
U-235	LLD<2.95E+00		LLD<2.95E+00	
CE-141	LLD<6.57E-01		LLD<6.57E-01	
KR-85M	LLD<4.57E-01		LLD<4.57E-01	
XE-131M	LLD<1.58E+01		LLD<1.58E+01	
BA-139	LLD<1.94E+00		LLD<1.94E+00	
[illegible]-139	LLD<3.94E-01		LLD<3.94E-01	
[illegible]A-226	LLD<9.97E+00		LLD<9.97E+00	
BA-141	LLD<9.42E-01		LLD<9.42E-01	
KR-89	LLD<4.50E+00		LLD<4.50E+00	
TE-132	LLD<4.25E-01		LLD<4.25E-01	
XE-133M	LLD<4.84E+00		LLD<4.84E+00	
TH-227	LLD<4.93E+00		LLD<4.93E+00	
PB-212	1.31E+01	+- 1.06E+00	1.31E+01	+- 1.06E+00
RA-224	LLD<1.13E+01		LLD<1.13E+01	
XE-135	LLD<3.92E-01		LLD<3.92E-01	
XE-138	LLD<1.53E+00		LLD<1.53E+00	
SE-75	LLD<5.97E-01		LLD<5.97E-01	
NP-239	LLD<2.70E+00		LLD<2.70E+00	
HG-203	LLD<4.54E-01		LLD<4.54E-01	
IR-192	LLD<4.38E-01		LLD<4.38E-01	
CR-51	LLD<3.61E+00		LLD<3.61E+00	
SCM-000	LLD<2.72E+00		LLD<2.72E+00	
BI-211	LLD<1.00E+01		LLD<1.00E+01	
PB-214	9.95E-01	+- 6.45E-01	9.95E-01	+- 6.45E-01
BA-133	LLD<7.69E-01		LLD<7.69E-01	
I-131	LLD<4.90E-01		LLD<4.90E-01	
SN-113	LLD<5.81E-01		LLD<5.81E-01	
KR-87	LLD<8.37E-01		LLD<8.37E-01	
PB-211	LLD<1.66E+01		LLD<1.66E+01	
AU-198	LLD<4.24E-01		LLD<4.24E-01	
SB-125	LLD<1.22E+00		LLD<1.22E+00	
[illegible]-212	LLD<1.29E+02		LLD<1.29E+02	
BE-7	LLD<3.56E+00		LLD<3.56E+00	
HF-181	LLD<5.48E-01		LLD<5.48E-01	
RU-103	LLD<4.49E-01		LLD<4.49E-01	
KR-85	LLD<1.31E+02		LLD<1.31E+02	

SR-85	LLD<5.72E-01		LLD<5.72E-01		
I-133	LLD<4.94E-01		LLD<4.94E-01		
BA-140	LLD<1.80E+00		LLD<1.80E+00		
Y-91M	LLD<5.46E-01		LLD<5.46E-01		
207	LLD<4.78E-01		LLD<4.78E-01		
PB-208	1.08E+01	+- 1.50E+00	1.08E+01	+-	1.50E+00
SB-124	LLD<5.26E-01		LLD<5.26E-01		
CS-134	LLD<6.33E-01		LLD<6.33E-01		
BI-214	LLD<1.17E+00		LLD<1.17E+00		
RU-106	LLD<5.84E+00		LLD<5.84E+00		
LA-142	LLD<1.03E+00		LLD<1.03E+00		
AG-110M	LLD<6.16E-01		LLD<6.16E-01		
NB-97	LLD<5.96E-01		LLD<5.96E-01		
CS-137	LLD<5.65E-01		LLD<5.65E-01		
I-132	LLD<6.03E-01		LLD<6.03E-01		
W-187	LLD<1.87E+00		LLD<1.87E+00		
ZR-97	LLD<5.48E-01		LLD<5.48E-01		
ZR-95	LLD<1.05E+00		LLD<1.05E+00		
NB-95	LLD<5.63E-01		LLD<5.63E-01		
TL-210	LLD<4.46E+00		LLD<4.46E+00		
CO-58	LLD<4.55E-01		LLD<4.55E-01		
CS-136	LLD<4.58E-01		LLD<4.58E-01		
MN-54	LLD<5.14E-01		LLD<5.14E-01		
CO-56	LLD<4.82E-01		LLD<4.82E-01		
I-134	LLD<5.50E-01		LLD<5.50E-01		
TL-207	LLD<3.77E+02		LLD<3.77E+02		
Y-88	LLD<5.07E-01		LLD<5.07E-01		
AC-228	1.28E+01	+- 2.13E+00	1.28E+01	+-	2.13E+00
EU-152	LLD<9.44E+00		LLD<9.44E+00		
PA-234M	LLD<4.15E+00		LLD<4.15E+00		
[illegible]-91	LLD<1.55E+00		LLD<1.55E+00		
RB-89	LLD<7.82E-01		LLD<7.82E-01		
FE-59	LLD<8.57E-01		LLD<8.57E-01		
ZN-65	LLD<1.27E+00		LLD<1.27E+00		
SC-46	LLD<4.01E-01		LLD<4.01E-01		
TA-182	LLD<1.20E+00		LLD<1.20E+00		
I-135	LLD<1.51E+00		LLD<1.51E+00		
CL-39	LLD<1.05E+00		LLD<1.05E+00		
NA-22	LLD<4.43E-01		LLD<4.43E-01		
AR-41	LLD<5.92E-01		LLD<5.92E-01		
CO-60	LLD<5.12E-01		LLD<5.12E-01		
NA-24	LLD<5.67E-01		LLD<5.67E-01		
SR-92	LLD<5.81E-01		LLD<5.81E-01		
SCH-000	LLD<2.87E+00		LLD<2.87E+00		
CS-138	LLD<6.62E-01		LLD<6.62E-01		
K-40	1.17E+01	+- 4.22E+00	1.17E+01	+-	4.22E+00
KR-88	LLD<4.18E+00		LLD<4.18E+00		
TL-209	LLD<1.84E+00		LLD<1.84E+00		
LA-140	LLD<5.92E-01		LLD<5.92E-01		
AL-26	LLD<7.15E-01		LLD<7.15E-01		
MN-56	LLD<1.08E+00		LLD<1.08E+00		
RB-88	LLD<3.60E+00		LLD<3.60E+00		
	---		---		
Total	4.94E+01	+- 5.11E+00	4.94E+01	+-	5.11E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0076

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
151.18	75.70	305.	28.1	7.65E+01
155.72	77.97	338.	26.2	7.78E+01
187.35	93.76	152.	47.5	2.23E+01
420.21	210.07	125.	40.9	1.34E+01
541.74	270.79	97.	38.7	1.44E+01
601.99	300.89	69.	51.6	1.12E+01
657.27	328.51	70.	45.0	1.24E+01
678.16	338.95	229.	17.1	4.15E+01
1455.17	727.33	52.	49.3	2.05E+01
1571.63	785.57	15.	101.2	6.33E+00
1721.46	860.51	33.	55.0	1.53E+01
1938.74	969.20	80.	38.6	4.07E+01
2493.46	1246.79	8.	85.9	5.11E+00

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Pile L C-108, 109 (20 min recount)

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 12:40:01

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0062
Measured by: dlv

Sample Description: Pile L C-108, C-109
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.7900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 12:07:24

COLLECT Live Time: 1200. seconds
Real Time: 1203. seconds
Dead Time: 0.25 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 12:40:01

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	128.01	64.13	1.4	199.	124.	37.0	TH-234
2	186.58	93.38	1.8	452.	610.	13.6	TH-234,TH-234
3C	372.73	186.36	1.4	123.	399.	17.5	U-235,RA-226
4	478.52	239.20	1.6	159.	289.	18.0	PB-212
5	591.78	295.78	1.8	63.	71.	41.2	PB-214
6	678.10	338.92	1.7	46.	66.	38.8	AC-228
7	705.22	352.46	1.7	73.	115.	29.9	PB-214
8	1022.81	511.18	2.1	27.	35.	54.5	TL-208,NA-22, ANN-RD
9	1167.34	583.43	0.9	34.	67.	36.7	TL-208
10	1219.59	609.55	1.3	16.	91.	24.7	BI-214
11	1324.12	661.81	1.6	25.	122.	21.8	CS-137
12	1455.29	727.40	3.1	11.	29.	50.2	BI-212
13	1485.40	742.45	1.5	16.	13.	114.4	PA234M,ZR-97
14	1722.82	861.19	2.4	12.	17.	83.1	TL-208,BI-212
15	1822.38	910.99	1.7	15.	63.	31.2	AC-228
16$	1938.74	969.20	1.9	6.	27.	52.0	AC-228,RU-105
17	2002.74	1001.21	0.9	13.	28.	55.2	PA234M
18	2921.86	1461.26	2.2	9.	124.	19.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

2 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 04-DEC-95 12:40:01

Sample: Pile L C-108, C-109
Data collected on 04-DEC-95 at 12:07:24
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.21E+00		LLD<4.21E+00	
TH-234	3.46E+01	+- 1.31E+01	3.46E+01	+- 1.31E+01
TH-230	LLD<2.43E+02		LLD<2.43E+02	
XE-133	LLD<1.68E+00		LLD<1.68E+00	
CD-109	LLD<1.51E+01		LLD<1.51E+01	
SCL-000	LLD<7.30E-01		LLD<7.30E-01	
CO-57	LLD<2.42E-01		LLD<2.42E-01	
PA-234	LLD<9.09E-01		LLD<9.09E-01	
CE-144	LLD<1.81E+00		LLD<1.81E+00	
TC-99M	LLD<2.38E-01		LLD<2.38E-01	
U-235	LLD<1.53E+00		LLD<1.53E+00	
CE-141	LLD<3.51E-01		LLD<3.51E-01	
KR-85M	LLD<2.36E-01		LLD<2.36E-01	
XE-131M	LLD<8.30E+00		LLD<8.30E+00	
BA-139	LLD<1.08E+00		LLD<1.08E+00	
[illegible]-139	LLD<2.10E-01		LLD<2.10E-01	
[illegible]-226	2.68E+01	+- 4.74E+00	2.68E+01	+- 4.74E+00
BA-141	LLD<8.82E-01		LLD<8.82E-01	
KR-89	LLD<3.90E+00		LLD<3.90E+00	
TE-132	LLD<1.92E-01		LLD<1.92E-01	
XE-133M	LLD<1.94E+00		LLD<1.94E+00	
TH-227	LLD<1.75E+00		LLD<1.75E+00	
PB-212	2.00E+00	+- 3.66E-01	2.00E+00	+- 3.66E-01
RA-224	LLD<5.50E+00		LLD<5.50E+00	
XE-135	LLD<1.87E-01		LLD<1.87E-01	
XE-138	LLD<7.85E-01		LLD<7.85E-01	
SE-75	LLD<2.83E-01		LLD<2.83E-01	
NP-239	LLD<1.30E+00		LLD<1.30E+00	
HG-203	LLD<2.31E-01		LLD<2.31E-01	
IR-192	LLD<2.24E-01		LLD<2.24E-01	
CR-51	LLD<2.07E+00		LLD<2.07E+00	
SCM-000	LLD<1.06E+00		LLD<1.06E+00	
BI-211	LLD<9.99E+00		LLD<9.99E+00	
PB-214	1.74E+00	+- 5.20E-01	1.74E+00	+- 5.20E-01
BA-133	LLD<5.38E-01		LLD<5.38E-01	
I-131	LLD<2.09E-01		LLD<2.09E-01	
SN-113	LLD<3.31E-01		LLD<3.31E-01	
KR-87	LLD<4.49E-01		LLD<4.49E-01	
PB-211	LLD<9.79E+00		LLD<9.79E+00	
AU-198	LLD<2.30E-01		LLD<2.30E-01	
SB-125	LLD<7.59E-01		LLD<7.59E-01	
[illegible]-212	LLD<6.91E+01		LLD<6.91E+01	
BE-7	LLD<2.39E+00		LLD<2.39E+00	
HF-181	LLD<3.24E-01		LLD<3.24E-01	
RU-103	LLD<2.43E-01		LLD<2.43E-01	
KR-85	LLD<5.88E+01		LLD<5.88E+01	

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
678.78	339.26	29.	59.1	5.34E+00
3529.57	1765.66	14.	52.4	1.04E+01

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Pile O C-125

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 14:54:44

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0068
Measured by: dlv

Sample Description: Pile O C-125
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.5300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 14:40:31

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 14:54:44

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	479.37	239.63	1.4	53.	123.	30.3	
2	706.33	353.02	2.1	34.	69.	35.0	
3$	1023.13	511.34	1.1	6.	16.	69.8	TL-208,NA-22, ANN-RD
4	1167.72	583.62	2.2	15.	31.	52.3	TL-208
5	1220.40	609.95	1.7	13.	47.	37.6	BI-214
6	1823.42	911.51	2.3	6.	33.	41.1	AC-228
7	2922.44	1461.55	2.0	15.	73.	29.3	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

2 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 04-DEC-95 14:54:44

Sample: Pile O C-125
ta collected on 04-DEC-95 at 14:40:31
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<3.13E+00		LLD<3.13E+00	
TH-234	LLD<3.02E+01		LLD<3.02E+01	
TH-230	LLD<2.11E+02		LLD<2.11E+02	
XE-133	LLD<1.80E+00		LLD<1.80E+00	
CD-109	LLD<1.23E+01		LLD<1.23E+01	
SCL-000	LLD<7.21E-01		LLD<7.21E-01	
CO-57	LLD<2.39E-01		LLD<2.39E-01	
PA-234	LLD<9.90E-01		LLD<9.90E-01	
CE-144	LLD<1.91E+00		LLD<1.91E+00	
TC-99M	LLD<2.28E-01		LLD<2.28E-01	
U-235	LLD<1.92E+00		LLD<1.92E+00	
CE-141	LLD<4.02E-01		LLD<4.02E-01	
KR-85M	LLD<2.34E-01		LLD<2.34E-01	
XE-131M	LLD<9.31E+00		LLD<9.31E+00	
BA-139	LLD<1.31E+00		LLD<1.31E+00	
[illegible]-139	LLD<2.67E-01		LLD<2.67E-01	
[illegible]-226	LLD<5.26E+00		LLD<5.26E+00	
BA-141	LLD<5.15E-01		LLD<5.15E-01	
KR-89	LLD<2.45E+00		LLD<2.45E+00	
TE-132	LLD<2.05E-01		LLD<2.05E-01	
XE-133M	LLD<2.38E+00		LLD<2.38E+00	
TH-227	LLD<2.44E+00		LLD<2.44E+00	
PB-212	LLD<6.87E-01		LLD<6.87E-01	
RA-224	LLD<6.73E+00		LLD<6.73E+00	
XE-135	LLD<2.67E-01		LLD<2.67E-01	
XE-138	LLD<9.17E-01		LLD<9.17E-01	
SE-75	LLD<4.26E-01		LLD<4.26E-01	
NP-239	LLD<1.56E+00		LLD<1.56E+00	
HG-203	LLD<3.30E-01		LLD<3.30E-01	
IR-192	LLD<2.88E-01		LLD<2.88E-01	
CR-51	LLD<2.36E+00		LLD<2.36E+00	
SCM-000	LLD<1.31E+00		LLD<1.31E+00	
BI-211	LLD<9.04E+00		LLD<9.04E+00	
PB-214	LLD<8.56E-01		LLD<8.56E-01	
BA-133	LLD<6.41E-01		LLD<6.41E-01	
I-131	LLD<3.17E-01		LLD<3.17E-01	
SN-113	LLD<3.43E-01		LLD<3.43E-01	
KR-87	LLD<5.16E-01		LLD<5.16E-01	
PB-211	LLD<9.88E+00		LLD<9.88E+00	
AU-198	LLD<2.93E-01		LLD<2.93E-01	
[illegible]B-125	LLD<8.57E-01		LLD<8.57E-01	
[illegible]-212	LLD<7.65E+01		LLD<7.65E+01	
[illegible]-7	LLD<2.31E+00		LLD<2.31E+00	
HF-181	LLD<3.10E-01		LLD<3.10E-01	
RU-103	LLD<3.04E-01		LLD<3.04E-01	
KR-85	LLD<7.86E+01		LLD<7.86E+01	

SR-85	LLD<3.44E-01		LLD<3.44E-01		
I-133	LLD<3.20E-01		LLD<3.20E-01		
BA-140	LLD<1.20E+00		LLD<1.20E+00		
[illegible]-91M	LLD<3.61E-01		LLD<3.61E-01		
[illegible]-207	LLD<3.20E-01		LLD<3.20E-01		
TL-208	1.21E+00	+- 6.35E-01	1.21E+00	+-	6.35E-01
SB-124	LLD<3.65E-01		LLD<3.65E-01		
CS-134	LLD<5.71E-01		LLD<5.71E-01		
BI-214	1.63E+00	+- 6.15E-01	1.63E+00	+-	6.15E-01
RU-106	LLD<3.59E+00		LLD<3.59E+00		
LA-142	LLD<6.05E-01		LLD<6.05E-01		
AG-110M	LLD<7.44E-01		LLD<7.44E-01		
NB-97	LLD<7.17E-01		LLD<7.17E-01		
CS-137	LLD<4.77E-01		LLD<4.77E-01		
I-132	LLD<5.54E-01		LLD<5.54E-01		
W-187	LLD<1.08E+00		LLD<1.08E+00		
ZR-97	LLD<4.09E-01		LLD<4.09E-01		
ZR-95	LLD<7.36E-01		LLD<7.36E-01		
NB-95	LLD<3.81E-01		LLD<3.81E-01		
TL-210	LLD<1.92E+00		LLD<1.92E+00		
CO-58	LLD<3.24E-01		LLD<3.24E-01		
CS-136	LLD<3.69E-01		LLD<3.69E-01		
MN-54	LLD<3.62E-01		LLD<3.62E-01		
CO-56	LLD<2.82E-01		LLD<2.82E-01		
I-134	LLD<3.54E-01		LLD<3.54E-01		
TL-207	LLD<3.16E+02		LLD<3.16E+02		
Y-88	LLD<4.29E-01		LLD<4.29E-01		
AC-228	2.38E+00	+- 9.82E-01	2.38E+00	+-	9.82E-01
EU-152	LLD<4.29E+00		LLD<4.29E+00		
[illegible]-234M	LLD<4.55E+00		LLD<4.55E+00		
[illegible]R-91	LLD<1.38E+00		LLD<1.38E+00		
RB-89	LLD<1.02E+00		LLD<1.02E+00		
FE-59	LLD<8.89E-01		LLD<8.89E-01		
ZN-65	LLD<1.33E+00		LLD<1.33E+00		
SC-46	LLD<5.80E-01		LLD<5.80E-01		
TA-182	LLD<1.66E+00		LLD<1.66E+00		
I-135	LLD<1.39E+00		LLD<1.39E+00		
CL-39	LLD<8.02E-01		LLD<8.02E-01		
NA-22	LLD<3.27E-01		LLD<3.27E-01		
AR-41	LLD<3.12E-01		LLD<3.12E-01		
CO-60	LLD<3.58E-01		LLD<3.58E-01		
NA-24	LLD<4.09E-01		LLD<4.09E-01		
SR-92	LLD<3.82E-01		LLD<3.82E-01		
SCH-000	LLD<2.29E+00		LLD<2.29E+00		
CS-138	LLD<5.55E-01		LLD<5.55E-01		
K-40	1.93E+01	+- 5.71E+00	1.93E+01	+-	5.71E+00
KR-88	LLD<3.10E+00		LLD<3.10E+00		
TL-209	LLD<9.73E-01		LLD<9.73E-01		
LA-140	LLD<3.71E-01		LLD<3.71E-01		
AL-26	LLD<2.88E-01		LLD<2.88E-01		
MN-56	LLD<1.82E+00		LLD<1.82E+00		
RB-88	LLD<1.29E+00		LLD<1.29E+00		
	---		---		
Total	2.46E+01	+- 5.86E+00	2.46E+01	+-	5.86E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0068

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
479.37	239.63	123.	30.3	1.61E+01
706.33	353.02	69.	35.0	1.30E+01

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Pile H C-121

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 15:17:51

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0069
Measured by: dlv

Sample Description: H: C-121 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.6900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 14:57:23

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 15:17:51

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.94	238.91	1.6	73.	99.	33.8	PB-212
2C	704.13	351.92	2.3	21.	62.	33.8	BI-211,PB-214
3	1166.14	582.83	2.0	7.	31.	44.1	TL-208
4	1219.37	609.44	2.5	15.	30.	53.2	BI-214
5	1323.67	661.58	1.3	11.	119.	19.8	CS-137
6	2921.15	1460.91	1.4	4.	60.	28.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 04-DEC-95 15:17:51

Sample: H: C-121 Soil
Data collected on 04-DEC-95 at 14:57:23
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.93E+00		LLD<3.93E+00	
TH-234	LLD<3.25E+01		LLD<3.25E+01	
TH-230	LLD<2.29E+02		LLD<2.29E+02	
XE-133	LLD<1.96E+00		LLD<1.96E+00	
CD-109	LLD<1.17E+01		LLD<1.17E+01	
SCL-000	LLD<7.86E-01		LLD<7.86E-01	
CO-57	LLD<2.61E-01		LLD<2.61E-01	
PA-234	LLD<1.12E+00		LLD<1.12E+00	
CE-144	LLD<1.99E+00		LLD<1.99E+00	
TC-99M	LLD<2.30E-01		LLD<2.30E-01	
U-235	LLD<1.83E+00		LLD<1.83E+00	
CE-141	LLD<4.28E-01		LLD<4.28E-01	
KR-85M	LLD<3.03E-01		LLD<3.03E-01	
XE-131M	LLD<1.15E+01		LLD<1.15E+01	
BA-139	LLD<1.36E+00		LLD<1.36E+00	
[illegible]-139	LLD<2.76E-01		LLD<2.76E-01	
[illegible]-226	LLD<6.40E+00		LLD<6.40E+00	
BA-141	LLD<6.06E-01		LLD<6.06E-01	
KR-89	LLD<3.12E+00		LLD<3.12E+00	
TE-132	LLD<2.76E-01		LLD<2.76E-01	
XE-133M	LLD<2.88E+00		LLD<2.88E+00	
TH-227	LLD<2.19E+00		LLD<2.19E+00	
PB-212	1.38E+00	+- 4.67E-01	1.38E+00	+- 4.67E-01
RA-224	LLD<6.08E+00		LLD<6.08E+00	
XE-135	LLD<2.59E-01		LLD<2.59E-01	
XE-138	LLD<9.80E-01		LLD<9.80E-01	
SE-75	LLD<4.24E-01		LLD<4.24E-01	
NP-239	LLD<1.94E+00		LLD<1.94E+00	
HG-203	LLD<3.37E-01		LLD<3.37E-01	
IR-192	LLD<3.96E-01		LLD<3.96E-01	
CR-51	LLD<2.41E+00		LLD<2.41E+00	
SCM-000	LLD<1.09E+00		LLD<1.09E+00	
BI-211	1.45E+01	+- 4.91E+00	1.45E+01	+- 4.91E+00
PB-214	1.69E+00	+- 5.73E-01	1.69E+00	+- 5.73E-01
BA-133	LLD<8.34E-01		LLD<8.34E-01	
I-131	LLD<3.68E-01		LLD<3.68E-01	
SN-113	LLD<4.73E-01		LLD<4.73E-01	
KR-87	LLD<6.96E-01		LLD<6.96E-01	
PB-211	LLD<1.15E+01		LLD<1.15E+01	
AU-198	LLD<3.22E-01		LLD<3.22E-01	
SB-125	LLD<1.02E+00		LLD<1.02E+00	
[illegible]-212	LLD<9.76E+01		LLD<9.76E+01	
BE-7	LLD<2.95E+00		LLD<2.95E+00	
HF-181	LLD<3.79E-01		LLD<3.79E-01	
RU-103	LLD<3.42E-01		LLD<3.42E-01	
KR-85	LLD<7.41E+01		LLD<7.41E+01	

SR-85	LLD<3.24E-01		LLD<3.24E-01		
I-133	LLD<3.97E-01		LLD<3.97E-01		
BA-140	LLD<1.47E+00		LLD<1.47E+00		
Y-91M	LLD<3.41E-01		LLD<3.41E-01		
PI-207	LLD<3.12E-01		LLD<3.12E-01		
TL-208	LLD<1.25E+00		LLD<1.25E+00		
SB-124	LLD<3.64E-01		LLD<3.64E-01		
CS-134	LLD<7.05E-01		LLD<7.05E-01		
BI-214	1.19E+00	+- 6.35E-01	1.19E+00	+-	6.35E-01
RU-106	LLD<3.02E+00		LLD<3.02E+00		
LA-142	LLD<7.05E-01		LLD<7.05E-01		
AG-110M	LLD<1.31E+00		LLD<1.31E+00		
NB-97	LLD<1.24E+00		LLD<1.24E+00		
CS-137	2.24E+00	+- 4.48E-01	2.24E+00	+-	4.48E-01
I-132	LLD<7.95E-01		LLD<7.95E-01		
W-187	LLD<1.25E+00		LLD<1.25E+00		
ZR-97	LLD<4.38E-01		LLD<4.38E-01		
ZR-95	LLD<5.99E-01		LLD<5.99E-01		
NB-95	LLD<3.57E-01		LLD<3.57E-01		
TL-210	LLD<2.27E+00		LLD<2.27E+00		
CO-58	LLD<3.31E-01		LLD<3.31E-01		
CS-136	LLD<3.58E-01		LLD<3.58E-01		
MN-54	LLD<3.29E-01		LLD<3.29E-01		
CO-56	LLD<3.76E-01		LLD<3.76E-01		
I-134	LLD<4.45E-01		LLD<4.45E-01		
TL-207	LLD<3.46E+02		LLD<3.46E+02		
Y-88	LLD<5.49E-01		LLD<5.49E-01		
AC-228	LLD<2.13E+00		LLD<2.13E+00		
EU-152	LLD<4.41E+00		LLD<4.41E+00		
PA-234M	LLD<4.43E+00		LLD<4.43E+00		
ER-91	LLD<1.10E+00		LLD<1.10E+00		
RB-89	LLD<7.84E-01		LLD<7.84E-01		
FE-59	LLD<7.03E-01		LLD<7.03E-01		
ZN-65	LLD<1.50E+00		LLD<1.50E+00		
SC-46	LLD<6.08E-01		LLD<6.08E-01		
TA-182	LLD<1.60E+00		LLD<1.60E+00		
I-135	LLD<1.84E+00		LLD<1.84E+00		
CL-39	LLD<1.00E+00		LLD<1.00E+00		
NA-22	LLD<5.09E-01		LLD<5.09E-01		
AR-41	LLD<5.46E-01		LLD<5.46E-01		
CO-60	LLD<4.48E-01		LLD<4.48E-01		
NA-24	LLD<4.62E-01		LLD<4.62E-01		
SR-92	LLD<5.03E-01		LLD<5.03E-01		
SCH-000	LLD<1.59E+00		LLD<1.59E+00		
CS-138	LLD<6.60E-01		LLD<6.60E-01		
K-40	1.81E+01	+- 5.13E+00	1.81E+01	+-	5.13E+00
KR-88	LLD<4.08E+00		LLD<4.08E+00		
TL-209	LLD<1.40E+00		LLD<1.40E+00		
LA-140	LLD<2.98E-01		LLD<2.98E-01		
AL-26	LLD<2.62E-01		LLD<2.62E-01		
MN-56	LLD<9.84E-01		LLD<9.84E-01		
RB-88	LLD<5.45E-01		LLD<5.45E-01		
Total	3.91E+01	+- 7.18E+00	3.91E+01	+-	7.18E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0069

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1166.14	582.83	31.	44.1	9.88E+00

0↕☺

0↕♥♠ Pile C C-137, 142

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 15:38:33

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0070
Measured by: dlv

Sample Description: C: C-137, 142 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.6700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 15:19:07

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 15:38:33

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.08	238.98	2.5	76.	146.	25.0	PB-212
2	704.46	352.08	1.6	15.	75.	27.7	PB-214
3	926.89	463.24	1.8	15.	15.	94.7	CS-138
4C	1218.56	609.04	2.6	13.	51.	38.2	XE-135,BI-214
5	1323.91	661.70	2.4	3.	49.	29.7	CS-137
6	2920.93	1460.80	1.9	4.	82.	23.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 04-DEC-95 15:38:33

Sample: C: C-137, 142 Soil
ta collected on 04-DEC-95 at 15:19:07
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<3.50E+00		LLD<3.50E+00	
TH-234	LLD<2.75E+01		LLD<2.75E+01	
TH-230	LLD<2.17E+02		LLD<2.17E+02	
XE-133	LLD<1.85E+00		LLD<1.85E+00	
CD-109	LLD<1.11E+01		LLD<1.11E+01	
SCL-000	LLD<7.95E-01		LLD<7.95E-01	
CO-57	LLD<2.64E-01		LLD<2.64E-01	
PA-234	LLD<1.12E+00		LLD<1.12E+00	
CE-144	LLD<2.03E+00		LLD<2.03E+00	
TC-99M	LLD<2.41E-01		LLD<2.41E-01	
U-235	LLD<1.79E+00		LLD<1.79E+00	
CE-141	LLD<3.86E-01		LLD<3.86E-01	
KR-85M	LLD<2.76E-01		LLD<2.76E-01	
XE-131M	LLD<1.03E+01		LLD<1.03E+01	
BA-139	LLD<1.11E+00		LLD<1.11E+00	
[illegible]-139	LLD<2.25E-01		LLD<2.25E-01	
[illegible]-226	LLD<5.58E+00		LLD<5.58E+00	
BA-141	LLD<6.15E-01		LLD<6.15E-01	
KR-89	LLD<3.11E+00		LLD<3.11E+00	
TE-132	LLD<2.51E-01		LLD<2.51E-01	
XE-133M	LLD<3.09E+00		LLD<3.09E+00	
TH-227	LLD<1.99E+00		LLD<1.99E+00	
PB-212	1.73E+00	+- 4.36E-01	1.73E+00	+- 4.36E-01
RA-224	LLD<6.52E+00		LLD<6.52E+00	
XE-135	LLD<2.25E-01		LLD<2.25E-01	
XE-138	LLD<8.83E-01		LLD<8.83E-01	
SE-75	LLD<4.00E-01		LLD<4.00E-01	
NP-239	LLD<1.47E+00		LLD<1.47E+00	
HG-203	LLD<2.93E-01		LLD<2.93E-01	
IR-192	LLD<3.05E-01		LLD<3.05E-01	
CR-51	LLD<2.45E+00		LLD<2.45E+00	
SCM-000	LLD<1.03E+00		LLD<1.03E+00	
BI-211	LLD<7.69E+00		LLD<7.69E+00	
PB-214	1.75E+00	+- 4.85E-01	1.75E+00	+- 4.85E-01
BA-133	LLD<7.22E-01		LLD<7.22E-01	
I-131	LLD<2.71E-01		LLD<2.71E-01	
SN-113	LLD<4.36E-01		LLD<4.36E-01	
KR-87	LLD<5.51E-01		LLD<5.51E-01	
PB-211	LLD<9.28E+00		LLD<9.28E+00	
AU-198	LLD<2.87E-01		LLD<2.87E-01	
SB-125	LLD<8.83E-01		LLD<8.83E-01	
[illegible]-212	LLD<8.38E+01		LLD<8.38E+01	
[illegible]-7	LLD<2.80E+00		LLD<2.80E+00	
HF-181	LLD<3.32E-01		LLD<3.32E-01	
RU-103	LLD<2.98E-01		LLD<2.98E-01	
KR-85	LLD<6.08E+01		LLD<6.08E+01	

SR-85	LLD<2.66E-01		LLD<2.66E-01		
I-133	LLD<3.22E-01		LLD<3.22E-01		
BA-140	LLD<1.14E+00		LLD<1.14E+00		
Y-91M	LLD<2.95E-01		LLD<2.95E-01		
PB-207	LLD<2.69E-01		LLD<2.69E-01		
TL-208	LLD<1.30E+00		LLD<1.30E+00		
SB-124	LLD<3.96E-01		LLD<3.96E-01		
CS-134	LLD<6.10E-01		LLD<6.10E-01		
BI-214	1.73E+00	+- 6.63E-01	1.73E+00	+-	6.63E-01
RU-106	LLD<3.31E+00		LLD<3.31E+00		
LA-142	LLD<4.51E-01		LLD<4.51E-01		
AG-110M	LLD<6.64E-01		LLD<6.64E-01		
NB-97	LLD<6.23E-01		LLD<6.23E-01		
CS-137	7.91E-01	+- 2.36E-01	7.91E-01	+-	2.36E-01
I-132	LLD<4.56E-01		LLD<4.56E-01		
W-187	LLD<1.21E+00		LLD<1.21E+00		
ZR-97	LLD<2.96E-01		LLD<2.96E-01		
ZR-95	LLD<4.21E-01		LLD<4.21E-01		
NB-95	LLD<4.03E-01		LLD<4.03E-01		
TL-210	LLD<2.21E+00		LLD<2.21E+00		
CO-58	LLD<4.14E-01		LLD<4.14E-01		
CS-136	LLD<2.99E-01		LLD<2.99E-01		
MN-54	LLD<3.88E-01		LLD<3.88E-01		
CO-56	LLD<3.47E-01		LLD<3.47E-01		
I-134	LLD<3.90E-01		LLD<3.90E-01		
TL-207	LLD<3.54E+02		LLD<3.54E+02		
Y-88	LLD<4.93E-01		LLD<4.93E-01		
AC-228	LLD<1.64E+00		LLD<1.64E+00		
EU-152	LLD<4.18E+00		LLD<4.18E+00		
PA-234M	LLD<4.22E+00		LLD<4.22E+00		
ZR-91	LLD<1.24E+00		LLD<1.24E+00		
RB-89	LLD<7.50E-01		LLD<7.50E-01		
FE-59	LLD<7.21E-01		LLD<7.21E-01		
ZN-65	LLD<1.11E+00		LLD<1.11E+00		
SC-46	LLD<4.85E-01		LLD<4.85E-01		
TA-182	LLD<1.12E+00		LLD<1.12E+00		
I-135	LLD<1.80E+00		LLD<1.80E+00		
CL-39	LLD<6.47E-01		LLD<6.47E-01		
NA-22	LLD<4.44E-01		LLD<4.44E-01		
AR-41	LLD<5.30E-01		LLD<5.30E-01		
CO-60	LLD<2.20E-01		LLD<2.20E-01		
NA-24	LLD<3.49E-01		LLD<3.49E-01		
SR-92	LLD<4.70E-01		LLD<4.70E-01		
SCH-000	LLD<1.84E+00		LLD<1.84E+00		
CS-138	LLD<6.08E-01		LLD<6.08E-01		
K-40	2.12E+01	+- 4.98E+00	2.12E+01	+-	4.98E+00
KR-88	LLD<2.86E+00		LLD<2.86E+00		
TL-209	LLD<1.25E+00		LLD<1.25E+00		
LA-140	LLD<4.42E-01		LLD<4.42E-01		
AL-26	LLD<2.55E-01		LLD<2.55E-01		
MN-56	LLD<1.45E+00		LLD<1.45E+00		
RB-88	LLD<2.09E+00		LLD<2.09E+00		
	---		---		
Total	2.72E+01	+- 5.07E+00	2.72E+01	+-	5.07E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0070

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
926.89	463.24	15.	94.7	3.72E+00

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0↕♥♠ P.1/c D C-129, 136, 141

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 15:53:03

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0071
Measured by: dlv

Sample Description: D: C-129, 136, 141 S
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.3500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 15:39:22

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 15:53:03

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.80	238.84	1.6	73.	137.	26.0	PB-212
2C	591.58	295.68	1.7	22.	62.	36.1	PB-214
3C	600.53	300.16	1.7	25.	31.	40.8	PB-212
4	704.69	352.20	1.1	29.	58.	39.4	PB-214
5	927.12	463.36	0.8	8.	18.	67.5	CS-138
6	1167.83	583.67	2.3	4.	41.	33.5	TL-208
7$	1219.07	609.29	1.2	26.	25.	78.0	BI-214
8	1324.05	661.77	1.1	10.	20.	65.4	CS-137
9	2921.02	1460.84	1.3	2.	86.	22.1	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 04-DEC-95 15:53:03

Sample: D: C-129, 136, 141 S
Data collected on 04-DEC-95 at 15:39:22
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.23E+00		LLD<3.23E+00	
TH-234	LLD<2.58E+01		LLD<2.58E+01	
TH-230	LLD<2.12E+02		LLD<2.12E+02	
XE-133	LLD<1.62E+00		LLD<1.62E+00	
CD-109	LLD<9.71E+00		LLD<9.71E+00	
SCL-000	LLD<7.05E-01		LLD<7.05E-01	
CO-57	LLD<2.34E-01		LLD<2.34E-01	
PA-234	LLD<8.72E-01		LLD<8.72E-01	
CE-144	LLD<1.75E+00		LLD<1.75E+00	
TC-99M	LLD<2.04E-01		LLD<2.04E-01	
U-235	LLD<1.45E+00		LLD<1.45E+00	
CE-141	LLD<3.84E-01		LLD<3.84E-01	
KR-85M	LLD<2.27E-01		LLD<2.27E-01	
XE-131M	LLD<8.67E+00		LLD<8.67E+00	
BA-139	LLD<1.24E+00		LLD<1.24E+00	
[illegible]-139	LLD<2.52E-01		LLD<2.52E-01	
[illegible]-226	LLD<5.38E+00		LLD<5.38E+00	
BA-141	LLD<4.96E-01		LLD<4.96E-01	
KR-89	LLD<2.50E+00		LLD<2.50E+00	
TE-132	LLD<2.25E-01		LLD<2.25E-01	
XE-133M	LLD<2.42E+00		LLD<2.42E+00	
TH-227	LLD<1.80E+00		LLD<1.80E+00	
PB-212	1.47E+00	+- 3.86E-01	1.47E+00	+- 3.86E-01
RA-224	LLD<5.31E+00		LLD<5.31E+00	
XE-135	LLD<2.16E-01		LLD<2.16E-01	
XE-138	LLD<8.80E-01		LLD<8.80E-01	
SE-75	LLD<3.28E-01		LLD<3.28E-01	
NP-239	LLD<1.36E+00		LLD<1.36E+00	
HG-203	LLD<2.89E-01		LLD<2.89E-01	
IR-192	LLD<2.47E-01		LLD<2.47E-01	
CR-51	LLD<2.22E+00		LLD<2.22E+00	
SCM-000	LLD<1.06E+00		LLD<1.06E+00	
BI-211	LLD<7.15E+00		LLD<7.15E+00	
PB-214	1.22E+00	+- 4.81E-01	1.22E+00	+- 4.81E-01
BA-133	LLD<6.45E-01		LLD<6.45E-01	
I-131	LLD<2.55E-01		LLD<2.55E-01	
SN-113	LLD<3.47E-01		LLD<3.47E-01	
KR-87	LLD<4.44E-01		LLD<4.44E-01	
PB-211	LLD<9.49E+00		LLD<9.49E+00	
AU-198	LLD<2.48E-01		LLD<2.48E-01	
SB-125	LLD<7.81E-01		LLD<7.81E-01	
[illegible]-212	LLD<7.79E+01		LLD<7.79E+01	
[illegible]-7	LLD<2.15E+00		LLD<2.15E+00	
HF-181	LLD<2.73E-01		LLD<2.73E-01	
RU-103	LLD<2.19E-01		LLD<2.19E-01	
KR-85	LLD<7.35E+01		LLD<7.35E+01	

SR-85	LLD<3.21E-01		LLD<3.21E-01		
I-133	LLD<2.59E-01		LLD<2.59E-01		
BA-140	LLD<1.10E+00		LLD<1.10E+00		
Y-91M	LLD<2.97E-01		LLD<2.97E-01		
PB-207	LLD<2.36E-01		LLD<2.36E-01		
TL-208	LLD<9.93E-01		LLD<9.93E-01		
SB-124	LLD<2.95E-01		LLD<2.95E-01		
CS-134	LLD<6.03E-01		LLD<6.03E-01		
BI-214	7.64E-01	+- 5.96E-01	7.64E-01	+-	5.96E-01
RU-106	LLD<2.97E+00		LLD<2.97E+00		
LA-142	LLD<5.23E-01		LLD<5.23E-01		
AG-110M	LLD<5.37E-01		LLD<5.37E-01		
NB-97	LLD<5.11E-01		LLD<5.11E-01		
CS-137	2.99E-01	+- 1.95E-01	2.99E-01	+-	1.95E-01
I-132	LLD<3.78E-01		LLD<3.78E-01		
W-187	LLD<1.11E+00		LLD<1.11E+00		
ZR-97	LLD<3.39E-01		LLD<3.39E-01		
ZR-95	LLD<5.64E-01		LLD<5.64E-01		
NB-95	LLD<2.92E-01		LLD<2.92E-01		
TL-210	LLD<1.76E+00		LLD<1.76E+00		
CO-58	LLD<3.30E-01		LLD<3.30E-01		
CS-136	LLD<3.52E-01		LLD<3.52E-01		
MN-54	LLD<3.48E-01		LLD<3.48E-01		
CO-56	LLD<3.52E-01		LLD<3.52E-01		
I-134	LLD<3.86E-01		LLD<3.86E-01		
TL-207	LLD<1.75E+02		LLD<1.75E+02		
Y-88	LLD<2.47E-01		LLD<2.47E-01		
AC-228	LLD<1.75E+00		LLD<1.75E+00		
EU-152	LLD<3.56E+00		LLD<3.56E+00		
PA-234M	LLD<3.60E+00		LLD<3.60E+00		
ZR-91	LLD<7.77E-01		LLD<7.77E-01		
RB-89	LLD<7.68E-01		LLD<7.68E-01		
FE-59	LLD<6.34E-01		LLD<6.34E-01		
ZN-65	LLD<9.53E-01		LLD<9.53E-01		
SC-46	LLD<4.07E-01		LLD<4.07E-01		
TA-182	LLD<1.21E+00		LLD<1.21E+00		
I-135	LLD<1.97E+00		LLD<1.97E+00		
CL-39	LLD<7.76E-01		LLD<7.76E-01		
NA-22	LLD<4.93E-01		LLD<4.93E-01		
AR-41	LLD<3.85E-01		LLD<3.85E-01		
CO-60	LLD<2.92E-01		LLD<2.92E-01		
NA-24	LLD<1.78E-01		LLD<1.78E-01		
SR-92	LLD<3.90E-01		LLD<3.90E-01		
SCH-000	LLD<1.38E+00		LLD<1.38E+00		
CS-138	LLD<3.04E-01		LLD<3.04E-01		
K-40	2.01E+01	+- 4.50E+00	2.01E+01	+-	4.50E+00
KR-88	LLD<2.60E+00		LLD<2.60E+00		
TL-209	LLD<2.32E-01		LLD<2.32E-01		
LA-140	LLD<3.46E-01		LLD<3.46E-01		
AL-26	LLD<3.79E-01		LLD<3.79E-01		
MN-56	LLD<1.11E+00		LLD<1.11E+00		
RB-88	LLD<1.31E+00		LLD<1.31E+00		
	---		---		
Total	2.39E+01	+- 4.59E+00	2.39E+01	+-	4.59E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0071

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.58	295.68	62.	36.1	9.99E+00
600.53	300.16	31.	40.8	5.00E+00
927.12	463.36	18.	67.5	4.40E+00
1167.83	583.67	41.	33.5	1.30E+01

0↕☺

0↕♥♠ Pile Q C-94A, 94, 95, 96, 110, 111

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 16:15:38

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0072
Measured by: dlv

Sample Description: Q:94A,94,95,96,110,111
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 15:59:20

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 16:15:38

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.61	239.25	1.6	75.	154.	23.5	PB-212
2	676.96	338.35	1.1	15.	53.	34.9	AC-228
3	704.79	352.25	1.6	25.	68.	32.9	PB-214
4	1020.76	510.16	1.8	6.	41.	35.8	TL-208,NA-22, ANN-RD
5	1037.52	518.54	1.3	5.	11.	84.5	
6	1167.37	583.45	1.9	16.	38.	46.6	TL-208
7	1218.92	609.21	1.8	15.	42.	41.6	BI-214
8	1323.79	661.64	2.5	12.	18.	72.3	CS-137
9	2921.70	1461.18	1.5	8.	81.	24.8	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 04-DEC-95 16:15:38

Sample: Q:94A,94,95,96,110,1
ta collected on 04-DEC-95 at 15:59:20
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<3.20E+00		LLD<3.20E+00	
TH-234	LLD<2.87E+01		LLD<2.87E+01	
TH-230	LLD<2.28E+02		LLD<2.28E+02	
XE-133	LLD<1.59E+00		LLD<1.59E+00	
CD-109	LLD<9.74E+00		LLD<9.74E+00	
SCL-000	LLD<8.11E-01		LLD<8.11E-01	
CO-57	LLD<2.69E-01		LLD<2.69E-01	
PA-234	LLD<1.03E+00		LLD<1.03E+00	
CE-144	LLD<1.85E+00		LLD<1.85E+00	
TC-99M	LLD<2.02E-01		LLD<2.02E-01	
U-235	LLD<1.61E+00		LLD<1.61E+00	
CE-141	LLD<4.02E-01		LLD<4.02E-01	
KR-85M	LLD<2.54E-01		LLD<2.54E-01	
XE-131M	LLD<8.61E+00		LLD<8.61E+00	
BA-139	LLD<9.07E-01		LLD<9.07E-01	
[illegible]-139	LLD<1.84E-01		LLD<1.84E-01	
[illegible]-226	LLD<4.99E+00		LLD<4.99E+00	
BA-141	LLD<5.27E-01		LLD<5.27E-01	
KR-89	LLD<2.27E+00		LLD<2.27E+00	
TE-132	LLD<2.43E-01		LLD<2.43E-01	
XE-133M	LLD<2.54E+00		LLD<2.54E+00	
TH-227	LLD<2.10E+00		LLD<2.10E+00	
PB-212	1.73E+00	+- 4.10E-01	1.73E+00	+- 4.10E-01
RA-224	LLD<5.38E+00		LLD<5.38E+00	
XE-135	LLD<2.54E-01		LLD<2.54E-01	
XE-138	LLD<8.90E-01		LLD<8.90E-01	
SE-75	LLD<3.83E-01		LLD<3.83E-01	
NP-239	LLD<1.54E+00		LLD<1.54E+00	
HG-203	LLD<2.92E-01		LLD<2.92E-01	
IR-192	LLD<2.59E-01		LLD<2.59E-01	
CR-51	LLD<2.09E+00		LLD<2.09E+00	
SCM-000	LLD<1.09E+00		LLD<1.09E+00	
BI-211	LLD<7.84E+00		LLD<7.84E+00	
PB-214	1.51E+00	+- 4.96E-01	1.51E+00	+- 4.96E-01
BA-133	LLD<6.61E-01		LLD<6.61E-01	
I-131	LLD<2.72E-01		LLD<2.72E-01	
SN-113	LLD<3.77E-01		LLD<3.77E-01	
KR-87	LLD<5.01E-01		LLD<5.01E-01	
PB-211	LLD<9.83E+00		LLD<9.83E+00	
AU-198	LLD<2.48E-01		LLD<2.48E-01	
SB-125	LLD<7.86E-01		LLD<7.86E-01	
[illegible]-212	LLD<7.86E+01		LLD<7.86E+01	
[illegible]-7	LLD<2.48E+00		LLD<2.48E+00	
HF-181	LLD<3.52E-01		LLD<3.52E-01	
RU-103	LLD<2.87E-01		LLD<2.87E-01	
KR-85	LLD<9.40E+01		LLD<9.40E+01	

SR-85	LLD<4.11E-01		LLD<4.11E-01		
I-133	LLD<2.97E-01		LLD<2.97E-01		
BA-140	LLD<9.72E-01		LLD<9.72E-01		
Y-91M	LLD<2.81E-01		LLD<2.81E-01		
I-207	LLD<2.52E-01		LLD<2.52E-01		
TL-208	1.37E+00	+- 6.36E-01	1.37E+00	+-	6.36E-01
SB-124	LLD<3.32E-01		LLD<3.32E-01		
CS-134	LLD<6.35E-01		LLD<6.35E-01		
BI-214	1.35E+00	+- 5.63E-01	1.35E+00	+-	5.63E-01
RU-106	LLD<3.25E+00		LLD<3.25E+00		
LA-142	LLD<5.11E-01		LLD<5.11E-01		
AG-110M	LLD<5.79E-01		LLD<5.79E-01		
NB-97	LLD<5.52E-01		LLD<5.52E-01		
CS-137	2.81E-01	+- 2.03E-01	2.81E-01	+-	2.03E-01
I-132	LLD<3.97E-01		LLD<3.97E-01		
W-187	LLD<1.02E+00		LLD<1.02E+00		
ZR-97	LLD<3.40E-01		LLD<3.40E-01		
ZR-95	LLD<5.69E-01		LLD<5.69E-01		
NB-95	LLD<3.29E-01		LLD<3.29E-01		
TL-210	LLD<1.94E+00		LLD<1.94E+00		
CO-58	LLD<3.28E-01		LLD<3.28E-01		
CS-136	LLD<3.46E-01		LLD<3.46E-01		
MN-54	LLD<3.41E-01		LLD<3.41E-01		
CO-56	LLD<3.56E-01		LLD<3.56E-01		
I-134	LLD<4.02E-01		LLD<4.02E-01		
TL-207	LLD<2.63E+02		LLD<2.63E+02		
Y-88	LLD<3.65E-01		LLD<3.65E-01		
AC-228	LLD<1.77E+00		LLD<1.77E+00		
EU-152	LLD<3.66E+00		LLD<3.66E+00		
PA-234M	LLD<2.71E+00		LLD<2.71E+00		
ZR-91	LLD<1.45E+00		LLD<1.45E+00		
RB-89	LLD<8.30E-01		LLD<8.30E-01		
FE-59	LLD<7.40E-01		LLD<7.40E-01		
ZN-65	LLD<9.32E-01		LLD<9.32E-01		
SC-46	LLD<4.55E-01		LLD<4.55E-01		
TA-182	LLD<1.39E+00		LLD<1.39E+00		
I-135	LLD<1.22E+00		LLD<1.22E+00		
CL-39	LLD<1.16E+00		LLD<1.16E+00		
NA-22	LLD<5.27E-01		LLD<5.27E-01		
AR-41	LLD<4.11E-01		LLD<4.11E-01		
CO-60	LLD<3.18E-01		LLD<3.18E-01		
NA-24	LLD<3.43E-01		LLD<3.43E-01		
SR-92	LLD<4.06E-01		LLD<4.06E-01		
SCH-000	LLD<1.74E+00		LLD<1.74E+00		
CS-138	LLD<4.42E-01		LLD<4.42E-01		
K-40	1.98E+01	+- 4.97E+00	1.98E+01	+-	4.97E+00
KR-88	LLD<2.70E+00		LLD<2.70E+00		
TL-209	LLD<1.08E+00		LLD<1.08E+00		
LA-140	LLD<3.90E-01		LLD<3.90E-01		
AL-26	LLD<3.49E-01		LLD<3.49E-01		
MN-56	LLD<1.37E+00		LLD<1.37E+00		
RB-88	LLD<1.51E+00		LLD<1.51E+00		
	---		---		
Total	2.60E+01	+- 5.08E+00	2.60E+01	+-	5.08E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0072

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
676.96	338.35	53.	34.9	9.58E+00
1037.52	518.54	11.	84.5	3.20E+00

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0↕♥♠ Pile R c-79, 80

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 16:39:51

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0073
Measured by: dlv

Sample Description: R: 79, 80
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 16:19:59

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 16:39:51

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	186.98	93.58	1.5	128.	178.	24.2	TH-234
2	373.11	186.54	1.2	81.	116.	30.7	U-235,RA-226
3	478.53	239.21	1.9	85.	139.	26.4	PB-212
4	592.16	295.98	0.8	35.	32.	62.9	PB-214
5$	678.74	339.24	0.9	42.	18.	125.2	AC-228
6	705.50	352.61	1.6	33.	56.	40.6	PB-214
7	740.96	370.32	2.1	10.	13.	89.8	
8	1021.92	510.74	2.2	19.	24.	72.3	TL-208,NA-22, ANN-RD
9	1168.36	583.94	1.8	9.	37.	39.7	TL-208
10	1219.78	609.64	1.6	12.	59.	31.3	BI-214
11	1324.28	661.89	0.9	12.	37.	43.4	CS-137
12	1823.05	911.32	1.7	7.	21.	57.8	AC-228
13	2002.67	1001.18	1.5	2.	17.	52.5	PA234M
14	2921.42	1461.04	2.6	6.	93.	22.4	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 04-DEC-95 16:39:51

Sample: R: 79, 80
ta collected on 04-DEC-95 at 16:19:59
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.81E+00		LLD<4.81E+00	
TH-234	LLD<3.45E+01		LLD<3.45E+01	
TH-230	LLD<2.41E+02		LLD<2.41E+02	
XE-133	LLD<1.87E+00		LLD<1.87E+00	
CD-109	LLD<1.29E+01		LLD<1.29E+01	
SCL-000	LLD<8.31E-01		LLD<8.31E-01	
CO-57	LLD<2.76E-01		LLD<2.76E-01	
PA-234	LLD<1.12E+00		LLD<1.12E+00	
CE-144	LLD<2.03E+00		LLD<2.03E+00	
TC-99M	LLD<2.53E-01		LLD<2.53E-01	
U-235	LLD<1.72E+00		LLD<1.72E+00	
CE-141	LLD<4.52E-01		LLD<4.52E-01	
KR-85M	LLD<2.70E-01		LLD<2.70E-01	
XE-131M	LLD<9.63E+00		LLD<9.63E+00	
BA-139	LLD<1.10E+00		LLD<1.10E+00	
[illegible]-139	LLD<2.23E-01		LLD<2.23E-01	
[illegible]-226	1.32E+01	+- 4.06E+00	1.32E+01	+- 4.06E+00
BA-141	LLD<7.22E-01		LLD<7.22E-01	
KR-89	LLD<2.34E+00		LLD<2.34E+00	
TE-132	LLD<2.48E-01		LLD<2.48E-01	
XE-133M	LLD<2.66E+00		LLD<2.66E+00	
TH-227	LLD<2.24E+00		LLD<2.24E+00	
PB-212	1.61E+00	+- 4.29E-01	1.61E+00	+- 4.29E-01
RA-224	LLD<5.78E+00		LLD<5.78E+00	
XE-135	LLD<2.51E-01		LLD<2.51E-01	
XE-138	LLD<9.83E-01		LLD<9.83E-01	
SE-75	LLD<4.23E-01		LLD<4.23E-01	
NP-239	LLD<1.74E+00		LLD<1.74E+00	
HG-203	LLD<3.00E-01		LLD<3.00E-01	
IR-192	LLD<2.69E-01		LLD<2.69E-01	
CR-51	LLD<2.49E+00		LLD<2.49E+00	
SCM-000	LLD<1.19E+00		LLD<1.19E+00	
BI-211	LLD<8.49E+00		LLD<8.49E+00	
PB-214	1.27E+00	+- 5.15E-01	1.27E+00	+- 5.15E-01
BA-133	LLD<6.41E-01		LLD<6.41E-01	
I-131	LLD<2.42E-01		LLD<2.42E-01	
SN-113	LLD<4.03E-01		LLD<4.03E-01	
KR-87	LLD<5.00E-01		LLD<5.00E-01	
PB-211	LLD<9.95E+00		LLD<9.95E+00	
AU-198	LLD<2.76E-01		LLD<2.76E-01	
SB-125	LLD<7.94E-01		LLD<7.94E-01	
[illegible]-212	LLD<1.04E+02		LLD<1.04E+02	
[illegible]-7	LLD<2.63E+00		LLD<2.63E+00	
HF-181	LLD<3.34E-01		LLD<3.34E-01	
RU-103	LLD<2.74E-01		LLD<2.74E-01	
KR-85	LLD<7.98E+01		LLD<7.98E+01	

SR-85	LLD<3.49E-01		LLD<3.49E-01		
I-133	LLD<3.19E-01		LLD<3.19E-01		
BA-140	LLD<9.61E-01		LLD<9.61E-01		
Y-91M	LLD<3.51E-01		LLD<3.51E-01		
[illegible]-207	LLD<3.38E-01		LLD<3.38E-01		
TL-208	1.39E+00	+- 5.52E-01	1.39E+00	+-	5.52E-01
SB-124	LLD<3.74E-01		LLD<3.74E-01		
CS-134	LLD<6.69E-01		LLD<6.69E-01		
BI-214	1.95E+00	+- 6.14E-01	1.95E+00	+-	6.14E-01
RU-106	LLD<2.85E+00		LLD<2.85E+00		
LA-142	LLD<5.85E-01		LLD<5.85E-01		
AG-110M	LLD<7.01E-01		LLD<7.01E-01		
NB-97	LLD<6.67E-01		LLD<6.67E-01		
CS-137	5.79E-01	+- 2.51E-01	5.79E-01	+-	2.51E-01
I-132	LLD<4.58E-01		LLD<4.58E-01		
W-187	LLD<1.02E+00		LLD<1.02E+00		
ZR-97	LLD<2.81E-01		LLD<2.81E-01		
ZR-95	LLD<6.56E-01		LLD<6.56E-01		
NB-95	LLD<4.21E-01		LLD<4.21E-01		
TL-210	LLD<2.05E+00		LLD<2.05E+00		
CO-58	LLD<3.08E-01		LLD<3.08E-01		
CS-136	LLD<2.37E-01		LLD<2.37E-01		
MN-54	LLD<4.12E-01		LLD<4.12E-01		
CO-56	LLD<4.32E-01		LLD<4.32E-01		
I-134	LLD<5.24E-01		LLD<5.24E-01		
TL-207	LLD<2.37E+02		LLD<2.37E+02		
Y-88	LLD<3.59E-01		LLD<3.59E-01		
AC-228	1.48E+00	+- 8.57E-01	1.48E+00	+-	8.57E-01
EU-152	LLD<3.85E+00		LLD<3.85E+00		
[illegible]-234M	LLD<4.52E+00		LLD<4.52E+00		
[illegible]-91	LLD<1.12E+00		LLD<1.12E+00		
RB-89	LLD<5.32E-01		LLD<5.32E-01		
FE-59	LLD<8.70E-01		LLD<8.70E-01		
ZN-65	LLD<8.66E-01		LLD<8.66E-01		
SC-46	LLD<3.90E-01		LLD<3.90E-01		
TA-182	LLD<1.12E+00		LLD<1.12E+00		
I-135	LLD<1.40E+00		LLD<1.40E+00		
CL-39	LLD<9.88E-01		LLD<9.88E-01		
NA-22	LLD<4.91E-01		LLD<4.91E-01		
AR-41	LLD<3.79E-01		LLD<3.79E-01		
CO-60	LLD<4.89E-01		LLD<4.89E-01		
NA-24	LLD<2.88E-01		LLD<2.88E-01		
SR-92	LLD<4.18E-01		LLD<4.18E-01		
SCH-000	LLD<1.45E+00		LLD<1.45E+00		
CS-138	LLD<4.55E-01		LLD<4.55E-01		
K-40	2.34E+01	+- 5.31E+00	2.34E+01	+-	5.31E+00
KR-88	LLD<2.95E+00		LLD<2.95E+00		
TL-209	LLD<9.96E-01		LLD<9.96E-01		
LA-140	LLD<5.03E-01		LLD<5.03E-01		
AL-26	LLD<2.18E-01		LLD<2.18E-01		
MN-56	LLD<8.17E-01		LLD<8.17E-01		
RB-88	LLD<1.23E+00		LLD<1.23E+00		
	---		---		
Total	4.48E+01	+- 6.83E+00	4.48E+01	+-	6.83E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0073

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
186.98	93.58	178.	24.2	2.62E+01
592.16	295.98	32.	62.9	5.15E+00
678.74	339.24	18.	125.2	3.23E+00
740.96	370.32	13.	89.8	2.57E+00
2002.67	1001.18	17.	52.5	9.10E+00

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0↕♥♠ Pile J C-101, 102, 115, 116

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 17:06:40

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0074
Measured by: dlv

Sample Description: J: 101,102,115,116 S
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.9500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 16:41:00

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 17:06:40

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.74	239.31	1.1	73.	124.	28.1	PB-212
2	591.73	295.76	2.2	36.	41.	54.7	PB-214
3	677.62	338.68	0.7	22.	21.	79.9	AC-228
4	705.50	352.61	1.4	31.	53.	42.7	PB-214
5	1167.66	583.59	1.8	10.	45.	36.5	TL-208
6	1219.28	609.39	2.5	15.	50.	36.7	BI-214
7	1324.63	662.06	1.1	13.	18.	78.6	CS-137
8	1454.63	727.06	1.3	6.	17.	65.2	BI-212
9	1822.52	911.06	1.0	9.	16.	81.9	AC-228
10	1938.77	969.21	0.7	6.	17.	65.2	AC-228,RU-105
11	2082.81	1041.28	0.5	1.	7.	93.0	
12	2474.78	1237.43	1.8	6.	10.	103.7	I-133,BI-214, CO-56
13	2922.45	1461.56	2.7	10.	70.	27.3	K-40
14	3529.73	1765.74	1.5	0.	10.	62.0	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 04-DEC-95 17:06:40

Sample: J: 101,102,115,116 S
ta collected on 04-DEC-95 at 16:41:00
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.50E+00		LLD<3.50E+00	
TH-234	LLD<2.81E+01		LLD<2.81E+01	
TH-230	LLD<2.16E+02		LLD<2.16E+02	
XE-133	LLD<1.48E+00		LLD<1.48E+00	
CD-109	LLD<1.03E+01		LLD<1.03E+01	
SCL-000	LLD<7.57E-01		LLD<7.57E-01	
CO-57	LLD<2.51E-01		LLD<2.51E-01	
PA-234	LLD<9.22E-01		LLD<9.22E-01	
CE-144	LLD<1.88E+00		LLD<1.88E+00	
TC-99M	LLD<2.11E-01		LLD<2.11E-01	
U-235	LLD<1.36E+00		LLD<1.36E+00	
CE-141	LLD<3.28E-01		LLD<3.28E-01	
KR-85M	LLD<2.57E-01		LLD<2.57E-01	
XE-131M	LLD<8.92E+00		LLD<8.92E+00	
BA-139	LLD<1.00E+00		LLD<1.00E+00	
[illegible]-139	LLD<2.03E-01		LLD<2.03E-01	
[illegible] 226	LLD<5.75E+00		LLD<5.75E+00	
BA-141	LLD<4.84E-01		LLD<4.84E-01	
KR-89	LLD<2.46E+00		LLD<2.46E+00	
TE-132	LLD<2.13E-01		LLD<2.13E-01	
XE-133M	LLD<2.16E+00		LLD<2.16E+00	
TH-227	LLD<1.96E+00		LLD<1.96E+00	
PB-212	1.41E+00	+- 3.99E-01	1.41E+00	+- 3.99E-01
RA-224	LLD<5.84E+00		LLD<5.84E+00	
XE-135	LLD<2.78E-01		LLD<2.78E-01	
XE-138	LLD<9.17E-01		LLD<9.17E-01	
SE-75	LLD<3.31E-01		LLD<3.31E-01	
NP-239	LLD<1.53E+00		LLD<1.53E+00	
HG-203	LLD<2.76E-01		LLD<2.76E-01	
IR-192	LLD<2.58E-01		LLD<2.58E-01	
CR-51	LLD<2.36E+00		LLD<2.36E+00	
SCM-000	LLD<1.14E+00		LLD<1.14E+00	
BI-211	LLD<7.83E+00		LLD<7.83E+00	
PB-214	1.19E+00	+- 5.07E-01	1.19E+00	+- 5.07E-01
BA-133	LLD<5.83E-01		LLD<5.83E-01	
I-131	LLD<2.91E-01		LLD<2.91E-01	
SN-113	LLD<3.62E-01		LLD<3.62E-01	
KR-87	LLD<4.77E-01		LLD<4.77E-01	
PB-211	LLD<1.03E+01		LLD<1.03E+01	
AU-198	LLD<2.88E-01		LLD<2.88E-01	
SB-125	LLD<7.51E-01		LLD<7.51E-01	
[illegible] 212	LLD<7.81E+01		LLD<7.81E+01	
[illegible]-7	LLD<2.58E+00		LLD<2.58E+00	
HF-181	LLD<3.39E-01		LLD<3.39E-01	
RU-103	LLD<2.52E-01		LLD<2.52E-01	
KR-85	LLD<6.98E+01		LLD<6.98E+01	

SR-85	LLD<3.05E-01		LLD<3.05E-01		
I-133	LLD<2.52E-01		LLD<2.52E-01		
BA-140	LLD<9.35E-01		LLD<9.35E-01		
Y-91M	LLD<3.18E-01		LLD<3.18E-01		
PB-207	LLD<2.67E-01		LLD<2.67E-01		
TL-208	LLD<1.14E+00		LLD<1.14E+00		
SB-124	LLD<3.48E-01		LLD<3.48E-01		
CS-134	LLD<6.73E-01		LLD<6.73E-01		
BI-214	1.63E+00	+- 6.00E-01	1.63E+00	+-	6.00E-01
RU-106	LLD<2.88E+00		LLD<2.88E+00		
LA-142	LLD<5.53E-01		LLD<5.53E-01		
AG-110M	LLD<5.68E-01		LLD<5.68E-01		
NB-97	LLD<5.41E-01		LLD<5.41E-01		
CS-137	2.77E-01	+- 2.18E-01	2.77E-01	+-	2.18E-01
I-132	LLD<4.03E-01		LLD<4.03E-01		
W-187	LLD<1.25E+00		LLD<1.25E+00		
ZR-97	LLD<4.34E-01		LLD<4.34E-01		
ZR-95	LLD<4.44E-01		LLD<4.44E-01		
NB-95	LLD<2.92E-01		LLD<2.92E-01		
TL-210	LLD<2.09E+00		LLD<2.09E+00		
CO-58	LLD<3.44E-01		LLD<3.44E-01		
CS-136	LLD<2.93E-01		LLD<2.93E-01		
MN-54	LLD<3.87E-01		LLD<3.87E-01		
CO-56	LLD<3.78E-01		LLD<3.78E-01		
I-134	LLD<4.61E-01		LLD<4.61E-01		
TL-207	LLD<2.27E+02		LLD<2.27E+02		
Y-88	LLD<3.23E-01		LLD<3.23E-01		
AC-228	1.06E+00	+- 8.68E-01	1.06E+00	+-	8.68E-01
EU-152	LLD<4.27E+00		LLD<4.27E+00		
PA-234M	LLD<4.95E+00		LLD<4.95E+00		
ER-91	LLD<1.16E+00		LLD<1.16E+00		
RB-89	LLD<8.12E-01		LLD<8.12E-01		
FE-59	LLD<8.52E-01		LLD<8.52E-01		
ZN-65	LLD<1.29E+00		LLD<1.29E+00		
SC-46	LLD<5.36E-01		LLD<5.36E-01		
TA-182	LLD<1.63E+00		LLD<1.63E+00		
I-135	LLD<1.83E+00		LLD<1.83E+00		
CL-39	LLD<9.20E-01		LLD<9.20E-01		
NA-22	LLD<4.52E-01		LLD<4.52E-01		
AR-41	LLD<4.28E-01		LLD<4.28E-01		
CO-60	LLD<4.86E-01		LLD<4.86E-01		
NA-24	LLD<3.73E-01		LLD<3.73E-01		
SR-92	LLD<5.20E-01		LLD<5.20E-01		
SCH-000	LLD<1.67E+00		LLD<1.67E+00		
CS-138	LLD<3.85E-01		LLD<3.85E-01		
K-40	1.75E+01	+- 4.81E+00	1.75E+01	+-	4.81E+00
KR-88	LLD<3.60E+00		LLD<3.60E+00		
TL-209	LLD<9.14E-01		LLD<9.14E-01		
LA-140	LLD<3.32E-01		LLD<3.32E-01		
AL-26	LLD<1.75E-01		LLD<1.75E-01		
MN-56	LLD<6.56E-01		LLD<6.56E-01		
RB-88	LLD<1.91E+00		LLD<1.91E+00		
	---		---		
Total	2.30E+01	+- 4.97E+00	2.30E+01	+-	4.97E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0074

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.73	295.76	41.	54.7	6.57E+00
677.62	338.68	21.	79.9	3.81E+00
1167.66	583.59	45.	36.5	1.43E+01
1454.63	727.06	17.	65.2	6.65E+00
1938.77	969.21	17.	65.2	8.67E+00
2082.81	1041.28	7.	93.0	3.58E+00
2474.78	1237.43	10.	103.7	6.16E+00
3529.73	1765.74	10.	62.0	7.42E+00

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0↕♥♠ Pile I c-103, 104, 117, 118

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 04-DEC-95 17:20:20

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0075
Measured by: dlv

Sample Description: I:103,104,117,118 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.1400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 17:07:35

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 04-DEC-95 17:20:20

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.65	239.27	1.5	81.	115.	30.9	PB-212
2	704.80	352.26	1.5	31.	71.	33.6	PB-214
3	1167.04	583.28	1.7	12.	42.	39.7	TL-208
4	1219.44	609.48	1.7	5.	57.	28.6	BI-214
5	1938.12	968.89	1.6	9.	19.	66.5	AC-228,RU-105
6	2921.68	1461.17	2.1	6.	69.	26.1	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 04-DEC-95 17:20:20

Sample: I:103,104,117,118 So
:a collected on 04-DEC-95 at 17:07:35
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.16E+00		LLD<3.16E+00	
TH-234	LLD<2.55E+01		LLD<2.55E+01	
TH-230	LLD<2.06E+02		LLD<2.06E+02	
XE-133	LLD<1.64E+00		LLD<1.64E+00	
CD-109	LLD<1.01E+01		LLD<1.01E+01	
SCL-000	LLD<7.02E-01		LLD<7.02E-01	
CO-57	LLD<2.33E-01		LLD<2.33E-01	
PA-234	LLD<8.97E-01		LLD<8.97E-01	
CE-144	LLD<1.94E+00		LLD<1.94E+00	
TC-99M	LLD<2.10E-01		LLD<2.10E-01	
U-235	LLD<1.87E+00		LLD<1.87E+00	
CE-141	LLD<3.95E-01		LLD<3.95E-01	
KR-85M	LLD<2.42E-01		LLD<2.42E-01	
XE-131M	LLD<8.51E+00		LLD<8.51E+00	
BA-139	LLD<9.96E-01		LLD<9.96E-01	
[illegible]-139	LLD<2.02E-01		LLD<2.02E-01	
[illegible]-226	LLD<4.81E+00		LLD<4.81E+00	
BA-141	LLD<4.91E-01		LLD<4.91E-01	
KR-89	LLD<2.43E+00		LLD<2.43E+00	
TE-132	LLD<1.94E-01		LLD<1.94E-01	
XE-133M	LLD<1.95E+00		LLD<1.95E+00	
TH-227	LLD<1.87E+00		LLD<1.87E+00	
PB-212	1.27E+00	+- 3.96E-01	1.27E+00	+- 3.96E-01
RA-224	LLD<5.24E+00		LLD<5.24E+00	
XE-135	LLD<2.30E-01		LLD<2.30E-01	
XE-138	LLD<8.25E-01		LLD<8.25E-01	
SE-75	LLD<3.38E-01		LLD<3.38E-01	
NP-239	LLD<1.45E+00		LLD<1.45E+00	
HG-203	LLD<2.73E-01		LLD<2.73E-01	
IR-192	LLD<2.52E-01		LLD<2.52E-01	
CR-51	LLD<2.05E+00		LLD<2.05E+00	
SCM-000	LLD<1.08E+00		LLD<1.08E+00	
BI-211	LLD<6.83E+00		LLD<6.83E+00	
PB-214	1.55E+00	+- 5.23E-01	1.55E+00	+- 5.23E-01
BA-133	LLD<7.15E-01		LLD<7.15E-01	
I-131	LLD<2.93E-01		LLD<2.93E-01	
SN-113	LLD<3.68E-01		LLD<3.68E-01	
KR-87	LLD<4.36E-01		LLD<4.36E-01	
PB-211	LLD<8.22E+00		LLD<8.22E+00	
AU-198	LLD<2.81E-01		LLD<2.81E-01	
SB-125	LLD<7.57E-01		LLD<7.57E-01	
[illegible] 212	LLD<7.84E+01		LLD<7.84E+01	
[illegible]-7	LLD<2.52E+00		LLD<2.52E+00	
HF-181	LLD<3.12E-01		LLD<3.12E-01	
RU-103	LLD<2.48E-01		LLD<2.48E-01	
KR-85	LLD<7.89E+01		LLD<7.89E+01	

SR-85	LLD<3.45E-01		LLD<3.45E-01		
I-133	LLD<3.14E-01		LLD<3.14E-01		
BA-140	LLD<1.11E+00		LLD<1.11E+00		
Y-91M	LLD<2.52E-01		LLD<2.52E-01		
PB-207	LLD<2.32E-01		LLD<2.32E-01		
TL-208	LLD<1.20E+00		LLD<1.20E+00		
SB-124	LLD<3.00E-01		LLD<3.00E-01		
CS-134	LLD<6.35E-01		LLD<6.35E-01		
BI-214	1.83E+00	+- 5.25E-01	1.83E+00	+-	5.25E-01
RU-106	LLD<3.61E+00		LLD<3.61E+00		
LA-142	LLD<5.97E-01		LLD<5.97E-01		
AG-110M	LLD<3.48E-01		LLD<3.48E-01		
NB-97	LLD<3.31E-01		LLD<3.31E-01		
CS-137	LLD<3.66E-01		LLD<3.66E-01		
I-132	LLD<3.38E-01		LLD<3.38E-01		
W-187	LLD<1.18E+00		LLD<1.18E+00		
ZR-97	LLD<2.82E-01		LLD<2.82E-01		
ZR-95	LLD<5.18E-01		LLD<5.18E-01		
NB-95	LLD<3.20E-01		LLD<3.20E-01		
TL-210	LLD<2.13E+00		LLD<2.13E+00		
CO-58	LLD<3.45E-01		LLD<3.45E-01		
CS-136	LLD<2.85E-01		LLD<2.85E-01		
MN-54	LLD<3.14E-01		LLD<3.14E-01		
CO-56	LLD<3.57E-01		LLD<3.57E-01		
I-134	LLD<4.36E-01		LLD<4.36E-01		
TL-207	LLD<2.66E+02		LLD<2.66E+02		
Y-88	LLD<3.74E-01		LLD<3.74E-01		
AC-228	LLD<1.93E+00		LLD<1.93E+00		
EU-152	LLD<5.03E+00		LLD<5.03E+00		
PA-234M	LLD<3.18E+00		LLD<3.18E+00		
ER-91	LLD<1.20E+00		LLD<1.20E+00		
RB-89	LLD<8.28E-01		LLD<8.28E-01		
FE-59	LLD<6.23E-01		LLD<6.23E-01		
ZN-65	LLD<1.09E+00		LLD<1.09E+00		
SC-46	LLD<4.99E-01		LLD<4.99E-01		
TA-182	LLD<1.48E+00		LLD<1.48E+00		
I-135	LLD<1.71E+00		LLD<1.71E+00		
CL-39	LLD<1.03E+00		LLD<1.03E+00		
NA-22	LLD<4.93E-01		LLD<4.93E-01		
AR-41	LLD<3.64E-01		LLD<3.64E-01		
CO-60	LLD<4.48E-01		LLD<4.48E-01		
NA-24	LLD<3.63E-01		LLD<3.63E-01		
SR-92	LLD<4.45E-01		LLD<4.45E-01		
SCH-000	LLD<1.88E+00		LLD<1.88E+00		
CS-138	LLD<5.34E-01		LLD<5.34E-01		
K-40	1.68E+01	+- 4.43E+00	1.68E+01	+-	4.43E+00
KR-88	LLD<1.82E+00		LLD<1.82E+00		
TL-209	LLD<8.94E-01		LLD<8.94E-01		
LA-140	LLD<3.23E-01		LLD<3.23E-01		
AL-26	LLD<1.70E-01		LLD<1.70E-01		
MN-56	LLD<6.39E-01		LLD<6.39E-01		
RB-88	LLD<9.63E-01		LLD<9.63E-01		
	---		---		
Total	2.14E+01	+- 4.51E+00	2.14E+01	+-	4.51E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0075

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1167.04	583.28	42.	39.7	1.31E+01
1938.12	968.89	19.	66.5	9.68E+00

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0:♥♠ Pile R C-79, 80

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GAMMA SPECTRUM ANALYSIS

* *

CANBERRA SPECTRAN-AT V4.2a

hgtrw

05-DEC-95 07:33:04

ANALYSIS PARAMETERS

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Tabular Output.
Analysis of Spectrum saved in Disk File SD0073
Measured by: dlv

Sample Description: R: 79, 80 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 04-DEC-95 at 17:44:38

COLLECT Live Time: 3600. seconds
Real Time: 4702. seconds
Dead Time: 23.44 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 04-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 05-DEC-95 07:33:04

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1$	186.46	93.32	1.6	559.	494.	26.6	TH-234,TH-234
2	372.67	186.32	1.4	327.	418.	16.7	U-235,RA-226
3	478.48	239.18	1.6	279.	449.	15.0	PB-212
4	591.66	295.72	0.9	145.	124.	34.8	PB-214
5	677.61	338.67	1.9	88.	110.	31.8	AC-228
6	704.99	352.35	1.9	92.	223.	18.2	PB-214
7	1167.19	583.35	2.0	52.	120.	25.8	TL-208
8	1219.37	609.44	1.6	75.	119.	28.8	BI-214
9	1323.68	661.59	1.9	47.	145.	22.4	CS-137
10	1821.96	910.78	2.4	44.	66.	40.4	AC-228
11$	2001.93	1000.81	1.5	23.	32.	59.2	PA234M
12	2921.28	1460.97	2.1	15.	281.	12.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 05-DEC-95 07:33:04

Sample: R: 79, 80 Soil
ta collected on 04-DEC-95 at 17:44:38
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<1.67E+00		LLD<1.67E+00	
TH-234	LLD<1.14E+01		LLD<1.14E+01	
TH-230	LLD<9.44E+01		LLD<9.44E+01	
XE-133	LLD<6.31E-01		LLD<6.31E-01	
CD-109	LLD<4.81E+00		LLD<4.81E+00	
SCL-000	LLD<2.72E-01		LLD<2.72E-01	
CO-57	LLD<9.03E-02		LLD<9.03E-02	
PA-234	LLD<3.46E-01		LLD<3.46E-01	
CE-144	LLD<6.58E-01		LLD<6.58E-01	
TC-99M	LLD<9.19E-02		LLD<9.19E-02	
U-235	LLD<5.91E-01		LLD<5.91E-01	
CE-141	LLD<1.33E-01		LLD<1.33E-01	
KR-85M	LLD<9.25E-02		LLD<9.25E-02	
XE-131M	LLD<3.00E+00		LLD<3.00E+00	
BA-139	LLD<4.77E-01		LLD<4.77E-01	
[illegible]-139	LLD<7.41E-02		LLD<7.41E-02	
[illegible]-226	7.94E+00	+- 1.34E+00	7.94E+00	+- 1.34E+00
BA-141	LLD<6.13E-01		LLD<6.13E-01	
KR-89	LLD<5.55E+00		LLD<5.55E+00	
TE-132	LLD<7.48E-02		LLD<7.48E-02	
XE-133M	LLD<7.70E-01		LLD<7.70E-01	
TH-227	LLD<6.46E-01		LLD<6.46E-01	
PB-212	9.03E-01	+- 1.39E-01	9.03E-01	+- 1.39E-01
RA-224	LLD<1.80E+00		LLD<1.80E+00	
XE-135	LLD<7.61E-02		LLD<7.61E-02	
XE-138	LLD<8.73E-01		LLD<8.73E-01	
SE-75	LLD<1.18E-01		LLD<1.18E-01	
NP-239	LLD<5.13E-01		LLD<5.13E-01	
HG-203	LLD<1.02E-01		LLD<1.02E-01	
IR-192	LLD<8.68E-02		LLD<8.68E-02	
CR-51	LLD<7.35E-01		LLD<7.35E-01	
SCM-000	LLD<3.60E-01		LLD<3.60E-01	
BI-211	LLD<1.49E+01		LLD<1.49E+01	
PB-214	1.74E+00	+- 3.18E-01	1.74E+00	+- 3.18E-01
BA-133	LLD<2.07E-01		LLD<2.07E-01	
I-131	LLD<9.52E-02		LLD<9.52E-02	
SN-113	LLD<1.23E-01		LLD<1.23E-01	
KR-87	LLD<2.31E-01		LLD<2.31E-01	
PB-211	LLD<5.29E+00		LLD<5.29E+00	
AU-198	LLD<8.64E-02		LLD<8.64E-02	
SB-125	LLD<2.42E-01		LLD<2.42E-01	
[illegible]-212	LLD<4.43E+01		LLD<4.43E+01	
[illegible]-7	LLD<8.26E-01		LLD<8.26E-01	
HF-181	LLD<1.16E-01		LLD<1.16E-01	
RU-103	LLD<1.01E-01		LLD<1.01E-01	
KR-85	LLD<2.16E+01		LLD<2.16E+01	

SR-85	LLD<9.44E-02		LLD<9.44E-02		
I-133	LLD<1.02E-01		LLD<1.02E-01		
BA-140	LLD<3.00E-01		LLD<3.00E-01		
Y-91M	LLD<1.54E-01		LLD<1.54E-01		
PI-207	LLD<9.19E-02		LLD<9.19E-02		
TL-208	LLD<2.04E+00		LLD<2.04E+00		
SB-124	LLD<1.15E-01		LLD<1.15E-01		
CS-134	LLD<1.90E-01		LLD<1.90E-01		
BI-214	1.62E+00	+- 4.69E-01	1.62E+00	+-	4.69E-01
RU-106	LLD<8.38E-01		LLD<8.38E-01		
LA-142	LLD<2.40E-01		LLD<2.40E-01		
AG-110M	LLD<2.17E-01		LLD<2.17E-01		
NB-97	LLD<2.81E-01		LLD<2.81E-01		
CS-137	3.77E-01	+- 8.52E-02	3.77E-01	+-	8.52E-02
I-132	LLD<1.79E-01		LLD<1.79E-01		
W-187	LLD<3.03E-01		LLD<3.03E-01		
ZR-97	LLD<9.50E-02		LLD<9.50E-02		
ZR-95	LLD<1.67E-01		LLD<1.67E-01		
NB-95	LLD<1.15E-01		LLD<1.15E-01		
TL-210	LLD<5.41E+00		LLD<5.41E+00		
CO-58	LLD<9.81E-02		LLD<9.81E-02		
CS-136	LLD<1.12E-01		LLD<1.12E-01		
MN-54	LLD<1.12E-01		LLD<1.12E-01		
CO-56	LLD<9.89E-02		LLD<9.89E-02		
I-134	LLD<1.84E-01		LLD<1.84E-01		
TL-207	LLD<4.70E+02		LLD<4.70E+02		
Y-88	LLD<1.12E-01		LLD<1.12E-01		
AC-228	8.18E-01	+- 3.31E-01	8.18E-01	+-	3.31E-01
EU-152	LLD<9.83E-01		LLD<9.83E-01		
PA-234M	LLD<9.68E+00		LLD<9.68E+00		
KR-91	LLD<3.70E-01		LLD<3.70E-01		
RB-89	LLD<6.83E-01		LLD<6.83E-01		
FE-59	LLD<1.97E-01		LLD<1.97E-01		
ZN-65	LLD<3.50E-01		LLD<3.50E-01		
SC-46	LLD<1.45E-01		LLD<1.45E-01		
TA-182	LLD<3.88E-01		LLD<3.88E-01		
I-135	LLD<4.39E-01		LLD<4.39E-01		
CL-39	LLD<3.67E-01		LLD<3.67E-01		
NA-22	LLD<9.72E-02		LLD<9.72E-02		
AR-41	LLD<1.48E-01		LLD<1.48E-01		
CO-60	LLD<1.13E-01		LLD<1.13E-01		
NA-24	LLD<1.27E-01		LLD<1.27E-01		
SR-92	LLD<1.43E-01		LLD<1.43E-01		
SCH-000	LLD<4.83E-01		LLD<4.83E-01		
CS-138	LLD<2.41E-01		LLD<2.41E-01		
K-40	1.18E+01	+- 1.55E+00	1.18E+01	+-	1.55E+00
KR-88	LLD<8.03E-01		LLD<8.03E-01		
TL-209	LLD<2.29E+00		LLD<2.29E+00		
LA-140	LLD<7.88E-02		LLD<7.88E-02		
AL-26	LLD<6.78E-02		LLD<6.78E-02		
MN-56	LLD<4.02E-01		LLD<4.02E-01		
RB-88	LLD<1.19E+00		LLD<1.19E+00		
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Total	2.52E+01	+- 2.16E+00	2.52E+01	+-	2.16E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0073

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
186.46	93.32	494.	26.6	1.22E+01
591.66	295.72	124.	34.8	3.32E+00
677.61	338.67	110.	31.8	3.33E+00
1167.19	583.35	120.	25.8	6.30E+00
2001.93	1000.81	32.	59.2	2.82E+00

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GAMMA SPECTROSCOPY RESULTS FROM 12/5/95

Auto cal 12/5

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*                                                                   *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N      *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 05-DEC-95 08:53:57

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description:
COLLECT started on 05-DEC-95 at 08:25:41

COLLECT Live Time: 1188. sec.

hgtrw 05-DEC-95 08:53:57

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.16	40.23	1.7	30522.	5094.	15.5	
2C	91.89	46.09	1.7	24863.	2267.	21.9	
3C	148.65	74.44	1.7	37442.	1371.	48.2	PB-214
4C	170.13	85.16	3.1	78490.	3924.	19.7	
5C	176.31	88.25	3.1	83481.	3932.	19.8	PB-214,CD-109
6C	182.97	91.57	3.1	88857.	2419.	24.5	TH-234
7?	239.42	119.77	1.6	36056.	11210.	45.6	
8?	244.41	122.26	1.6	34202.	178979.	2.9	SCL-000,CO-57
9?	485.02	242.45	1.6	14042.	1952.	37.6	PB-214
10?	490.11	244.99	1.6	13545.	34952.	3.9	
11?	495.94	247.90	1.6	12975.	1121.	56.0	
12	592.61	296.20	1.4	10198.	1642.	19.7	
13?	682.26	341.00	1.7	9082.	4297.	40.3	CS-136
14?	689.08	344.40	1.7	9922.	88973.	2.1	BA-141, SCM-000
15	736.02	367.86	1.7	7283.	2717.	10.7	
16C	822.63	411.14	1.8	5946.	6070.	6.6	AU-198
17C	831.69	415.67	1.8	5678.	379.	33.3	SB-126
18C	881.10	440.35	1.8	5379.	449.	33.2	
19C	888.29	443.95	1.8	5489.	7708.	5.2	
20	977.81	488.69	1.7	4884.	732.	29.7	
21	1128.06	563.79	2.0	6377.	1136.	23.6	CS-134,SB-122
22	1172.73	586.12	1.7	4742.	741.	29.0	
23	1357.21	678.35	1.5	4787.	726.	31.1	AG110M
24	1377.16	688.33	1.8	5015.	1316.	18.3	
25	1437.65	718.57	2.0	3646.	296.	61.1	
26?	1552.12	775.82	2.0	4287.	1084.	41.7	BR-82
27?	1557.49	778.50	2.0	4444.	18737.	3.1	MO-99
28C	1620.47	810.00	1.4	3949.	367.	55.3	I-132,CO-58
29	1734.28	866.92	2.1	4539.	5276.	5.0	
30C	1838.00	918.80	2.1	2234.	532.	28.2	
31	1851.98	925.79	1.3	2494.	185.	84.7	PA-234
32?	1920.72	960.18	2.2	2525.	1060.	25.7	
33?	1927.37	963.51	2.2	2604.	18370.	2.4	EU-152
34	2009.52	1004.61	2.1	2102.	866.	18.8	
35?	2170.62	1085.22	2.1	4830.	9870.	3.0	EU-152
36?	2216.83	1108.34	2.3	2006.	1159.	25.0	
37?	2223.19	1111.52	2.3	2095.	15089.	2.8	TE-129,EU-152
38	2424.83	1212.43	2.1	1193.	1386.	9.7	
39C	2547.74	1273.96	2.0	566.	264.	40.1	NA-22
40	2597.05	1298.64	2.1	565.	1445.	7.4	I-133
41?	2807.16	1403.83	2.5	300.	973.	19.6	
42?	2814.59	1407.55	2.5	419.	18776.	1.8	EU-152,BI-214, SCH-000
43C	2913.75	1457.20	2.6	66.	494.	11.2	I-135
44C	2920.26	1460.46	2.6	61.	276.	15.5	K-40
45	3057.75	1529.32	3.8	94.	428.	12.4	KR-88
46	3191.39	1596.25	1.9	10.	23.	58.9	LA-140

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

13 Multiplets processed.

C - Multiplet Analysis converged normally
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.424686E-07*Ch^2 + 4.993353E-01*Ch + 2.041710E-01

New Calibration Coefficients:

Energy = 2.569574E-07*Ch^2 + 4.996500E-01*Ch +-1.675696E-01

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Daily source check 12/5

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 05-DEC-95 09:11:43

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD1205
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 05-DEC-95 at 08:56:17

COLLECT Live Time: 600. seconds
Real Time: 758. seconds
Dead Time: 20.84 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 05-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 05-DEC-95 09:11:43

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.64	39.62	1.7	14896.	2888.	18.5	
2C	91.24	45.42	1.7	12161.	1165.	26.4	
3?	239.28	119.40	1.5	16961.	7615.	36.1	
4?	243.73	121.63	1.5	16028.	87848.	3.2	SE-75,SCL-000, CO-57
5?	489.34	244.39	1.6	7162.	17134.	3.7	
6	591.78	295.61	1.8	5531.	966.	25.2	PB-214
7	688.34	343.88	1.6	6138.	46184.	1.1	BA-141, SCM-000
8	735.08	367.25	1.8	3304.	1481.	13.1	
9C	821.79	410.61	1.6	2632.	2840.	10.2	
10C	887.37	443.41	1.7	2632.	4014.	7.4	
11	976.80	488.14	1.4	2689.	363.	45.4	TE-129
12	1126.86	563.19	2.1	3274.	534.	35.9	CS-134,SB-122
13	1171.60	585.58	1.7	2714.	523.	32.8	
14	1376.41	688.04	1.8	2329.	727.	22.3	
15	1556.44	778.13	1.9	2350.	9966.	2.5	MO-99
16	1733.13	866.56	2.0	2222.	2934.	6.4	
17$	1835.93	918.02	1.1	721.	186.	58.0	
18	1926.22	963.22	2.1	1575.	9679.	2.4	EU-152
19	2007.86	1004.10	1.7	841.	468.	21.2	
20?	2169.36	1084.96	2.3	1026.	6164.	4.2	EU-152
21?	2177.12	1088.85	2.3	945.	1150.	15.7	
22	2221.88	1111.26	2.1	1190.	8058.	2.6	TE-129,EU-152
23	2423.37	1212.18	2.1	593.	710.	13.4	
24	2595.55	1298.43	2.2	262.	752.	10.2	I-133
25	2813.16	1407.46	2.2	274.	9913.	2.1	EU-152,BI-214, SCH-000
26	2912.16	1457.07	1.9	85.	315.	15.1	I-135
27	3054.29	1528.31	3.4	43.	267.	14.8	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

7 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw

05-DEC-95 09:11:43

Sample: Eu-152 Standard
:a collected on 05-DEC-95 at 08:56:17
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<2.89E+01		LLD<2.89E+01	
TH-234	LLD<2.20E+02		LLD<2.20E+02	
TH-230	LLD<1.84E+03		LLD<1.84E+03	
XE-133	LLD<1.30E+01		LLD<1.30E+01	
CD-109	LLD<1.11E+02		LLD<1.11E+02	
SCL-000	9.26E+02	+- 3.22E+01	9.26E+02	+- 3.22E+01
CO-57	3.07E+02	+- 1.07E+01	3.07E+02	+- 1.07E+01
PA-234	LLD<9.01E+00		LLD<9.01E+00	
CE-144	LLD<1.63E+01		LLD<1.63E+01	
TC-99M	LLD<1.96E+00		LLD<1.96E+00	
U-235	LLD<1.56E+01		LLD<1.56E+01	
CE-141	LLD<3.59E+00		LLD<3.59E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.79E+01		LLD<8.79E+01	
BA-139	LLD<1.01E+01		LLD<1.01E+01	
[illegible]-139	LLD<2.02E+00		LLD<2.02E+00	
[illegible]-226	LLD<5.29E+01		LLD<5.29E+01	
BA-141	LLD<4.45E+00		LLD<4.45E+00	
KR-89	LLD<2.73E+01		LLD<2.73E+01	
TE-132	LLD<2.16E+00		LLD<2.16E+00	
XE-133M	LLD<1.90E+01		LLD<1.90E+01	
TH-227	LLD<1.38E+01		LLD<1.38E+01	
PB-212	LLD<5.36E+00		LLD<5.36E+00	
RA-224	LLD<9.31E+01		LLD<9.31E+01	
XE-135	LLD<3.36E+00		LLD<3.36E+00	
XE-138	LLD<7.80E+00		LLD<7.80E+00	
SE-75	LLD<3.27E+00		LLD<3.27E+00	
NP-239	LLD<1.38E+01		LLD<1.38E+01	
HG-203	LLD<2.53E+00		LLD<2.53E+00	
IR-192	LLD<2.35E+00		LLD<2.35E+00	
CR-51	LLD<2.04E+01		LLD<2.04E+01	
SCM-000	9.73E+02	+- 1.86E+01	9.73E+02	+- 1.86E+01
BI-211	LLD<7.84E+01		LLD<7.84E+01	
PB-214	LLD<6.75E+00		LLD<6.75E+00	
BA-133	LLD<3.13E+00		LLD<3.13E+00	
I-131	LLD<2.59E+00		LLD<2.59E+00	
SN-113	LLD<3.01E+00		LLD<3.01E+00	
KR-87	LLD<4.31E+00		LLD<4.31E+00	
PB-211	LLD<8.81E+01		LLD<8.81E+01	
AU-198	LLD<2.25E+00		LLD<2.25E+00	
SB-125	LLD<6.85E+00		LLD<6.85E+00	
[illegible] 212	LLD<6.48E+02		LLD<6.48E+02	
[illegible]-7	LLD<2.10E+01		LLD<2.10E+01	
HF-181	LLD<2.77E+00		LLD<2.77E+00	
RU-103	LLD<2.68E+00		LLD<2.68E+00	
KR-85	LLD<5.67E+02		LLD<5.67E+02	

SR-85	LLD<2.48E+00			LLD<2.48E+00	
I-133	LLD<2.89E+00			LLD<2.89E+00	
BA-140	LLD<1.01E+01			LLD<1.01E+01	
Y-91M	LLD<3.12E+00			LLD<3.12E+00	
I-207	LLD<2.92E+00			LLD<2.92E+00	
TL-208	LLD<1.02E+01			LLD<1.02E+01	
SB-124	LLD<2.90E+00			LLD<2.90E+00	
CS-134	LLD<2.89E+00			LLD<2.89E+00	
BI-214	LLD<7.40E+00			LLD<7.40E+00	
RU-106	LLD<2.98E+01			LLD<2.98E+01	
LA-142	LLD<5.87E+00			LLD<5.87E+00	
AG-110M	LLD<3.16E+00			LLD<3.16E+00	
NB-97	LLD<3.22E+00			LLD<3.22E+00	
CS-137	LLD<3.23E+00			LLD<3.23E+00	
I-132	LLD<3.14E+00			LLD<3.14E+00	
W-187	LLD<1.06E+01			LLD<1.06E+01	
ZR-97	LLD<3.43E+00			LLD<3.43E+00	
ZR-95	LLD<6.17E+00			LLD<6.17E+00	
NB-95	LLD<3.42E+00			LLD<3.42E+00	
TL-210	LLD<2.26E+01			LLD<2.26E+01	
CO-58	LLD<3.27E+00			LLD<3.27E+00	
CS-136	LLD<3.42E+00			LLD<3.42E+00	
MN-54	LLD<3.50E+00			LLD<3.50E+00	
CO-56	LLD<3.56E+00			LLD<3.56E+00	
I-134	LLD<4.05E+00			LLD<4.05E+00	
TL-207	LLD<3.22E+03			LLD<3.22E+03	
Y-88	LLD<3.59E+00			LLD<3.59E+00	
AC-228	LLD<1.15E+01			LLD<1.15E+01	
EU-152	1.04E+03	+-	3.53E+01	1.04E+03	+- 3.53E+01
PA-234M	LLD<4.27E+01			LLD<4.27E+01	
ER-91	LLD<9.06E+00			LLD<9.06E+00	
RB-89	LLD<6.74E+00			LLD<6.74E+00	
FE-59	LLD<5.57E+00			LLD<5.57E+00	
ZN-65	LLD<1.90E+01			LLD<1.90E+01	
SC-46	LLD<3.32E+00			LLD<3.32E+00	
TA-182	LLD<9.65E+00			LLD<9.65E+00	
I-135	LLD<7.69E+00			LLD<7.69E+00	
CL-39	LLD<4.89E+00			LLD<4.89E+00	
NA-22	LLD<2.08E+00			LLD<2.08E+00	
AR-41	LLD<4.23E+00			LLD<4.23E+00	
CO-60	LLD<1.34E+00			LLD<1.34E+00	
NA-24	LLD<1.30E+00			LLD<1.30E+00	
SR-92	LLD<1.41E+00			LLD<1.41E+00	
SCH-000	9.68E+02	+-	3.61E+01	9.68E+02	+- 3.61E+01
CS-138	LLD<1.33E+00			LLD<1.33E+00	
K-40	LLD<1.42E+01			LLD<1.42E+01	
KR-88	LLD<8.09E+00			LLD<8.09E+00	
TL-209	LLD<1.59E+00			LLD<1.59E+00	
LA-140	LLD<5.58E-01			LLD<5.58E-01	
AL-26	LLD<3.85E-01			LLD<3.85E-01	
MN-56	LLD<1.76E+00			LLD<1.76E+00	
RB-88	LLD<1.79E+00			LLD<1.79E+00	
Total	4.21E+03	+-	6.36E+01	4.21E+03	+- 6.36E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1205

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
79.64	39.62	2888.	18.5	1.17E+04
91.24	45.42	1165.	26.4	2.27E+03
239.28	119.40	7615.	36.1	7.66E+02
489.34	244.39	17134.	3.7	2.34E+03
591.78	295.61	966.	25.2	1.55E+02
735.08	367.25	1481.	13.1	2.91E+02
821.79	410.61	2840.	10.2	6.22E+02
887.37	443.41	4014.	7.4	9.51E+02
976.80	488.14	363.	45.4	9.50E+01
1126.86	563.19	534.	35.9	1.62E+02
1171.60	585.58	523.	32.8	1.65E+02
1376.41	688.04	727.	22.3	2.70E+02
1556.44	778.13	9966.	2.5	4.17E+03
1733.13	866.56	2934.	6.4	1.36E+03
1835.93	918.02	186.	58.0	9.06E+01
2007.86	1004.10	468.	21.2	2.46E+02
2177.12	1088.85	1150.	15.7	6.44E+02
2423.37	1212.18	710.	13.4	4.31E+02
2595.55	1298.43	752.	10.2	4.78E+02
2912.16	1457.07	315.	15.1	2.15E+02
3054.29	1528.31	267.	14.8	1.87E+02

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GAMMA SPECTROSCOPY RESULTS FROM 12/6/95

FOR

CELLS PILE CC(76,77,90,91),PILE X(39,40,52,53),PILE Y(41,42,54,55),PILE Z(43,44,56,57),OILE BB(60,61,74,75),PILE AA(45,46),PILE U(70,71,84,85),PILE T(68,69,82,83),PILE S(65,66),PILE W(58,59,72,73),PILE V(86,87,88,89)

0:♥♠ Autocal 12/6

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*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 08:14:06

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 06-DEC-95 at 07:34:55

COLLECT Live Time: 1200. sec.

hgtrw 06-DEC-95 08:14:06

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.05	39.83	1.8	31701.	4147.	16.2	
2C	91.70	45.65	1.8	26249.	2592.	19.4	
3C	171.14	85.35	2.3	53838.	2482.	42.3	
4C	176.19	87.88	2.3	56436.	2707.	36.9	PB-214,CD-109
5C	181.52	90.54	2.3	59179.	1579.	45.8	
6?	237.91	118.72	1.6	36520.	9950.	53.2	
7?	244.35	121.94	1.6	34072.	181404.	3.0	SE-75,SCL-000, CO-57
8?	485.51	242.48	1.6	13438.	1982.	42.5	PB-214
9?	490.19	244.82	1.6	13037.	34566.	3.6	
10?	495.28	247.36	1.6	12601.	1089.	66.5	
11	592.64	296.03	1.7	9371.	1821.	16.7	PB-214
12?	682.19	340.81	1.7	9016.	3899.	42.4	CS-136
13?	689.21	344.32	1.7	10105.	89757.	2.0	BA-141, SCM-000
14?	735.87	367.65	1.8	8250.	2934.	10.9	
15C	822.87	411.15	1.6	5319.	5880.	7.3	AU-198
16C	832.28	415.86	1.6	5035.	344.	44.3	
17	888.52	443.99	1.7	6350.	7801.	3.9	
18	977.94	488.71	1.7	4829.	869.	25.1	
19	1128.67	564.10	1.9	5487.	1227.	19.5	CS-134,SB-122
[illegible]	1172.99	586.27	2.2	5223.	622.	36.9	
21C	1349.66	674.66	1.9	4256.	407.	29.3	
22C	1357.47	678.57	1.9	4202.	866.	26.5	AG110M
23	1377.76	688.72	2.0	4928.	1686.	14.4	
24$	1439.16	719.44	2.2	4938.	639.	40.5	
25$	1447.12	723.42	2.2	4984.	382.	45.8	SB-124,I-131, ZR-95
26?	1551.04	775.43	2.0	4071.	982.	27.1	
27?	1557.94	778.88	2.0	4005.	19323.	2.9	MO-99
28?	1563.86	781.84	2.0	3949.	548.	48.4	
29	1620.99	810.44	2.2	2889.	724.	23.0	I-132,CO-58
30	1734.78	867.39	1.9	4555.	5482.	4.8	
31	1839.02	919.57	2.1	2619.	477.	35.2	
32?	1921.51	960.86	2.1	2560.	856.	28.3	
33?	1928.04	964.13	2.1	2654.	18078.	2.3	EU-152
34	2010.18	1005.26	2.3	2106.	881.	18.5	
35?	2171.46	1086.01	2.2	2223.	11931.	3.1	EU-152
36?	2179.12	1089.85	2.2	2018.	2054.	11.4	
37C	2217.18	1108.91	2.2	2021.	909.	16.8	
38C	2223.93	1112.29	2.2	2101.	15047.	2.3	TE-129,EU-152
39	2425.45	1213.22	2.3	1277.	1379.	10.1	
40$	2547.87	1274.54	1.5	403.	189.	66.5	NA-22
41	2598.03	1299.67	2.1	553.	1453.	7.4	
42C	2808.38	1405.06	2.4	339.	1069.	14.2	
43C	2815.64	1408.70	2.4	495.	18804.	1.7	EU-152,BI-214, SCH-000
[illegible]C	2914.78	1458.39	2.4	92.	402.	13.5	I-135
45C	2920.89	1461.45	2.4	72.	263.	17.0	K-40
46	3058.33	1530.33	3.5	83.	497.	10.9	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

15 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.569574E-07*Ch^2 + 4.996500E-01*Ch +-1.675696E-01

New Calibration Coefficients:

Energy = 2.501432E-07*Ch^2 + 4.994601E-01*Ch +-9.596911E-02

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Daily Source check 12/6

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 08:36:19

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD1206
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 08:17:15

COLLECT Live Time: 600. seconds
Real Time: 756. seconds
Dead Time: 20.63 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 08:36:19

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.92	39.82	2.0	18238.	2215.	21.1	
2C	91.69	45.70	2.0	15232.	1352.	24.1	
3?	235.93	117.76	1.6	19492.	4243.	50.8	
4?	244.32	121.95	1.6	18356.	91282.	2.5	SE-75,SCL-000, CO-57
5?	481.40	240.40	1.7	7398.	807.	35.8	RA-224
6?	490.25	244.83	1.7	6986.	17850.	4.4	
7?	496.43	247.91	1.7	6698.	815.	34.3	
8	592.59	295.97	1.4	4344.	663.	30.2	PB-214
9?	680.89	340.10	1.8	4147.	2023.	34.7	CS-136
10?	689.37	344.34	1.8	3890.	45593.	2.4	BA-141, SCM-000
11?	695.12	347.21	1.8	3715.	1343.	51.1	
12	736.30	367.79	2.0	3030.	1526.	12.0	
13C	823.12	411.19	1.7	2716.	2853.	10.2	AU-198
14	888.73	443.99	1.7	3203.	3779.	5.7	
15	978.13	488.68	1.9	1960.	466.	28.6	
16	1128.62	563.92	2.5	2987.	646.	27.9	CS-134,SB-122
17	1173.26	586.24	1.6	2798.	401.	43.0	
18	1377.88	688.58	1.7	2036.	632.	22.9	
19	1558.46	778.90	2.0	2613.	9429.	2.7	
20	1735.38	867.41	2.0	2563.	2608.	7.5	
21$	1838.89	919.20	1.9	1270.	305.	54.7	
22C	1920.11	959.85	2.2	1366.	393.	24.1	
23C	1928.59	964.09	2.2	1430.	9058.	3.0	EU-152
24	2011.02	1005.34	1.7	860.	446.	22.8	
25C	2164.04	1081.93	2.2	921.	318.	21.3	
26C	2172.12	1085.97	2.2	921.	6004.	3.9	EU-152
27C	2179.94	1089.89	2.2	921.	1160.	8.8	
28?	2216.56	1108.22	2.2	1008.	417.	31.5	
29?	2224.61	1112.24	2.2	1156.	7583.	3.4	TE-129,EU-152
30	2426.40	1213.27	2.1	654.	690.	14.4	
31	2598.44	1299.41	2.2	306.	736.	11.0	
32$	2808.54	1404.63	2.4	217.	430.	24.6	
33$	2816.47	1408.60	2.4	265.	9582.	2.4	EU-152,BI-214, SCH-000
34	2915.47	1458.19	2.6	100.	270.	17.5	I-135
35	3059.59	1530.39	3.5	32.	245.	14.8	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

10 Multiplets processed.

- Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 06-DEC-95 08:36:19

Sample: Eu-152 Standard
Data collected on 06-DEC-95 at 08:17:15
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.03E+01		LLD<3.03E+01	
TH-234	LLD<2.19E+02		LLD<2.19E+02	
TH-230	LLD<1.81E+03		LLD<1.81E+03	
XE-133	LLD<1.39E+01		LLD<1.39E+01	
CD-109	LLD<1.10E+02		LLD<1.10E+02	
SCL-000	9.62E+02	+- 2.73E+01	9.62E+02	+- 2.73E+01
CO-57	3.19E+02	+- 9.07E+00	3.19E+02	+- 9.07E+00
PA-234	LLD<9.31E+00		LLD<9.31E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.97E+00		LLD<1.97E+00	
U-235	LLD<1.56E+01		LLD<1.56E+01	
CE-141	LLD<3.63E+00		LLD<3.63E+00	
KR-85M	LLD<2.35E+00		LLD<2.35E+00	
XE-131M	LLD<8.79E+01		LLD<8.79E+01	
BA-139	LLD<1.07E+01		LLD<1.07E+01	
[illegible]-139	LLD<2.14E+00		LLD<2.14E+00	
[illegible]-226	LLD<5.29E+01		LLD<5.29E+01	
BA-141	LLD<4.51E+00		LLD<4.51E+00	
KR-89	LLD<2.75E+01		LLD<2.75E+01	
TE-132	LLD<2.15E+00		LLD<2.15E+00	
XE-133M	LLD<1.89E+01		LLD<1.89E+01	
TH-227	LLD<1.39E+01		LLD<1.39E+01	
PB-212	LLD<4.89E+00		LLD<4.89E+00	
RA-224	8.27E+01	+- 2.97E+01	8.27E+01	+- 2.97E+01
XE-135	LLD<4.14E+00		LLD<4.14E+00	
XE-138	LLD<8.22E+00		LLD<8.22E+00	
SE-75	LLD<3.23E+00		LLD<3.23E+00	
NP-239	LLD<1.39E+01		LLD<1.39E+01	
HG-203	LLD<2.51E+00		LLD<2.51E+00	
IR-192	LLD<2.36E+00		LLD<2.36E+00	
CR-51	LLD<2.06E+01		LLD<2.06E+01	
SCM-000	9.60E+02	+- 2.79E+01	9.60E+02	+- 2.79E+01
BI-211	LLD<9.94E+01		LLD<9.94E+01	
PB-214	LLD<7.28E+00		LLD<7.28E+00	
BA-133	LLD<3.07E+00		LLD<3.07E+00	
I-131	LLD<2.73E+00		LLD<2.73E+00	
SN-113	LLD<3.03E+00		LLD<3.03E+00	
KR-87	LLD<4.26E+00		LLD<4.26E+00	
PB-211	LLD<8.22E+01		LLD<8.22E+01	
AU-198	2.00E+01	+- 2.07E+00	2.00E+01	+- 2.07E+00
SB-125	LLD<7.00E+00		LLD<7.00E+00	
[illegible]-212	LLD<6.72E+02		LLD<6.72E+02	
[illegible]-7	LLD<2.28E+01		LLD<2.28E+01	
HF-181	LLD<2.70E+00		LLD<2.70E+00	
RU-103	LLD<2.78E+00		LLD<2.78E+00	
KR-85	LLD<5.53E+02		LLD<5.53E+02	

SR-85	LLD<2.42E+00	LLD<2.42E+00
I-133	LLD<2.94E+00	LLD<2.94E+00
BA-140	LLD<1.01E+01	LLD<1.01E+01
Y-91M	LLD<3.30E+00	LLD<3.30E+00
PB-207	LLD<3.23E+00	LLD<3.23E+00
TL-208	LLD<1.09E+01	LLD<1.09E+01
SB-124	LLD<2.72E+00	LLD<2.72E+00
CS-134	LLD<2.93E+00	LLD<2.93E+00
BI-214	LLD<7.09E+00	LLD<7.09E+00
RU-106	LLD<2.81E+01	LLD<2.81E+01
LA-142	LLD<5.83E+00	LLD<5.83E+00
AG-110M	LLD<3.03E+00	LLD<3.03E+00
NB-97	LLD<3.09E+00	LLD<3.09E+00
CS-137	LLD<3.40E+00	LLD<3.40E+00
I-132	LLD<3.23E+00	LLD<3.23E+00
W-187	LLD<1.08E+01	LLD<1.08E+01
ZR-97	LLD<3.26E+00	LLD<3.26E+00
ZR-95	LLD<6.26E+00	LLD<6.26E+00
NB-95	LLD<3.46E+00	LLD<3.46E+00
TL-210	LLD<2.26E+01	LLD<2.26E+01
CO-58	LLD<3.38E+00	LLD<3.38E+00
CS-136	LLD<3.35E+00	LLD<3.35E+00
MN-54	LLD<3.36E+00	LLD<3.36E+00
CO-56	LLD<3.60E+00	LLD<3.60E+00
I-134	LLD<4.05E+00	LLD<4.05E+00
TL-207	LLD<3.15E+03	LLD<3.15E+03
Y-88	LLD<3.81E+00	LLD<3.81E+00
AC-228	LLD<1.15E+01	LLD<1.15E+01
EU-152	9.71E+02 +- 3.72E+01	9.71E+02 +- 3.72E+01
PA-234M	LLD<4.68E+01	LLD<4.68E+01
ZR-91	LLD<8.14E+00	LLD<8.14E+00
RB-89	LLD<6.31E+00	LLD<6.31E+00
FE-59	LLD<5.41E+00	LLD<5.41E+00
ZN-65	LLD<1.34E+01	LLD<1.34E+01
SC-46	LLD<4.19E+00	LLD<4.19E+00
TA-182	LLD<1.02E+01	LLD<1.02E+01
I-135	LLD<8.08E+00	LLD<8.08E+00
CL-39	LLD<5.04E+00	LLD<5.04E+00
NA-22	LLD<2.11E+00	LLD<2.11E+00
AR-41	LLD<3.68E+00	LLD<3.68E+00
CO-60	LLD<1.41E+00	LLD<1.41E+00
NA-24	LLD<1.44E+00	LLD<1.44E+00
SR-92	LLD<1.41E+00	LLD<1.41E+00
SCH-000	9.36E+02 +- 3.68E+01	9.36E+02 +- 3.68E+01
CS-138	LLD<1.48E+00	LLD<1.48E+00
K-40	LLD<9.25E+00	LLD<9.25E+00
KR-88	LLD<7.66E+00	LLD<7.66E+00
TL-209	LLD<2.14E+00	LLD<2.14E+00
LA-140	LLD<6.04E-01	LLD<6.04E-01
AL-26	LLD<2.64E-01	LLD<2.64E-01
MN-56	LLD<1.27E+00	LLD<1.27E+00
RB-88	LLD<9.95E-01	LLD<9.95E-01
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Total	4.25E+03 +- 7.23E+01	4.25E+03 +- 7.23E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1206

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
79.92	39.82	2215.	21.1	8.71E+03
91.69	45.70	1352.	24.1	2.55E+03
235.93	117.76	4243.	50.8	4.33E+02
490.25	244.83	17850.	4.4	2.45E+03
496.43	247.91	815.	34.3	1.13E+02
592.59	295.97	663.	30.2	1.06E+02
680.89	340.10	2023.	34.7	3.69E+02
695.12	347.21	1343.	51.1	2.50E+02
736.30	367.79	1526.	12.0	3.00E+02
888.73	443.99	3779.	5.7	8.96E+02
978.13	488.68	466.	28.6	1.22E+02
1128.62	563.92	646.	27.9	1.96E+02
1173.26	586.24	401.	43.0	1.26E+02
1377.88	688.58	632.	22.9	2.34E+02
1558.46	778.90	9429.	2.7	3.94E+03
1735.38	867.41	2608.	7.5	1.21E+03
1838.89	919.20	305.	54.7	1.49E+02
1920.11	959.85	393.	24.1	1.99E+02
2011.02	1005.34	446.	22.8	2.35E+02
2164.04	1081.93	318.	21.3	1.77E+02
2179.94	1089.89	1160.	8.8	6.51E+02
2216.56	1108.22	417.	31.5	2.37E+02
2426.40	1213.27	690.	14.4	4.19E+02
2598.44	1299.41	736.	11.0	4.68E+02
2808.54	1404.63	430.	24.6	2.86E+02
2915.47	1458.19	270.	17.5	1.84E+02
3059.59	1530.39	245.	14.8	1.71E+02

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Pile CC C-76, 77, 90, 91

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                                                                       *
              G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 08:58:19

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0078
Measured by: dlv

Sample Description: CC:76,77,90,91 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.5600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 08:44:16

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 08:58:19

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.21	238.81	1.8	52.	125.	24.8	PB-212
2	677.08	338.19	1.1	15.	25.	60.1	AC-228
3	704.93	352.11	1.7	15.	63.	31.2	PB-214
4	1167.12	583.18	2.5	10.	32.	45.0	TL-208
5	1219.23	609.23	1.8	8.	65.	27.8	BI-214
6	1386.25	692.76	0.5	7.	9.	115.8	SB-122
7	2922.32	1461.62	2.3	4.	70.	25.1	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 06-DEC-95 08:58:19

mple: CC:76,77,90,91 Soil
ta collected on 06-DEC-95 at 08:44:16
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.77E+00		LLD<3.77E+00	
TH-234	LLD<2.30E+01		LLD<2.30E+01	
TH-230	LLD<2.16E+02		LLD<2.16E+02	
XE-133	LLD<1.79E+00		LLD<1.79E+00	
CD-109	LLD<1.13E+01		LLD<1.13E+01	
SCL-000	LLD<7.11E-01		LLD<7.11E-01	
CO-57	LLD<2.36E-01		LLD<2.36E-01	
PA-234	LLD<9.23E-01		LLD<9.23E-01	
CE-144	LLD<1.84E+00		LLD<1.84E+00	
TC-99M	LLD<2.08E-01		LLD<2.08E-01	
U-235	LLD<1.70E+00		LLD<1.70E+00	
CE-141	LLD<3.93E-01		LLD<3.93E-01	
KR-85M	LLD<2.40E-01		LLD<2.40E-01	
XE-131M	LLD<8.09E+00		LLD<8.09E+00	
BA-139	LLD<1.07E+00		LLD<1.07E+00	
[illegible]-139	LLD<2.18E-01		LLD<2.18E-01	
[illegible]-226	LLD<5.43E+00		LLD<5.43E+00	
BA-141	LLD<5.21E-01		LLD<5.21E-01	
KR-89	LLD<2.18E+00		LLD<2.18E+00	
TE-132	LLD<2.36E-01		LLD<2.36E-01	
XE-133M	LLD<2.37E+00		LLD<2.37E+00	
TH-227	LLD<1.85E+00		LLD<1.85E+00	
PB-212	1.51E+00	+- 3.76E-01	1.51E+00	+- 3.76E-01
RA-224	LLD<5.36E+00		LLD<5.36E+00	
XE-135	LLD<2.27E-01		LLD<2.27E-01	
XE-138	LLD<8.50E-01		LLD<8.50E-01	
SE-75	LLD<3.30E-01		LLD<3.30E-01	
NP-239	LLD<1.59E+00		LLD<1.59E+00	
HG-203	LLD<2.65E-01		LLD<2.65E-01	
IR-192	LLD<3.16E-01		LLD<3.16E-01	
CR-51	LLD<2.44E+00		LLD<2.44E+00	
SCM-000	LLD<9.10E-01		LLD<9.10E-01	
BI-211	LLD<7.25E+00		LLD<7.25E+00	
PB-214	1.50E+00	+- 4.68E-01	1.50E+00	+- 4.68E-01
BA-133	LLD<6.82E-01		LLD<6.82E-01	
I-131	LLD<2.78E-01		LLD<2.78E-01	
SN-113	LLD<3.64E-01		LLD<3.64E-01	
KR-87	LLD<5.22E-01		LLD<5.22E-01	
PB-211	LLD<1.00E+01		LLD<1.00E+01	
AU-198	LLD<2.56E-01		LLD<2.56E-01	
[illegible]-125	LLD<8.77E-01		LLD<8.77E-01	
[illegible]-212	LLD<7.46E+01		LLD<7.46E+01	
BE-7	LLD<2.80E+00		LLD<2.80E+00	
HF-181	LLD<3.03E-01		LLD<3.03E-01	
RU-103	LLD<2.33E-01		LLD<2.33E-01	
KR-85	LLD<7.05E+01		LLD<7.05E+01	

SR-85	LLD<3.08E-01	LLD<3.08E-01
I-133	LLD<2.83E-01	LLD<2.83E-01
BA-140	LLD<1.10E+00	LLD<1.10E+00
K-91M	LLD<3.40E-01	LLD<3.40E-01
PI-207	LLD<2.65E-01	LLD<2.65E-01
TL-208	LLD<1.12E+00	LLD<1.12E+00
SB-124	LLD<3.30E-01	LLD<3.30E-01
CS-134	LLD<7.68E-01	LLD<7.68E-01
BI-214	2.24E+00 +- 6.25E-01	2.24E+00 +- 6.25E-01
RU-106	LLD<3.13E+00	LLD<3.13E+00
LA-142	LLD<5.95E-01	LLD<5.95E-01
AG-110M	LLD<4.91E-01	LLD<4.91E-01
NB-97	LLD<4.95E-01	LLD<4.95E-01
CS-137	LLD<4.93E-01	LLD<4.93E-01
I-132	LLD<4.20E-01	LLD<4.20E-01
W-187	LLD<1.02E+00	LLD<1.02E+00
ZR-97	LLD<3.61E-01	LLD<3.61E-01
ZR-95	LLD<5.53E-01	LLD<5.53E-01
NB-95	LLD<3.84E-01	LLD<3.84E-01
TL-210	LLD<2.03E+00	LLD<2.03E+00
CO-58	LLD<2.71E-01	LLD<2.71E-01
CS-136	LLD<3.89E-01	LLD<3.89E-01
MN-54	LLD<3.15E-01	LLD<3.15E-01
CO-56	LLD<2.35E-01	LLD<2.35E-01
I-134	LLD<2.95E-01	LLD<2.95E-01
TL-207	LLD<3.05E+02	LLD<3.05E+02
Y-88	LLD<4.17E-01	LLD<4.17E-01
AC-228	LLD<1.92E+00	LLD<1.92E+00
EU-152	LLD<3.32E+00	LLD<3.32E+00
PA-234M	LLD<4.11E+00	LLD<4.11E+00
ZR-91	LLD<8.15E-01	LLD<8.15E-01
RB-89	LLD<6.91E-01	LLD<6.91E-01
FE-59	LLD<7.10E-01	LLD<7.10E-01
ZN-65	LLD<1.22E+00	LLD<1.22E+00
SC-46	LLD<5.24E-01	LLD<5.24E-01
TA-182	LLD<1.30E+00	LLD<1.30E+00
I-135	LLD<1.31E+00	LLD<1.31E+00
CL-39	LLD<9.74E-01	LLD<9.74E-01
NA-22	LLD<3.65E-01	LLD<3.65E-01
AR-41	LLD<2.93E-01	LLD<2.93E-01
CO-60	LLD<3.63E-01	LLD<3.63E-01
NA-24	LLD<3.33E-01	LLD<3.33E-01
SR-92	LLD<6.18E-01	LLD<6.18E-01
SCH-000	LLD<2.07E+00	LLD<2.07E+00
CS-138	LLD<6.11E-01	LLD<6.11E-01
K-40	1.85E+01 +- 4.69E+00	1.85E+01 +- 4.69E+00
KR-88	LLD<2.91E+00	LLD<2.91E+00
TL-209	LLD<1.19E+00	LLD<1.19E+00
LA-140	LLD<3.81E-01	LLD<3.81E-01
AL-26	LLD<3.38E-01	LLD<3.38E-01
MN-56	LLD<1.27E+00	LLD<1.27E+00
RB-88	LLD<1.47E+00	LLD<1.47E+00
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Total	2.37E+01 +- 4.77E+00	2.37E+01 +- 4.77E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0078

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
677.08	338.19	25.	60.1	4.53E+00
1167.12	583.18	32.	45.0	1.02E+01
1386.25	692.76	9.	115.8	3.36E+00

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0↕♥♠ Pile X C-39, 40, 52, 53

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 09:13:44

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0079
Measured by: dlv

Sample Description: X:39,40,52,53 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.7800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 08:59:45

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 09:13:44

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1$	478.80	239.10	1.1	30.	83.	40.6	PB-212
2	705.06	352.18	1.6	28.	51.	42.5	PB-214
3	1060.63	529.93	1.1	7.	9.	108.4	I-133
4	1167.29	583.26	1.1	4.	28.	43.2	TL-208
5$	1219.51	609.37	2.2	16.	20.	75.1	BI-214
6	1324.14	661.70	1.1	7.	63.	27.7	CS-137
7	1937.49	968.54	1.1	4.	18.	57.9	AC-228,RU-105
8	2921.79	1461.36	1.1	6.	73.	26.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 06-DEC-95 09:13:44

Sample: X:39,40,52,53 Soil
Data collected on 06-DEC-95 at 08:59:45
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<4.24E+00		LLD<4.24E+00	
TH-234	LLD<2.89E+01		LLD<2.89E+01	
TH-230	LLD<2.51E+02		LLD<2.51E+02	
XE-133	LLD<2.02E+00		LLD<2.02E+00	
CD-109	LLD<1.36E+01		LLD<1.36E+01	
SCL-000	LLD<8.53E-01		LLD<8.53E-01	
CO-57	LLD<2.83E-01		LLD<2.83E-01	
PA-234	LLD<1.13E+00		LLD<1.13E+00	
CE-144	LLD<2.16E+00		LLD<2.16E+00	
TC-99M	LLD<2.07E-01		LLD<2.07E-01	
U-235	LLD<1.88E+00		LLD<1.88E+00	
CE-141	LLD<3.95E-01		LLD<3.95E-01	
KR-85M	LLD<2.94E-01		LLD<2.94E-01	
XE-131M	LLD<1.01E+01		LLD<1.01E+01	
BA-139	LLD<1.11E+00		LLD<1.11E+00	
[illegible]-139	LLD<2.25E-01		LLD<2.25E-01	
[illegible]-226	LLD<6.02E+00		LLD<6.02E+00	
BA-141	LLD<5.61E-01		LLD<5.61E-01	
KR-89	LLD<2.89E+00		LLD<2.89E+00	
TE-132	LLD<2.40E-01		LLD<2.40E-01	
XE-133M	LLD<2.63E+00		LLD<2.63E+00	
TH-227	LLD<1.94E+00		LLD<1.94E+00	
PB-212	1.13E+00	+- 4.62E-01	1.13E+00	+- 4.62E-01
RA-224	LLD<6.66E+00		LLD<6.66E+00	
XE-135	LLD<2.53E-01		LLD<2.53E-01	
XE-138	LLD<9.02E-01		LLD<9.02E-01	
SE-75	LLD<3.85E-01		LLD<3.85E-01	
NP-239	LLD<1.44E+00		LLD<1.44E+00	
HG-203	LLD<2.81E-01		LLD<2.81E-01	
IR-192	LLD<2.85E-01		LLD<2.85E-01	
CR-51	LLD<2.39E+00		LLD<2.39E+00	
SCM-000	LLD<1.31E+00		LLD<1.31E+00	
BI-211	LLD<8.84E+00		LLD<8.84E+00	
PB-214	1.38E+00	+- 5.86E-01	1.38E+00	+- 5.86E-01
BA-133	LLD<7.01E-01		LLD<7.01E-01	
I-131	LLD<2.66E-01		LLD<2.66E-01	
SN-113	LLD<4.18E-01		LLD<4.18E-01	
KR-87	LLD<5.71E-01		LLD<5.71E-01	
PB-211	LLD<1.07E+01		LLD<1.07E+01	
AU-198	LLD<3.33E-01		LLD<3.33E-01	
SB-125	LLD<1.03E+00		LLD<1.03E+00	
[illegible]-212	LLD<9.80E+01		LLD<9.80E+01	
[illegible]-7	LLD<2.74E+00		LLD<2.74E+00	
HF-181	LLD<3.19E-01		LLD<3.19E-01	
RU-103	LLD<3.56E-01		LLD<3.56E-01	
KR-85	LLD<7.65E+01		LLD<7.65E+01	

SR-85	LLD<3.34E-01		LLD<3.34E-01		
I-133	1.41E-01	+- 1.52E-01	1.41E-01	+- 1.52E-01	
BA-140	LLD<1.32E+00		LLD<1.32E+00		
Y-91M	LLD<3.19E-01		LLD<3.19E-01		
I-207	LLD<3.84E-01		LLD<3.84E-01		
TL-208	LLD<1.12E+00		LLD<1.12E+00		
SB-124	LLD<3.43E-01		LLD<3.43E-01		
CS-134	LLD<4.93E-01		LLD<4.93E-01		
BI-214	8.05E-01	+- 6.05E-01	8.05E-01	+- 6.05E-01	
RU-106	LLD<2.92E+00		LLD<2.92E+00		
LA-142	LLD<6.94E-01		LLD<6.94E-01		
AG-110M	LLD<9.74E-01		LLD<9.74E-01		
NB-97	LLD<9.81E-01		LLD<9.81E-01		
CS-137	1.17E+00	+- 3.25E-01	1.17E+00	+- 3.25E-01	
I-132	LLD<7.83E-01		LLD<7.83E-01		
W-187	LLD<1.01E+00		LLD<1.01E+00		
ZR-97	LLD<3.43E-01		LLD<3.43E-01		
ZR-95	LLD<5.03E-01		LLD<5.03E-01		
NB-95	LLD<2.98E-01		LLD<2.98E-01		
TL-210	LLD<2.17E+00		LLD<2.17E+00		
CO-58	LLD<4.07E-01		LLD<4.07E-01		
CS-136	LLD<3.01E-01		LLD<3.01E-01		
MN-54	LLD<3.34E-01		LLD<3.34E-01		
CO-56	LLD<3.63E-01		LLD<3.63E-01		
I-134	LLD<4.32E-01		LLD<4.32E-01		
TL-207	LLD<2.89E+02		LLD<2.89E+02		
Y-88	LLD<4.66E-01		LLD<4.66E-01		
AC-228	LLD<1.99E+00		LLD<1.99E+00		
EU-152	LLD<4.33E+00		LLD<4.33E+00		
PA-234M	LLD<4.71E+00		LLD<4.71E+00		
KR-91	LLD<7.13E-01		LLD<7.13E-01		
RB-89	LLD<7.33E-01		LLD<7.33E-01		
FE-59	LLD<8.97E-01		LLD<8.97E-01		
ZN-65	LLD<7.17E-01		LLD<7.17E-01		
SC-46	LLD<4.86E-01		LLD<4.86E-01		
TA-182	LLD<1.44E+00		LLD<1.44E+00		
I-135	LLD<2.17E+00		LLD<2.17E+00		
CL-39	LLD<1.27E+00		LLD<1.27E+00		
NA-22	LLD<4.41E-01		LLD<4.41E-01		
AR-41	LLD<2.27E-01		LLD<2.27E-01		
CO-60	LLD<5.38E-01		LLD<5.38E-01		
NA-24	LLD<5.18E-01		LLD<5.18E-01		
SR-92	LLD<5.20E-01		LLD<5.20E-01		
SCH-000	LLD<1.67E+00		LLD<1.67E+00		
CS-138	LLD<3.87E-01		LLD<3.87E-01		
K-40	2.17E+01	+- 5.69E+00	2.17E+01	+- 5.69E+00	
KR-88	LLD<3.50E+00		LLD<3.50E+00		
TL-209	LLD<1.56E+00		LLD<1.56E+00		
LA-140	LLD<5.19E-01		LLD<5.19E-01		
AL-26	LLD<4.06E-01		LLD<4.06E-01		
MN-56	LLD<1.52E+00		LLD<1.52E+00		
RB-88	LLD<5.37E-01		LLD<5.37E-01		
Total	2.63E+01	+- 5.78E+00	2.63E+01	+- 5.78E+00	

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0079

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
1167.29	583.26	28.	43.2	8.75E+00
1937.49	968.54	18.	57.9	9.30E+00

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Pile Y C-41, 42, 54, 55

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 09:27:32

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0080
Measured by: dlv

Sample Description: Y:41,42,54,55
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 09:14:49

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 09:27:32

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.70	239.05	1.5	80.	150.	24.7	PB-212
2	591.76	295.55	1.1	29.	39.	50.9	PB-214
3	705.03	352.16	2.1	19.	59.	34.3	PB-214
4	1022.43	510.83	1.5	12.	27.	54.8	TL-208,NA-22, ANN-RD
5	1166.97	583.10	0.9	2.	47.	29.7	TL-208
6	1219.59	609.41	1.0	10.	57.	31.2	BI-214
7	1324.02	661.64	1.6	10.	20.	63.4	CS-137
8	2922.38	1461.65	2.6	4.	86.	22.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 06-DEC-95 09:27:32

mple: Y:41,42,54,55
.ta collected on 06-DEC-95 at 09:14:49
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.93E+00		LLD<3.93E+00	
TH-234	LLD<2.73E+01		LLD<2.73E+01	
TH-230	LLD<2.24E+02		LLD<2.24E+02	
XE-133	LLD<1.74E+00		LLD<1.74E+00	
CD-109	LLD<1.20E+01		LLD<1.20E+01	
SCL-000	LLD<6.29E-01		LLD<6.29E-01	
CO-57	LLD<2.09E-01		LLD<2.09E-01	
PA-234	LLD<9.17E-01		LLD<9.17E-01	
CE-144	LLD<1.74E+00		LLD<1.74E+00	
TC-99M	LLD<2.15E-01		LLD<2.15E-01	
U-235	LLD<1.73E+00		LLD<1.73E+00	
CE-141	LLD<3.72E-01		LLD<3.72E-01	
KR-85M	LLD<2.60E-01		LLD<2.60E-01	
XE-131M	LLD<8.49E+00		LLD<8.49E+00	
BA-139	LLD<1.09E+00		LLD<1.09E+00	
[illegible]-139	LLD<2.21E-01		LLD<2.21E-01	
RA-226	LLD<5.59E+00		LLD<5.59E+00	
BA-141	LLD<5.03E-01		LLD<5.03E-01	
KR-89	LLD<2.76E+00		LLD<2.76E+00	
TE-132	LLD<2.34E-01		LLD<2.34E-01	
XE-133M	LLD<2.55E+00		LLD<2.55E+00	
TH-227	LLD<1.88E+00		LLD<1.88E+00	
PB-212	1.75E+00	+- 4.36E-01	1.75E+00	+- 4.36E-01
RA-224	LLD<6.53E+00		LLD<6.53E+00	
XE-135	LLD<2.37E-01		LLD<2.37E-01	
XE-138	LLD<8.03E-01		LLD<8.03E-01	
SE-75	LLD<4.04E-01		LLD<4.04E-01	
NP-239	LLD<1.57E+00		LLD<1.57E+00	
HG-203	LLD<2.92E-01		LLD<2.92E-01	
IR-192	LLD<2.65E-01		LLD<2.65E-01	
CR-51	LLD<2.64E+00		LLD<2.64E+00	
SCM-000	LLD<1.12E+00		LLD<1.12E+00	
BI-211	LLD<7.65E+00		LLD<7.65E+00	
PB-214	1.36E+00	+- 4.66E-01	1.36E+00	+- 4.66E-01
BA-133	LLD<6.40E-01		LLD<6.40E-01	
I-131	LLD<2.77E-01		LLD<2.77E-01	
SN-113	LLD<3.24E-01		LLD<3.24E-01	
KR-87	LLD<5.93E-01		LLD<5.93E-01	
PB-211	LLD<9.49E+00		LLD<9.49E+00	
AU-198	LLD<2.40E-01		LLD<2.40E-01	
[illegible]-125	LLD<8.44E-01		LLD<8.44E-01	
[illegible]-212	LLD<6.73E+01		LLD<6.73E+01	
BE-7	LLD<2.70E+00		LLD<2.70E+00	
HF-181	LLD<3.38E-01		LLD<3.38E-01	
RU-103	LLD<2.96E-01		LLD<2.96E-01	
KR-85	LLD<7.12E+01		LLD<7.12E+01	

SR-85	LLD<3.11E-01		LLD<3.11E-01		
I-133	LLD<3.41E-01		LLD<3.41E-01		
BA-140	LLD<1.12E+00		LLD<1.12E+00		
K-91M	LLD<2.95E-01		LLD<2.95E-01		
I-207	LLD<2.98E-01		LLD<2.98E-01		
TL-208	1.78E+00	+- 5.31E-01	1.78E+00	+-	5.31E-01
SB-124	LLD<2.97E-01		LLD<2.97E-01		
CS-134	LLD<6.81E-01		LLD<6.81E-01		
BI-214	1.91E+00	+- 5.97E-01	1.91E+00	+-	5.97E-01
RU-106	LLD<2.64E+00		LLD<2.64E+00		
LA-142	LLD<6.83E-01		LLD<6.83E-01		
AG-110M	LLD<5.69E-01		LLD<5.69E-01		
NB-97	LLD<5.73E-01		LLD<5.73E-01		
CS-137	3.13E-01	+- 1.99E-01	3.13E-01	+-	1.99E-01
I-132	LLD<4.15E-01		LLD<4.15E-01		
W-187	LLD<1.23E+00		LLD<1.23E+00		
ZR-97	LLD<3.72E-01		LLD<3.72E-01		
ZR-95	LLD<6.19E-01		LLD<6.19E-01		
NB-95	LLD<3.26E-01		LLD<3.26E-01		
TL-210	LLD<2.26E+00		LLD<2.26E+00		
CO-58	LLD<3.23E-01		LLD<3.23E-01		
CS-136	LLD<3.06E-01		LLD<3.06E-01		
MN-54	LLD<4.01E-01		LLD<4.01E-01		
CO-56	LLD<3.09E-01		LLD<3.09E-01		
I-134	LLD<3.53E-01		LLD<3.53E-01		
TL-207	LLD<2.84E+02		LLD<2.84E+02		
Y-88	LLD<4.06E-01		LLD<4.06E-01		
AC-228	LLD<1.69E+00		LLD<1.69E+00		
EU-152	LLD<4.36E+00		LLD<4.36E+00		
PA-234M	LLD<4.87E+00		LLD<4.87E+00		
ZR-91	LLD<8.58E-01		LLD<8.58E-01		
RB-89	LLD<6.23E-01		LLD<6.23E-01		
FE-59	LLD<6.63E-01		LLD<6.63E-01		
ZN-65	LLD<1.33E+00		LLD<1.33E+00		
SC-46	LLD<5.86E-01		LLD<5.86E-01		
TA-182	LLD<1.60E+00		LLD<1.60E+00		
I-135	LLD<1.09E+00		LLD<1.09E+00		
CL-39	LLD<8.17E-01		LLD<8.17E-01		
NA-22	LLD<5.18E-01		LLD<5.18E-01		
AR-41	LLD<5.44E-01		LLD<5.44E-01		
CO-60	LLD<4.13E-01		LLD<4.13E-01		
NA-24	LLD<3.56E-01		LLD<3.56E-01		
SR-92	LLD<3.00E-01		LLD<3.00E-01		
SCH-000	LLD<1.57E+00		LLD<1.57E+00		
CS-138	LLD<4.93E-01		LLD<4.93E-01		
K-40	2.18E+01	+- 4.99E+00	2.18E+01	+-	4.99E+00
KR-88	LLD<1.56E+00		LLD<1.56E+00		
TL-209	LLD<1.10E+00		LLD<1.10E+00		
LA-140	LLD<3.50E-01		LLD<3.50E-01		
AL-26	LLD<3.45E-01		LLD<3.45E-01		
MN-56	LLD<8.23E-01		LLD<8.23E-01		
RB-88	LLD<1.95E+00		LLD<1.95E+00		
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Total	2.90E+01	+- 5.10E+00	2.90E+01	+-	5.10E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0080

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.76	295.55	39.	50.9	6.28E+00

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0‡♥♠ Pile Z C-43, 44, 56, 57

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 09:44:38

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0081
Measured by: dlv

Sample Description: Z:43,44,56,57
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.9600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 09:37:00

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 09:44:38

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	372.91	186.19	2.7	48.	71.	37.6	U-235,RA-226
2	478.64	239.02	1.3	65.	103.	31.5	PB-212
3	704.83	352.06	1.8	23.	45.	44.4	BI-211,PB-214
4	1022.24	510.74	1.7	15.	25.	61.7	TL-208,NA-22, ANN-RD
5	1167.42	583.33	1.4	11.	22.	65.0	TL-208
6	1324.29	661.77	2.5	7.	35.	40.0	CS-137
7	2921.97	1461.45	1.8	2.	76.	23.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 06-DEC-95 09:44:38

Sample: Z:43,44,56,57
Data collected on 06-DEC-95 at 09:37:00
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.86E+00		LLD<3.86E+00	
TH-234	LLD<2.73E+01		LLD<2.73E+01	
TH-230	LLD<2.37E+02		LLD<2.37E+02	
XE-133	LLD<1.74E+00		LLD<1.74E+00	
CD-109	LLD<1.45E+01		LLD<1.45E+01	
SCL-000	LLD<7.51E-01		LLD<7.51E-01	
CO-57	LLD<2.49E-01		LLD<2.49E-01	
PA-234	LLD<9.63E-01		LLD<9.63E-01	
CE-144	LLD<1.84E+00		LLD<1.84E+00	
TC-99M	LLD<2.38E-01		LLD<2.38E-01	
U-235	LLD<1.71E+00		LLD<1.71E+00	
CE-141	LLD<4.13E-01		LLD<4.13E-01	
KR-85M	LLD<2.85E-01		LLD<2.85E-01	
XE-131M	LLD<8.55E+00		LLD<8.55E+00	
BA-139	LLD<1.11E+00		LLD<1.11E+00	
[illegible]-139	LLD<2.26E-01		LLD<2.26E-01	
[illegible]-226	9.27E+00	+- 3.50E+00	9.27E+00	+- 3.50E+00
BA-141	LLD<6.34E-01		LLD<6.34E-01	
KR-89	LLD<2.49E+00		LLD<2.49E+00	
TE-132	LLD<2.45E-01		LLD<2.45E-01	
XE-133M	LLD<2.64E+00		LLD<2.64E+00	
TH-227	LLD<1.76E+00		LLD<1.76E+00	
PB-212	1.37E+00	+- 4.33E-01	1.37E+00	+- 4.33E-01
RA-224	LLD<6.19E+00		LLD<6.19E+00	
XE-135	LLD<2.48E-01		LLD<2.48E-01	
XE-138	LLD<8.87E-01		LLD<8.87E-01	
SE-75	LLD<3.96E-01		LLD<3.96E-01	
NP-239	LLD<1.68E+00		LLD<1.68E+00	
HG-203	LLD<2.71E-01		LLD<2.71E-01	
IR-192	LLD<2.78E-01		LLD<2.78E-01	
CR-51	LLD<2.36E+00		LLD<2.36E+00	
SCM-000	LLD<1.31E+00		LLD<1.31E+00	
BI-211	1.01E+01	+- 4.48E+00	1.01E+01	+- 4.48E+00
PB-214	1.18E+00	+- 5.23E-01	1.18E+00	+- 5.23E-01
BA-133	LLD<6.65E-01		LLD<6.65E-01	
I-131	LLD<2.60E-01		LLD<2.60E-01	
SN-113	LLD<4.00E-01		LLD<4.00E-01	
KR-87	LLD<5.38E-01		LLD<5.38E-01	
PB-211	LLD<9.93E+00		LLD<9.93E+00	
AU-198	LLD<2.97E-01		LLD<2.97E-01	
SB-125	LLD<8.90E-01		LLD<8.90E-01	
[illegible]-212	LLD<6.76E+01		LLD<6.76E+01	
BE-7	LLD<2.48E+00		LLD<2.48E+00	
HF-181	LLD<2.97E-01		LLD<2.97E-01	
RU-103	LLD<2.78E-01		LLD<2.78E-01	
KR-85	LLD<8.50E+01		LLD<8.50E+01	

SR-85	LLD<3.71E-01	LLD<3.71E-01
I-133	LLD<3.15E-01	LLD<3.15E-01
BA-140	LLD<1.33E+00	LLD<1.33E+00
Y-91M	LLD<2.44E-01	LLD<2.44E-01
I-207	LLD<2.83E-01	LLD<2.83E-01
TL-208	9.26E-01 +- 6.03E-01	9.26E-01 +- 6.03E-01
SB-124	LLD<3.87E-01	LLD<3.87E-01
CS-134	LLD<6.55E-01	LLD<6.55E-01
BI-214	LLD<1.16E+00	LLD<1.16E+00
RU-106	LLD<3.20E+00	LLD<3.20E+00
LA-142	LLD<6.45E-01	LLD<6.45E-01
AG-110M	LLD<7.61E-01	LLD<7.61E-01
NB-97	LLD<7.67E-01	LLD<7.67E-01
CS-137	6.38E-01 +- 2.55E-01	6.38E-01 +- 2.55E-01
I-132	LLD<6.07E-01	LLD<6.07E-01
W-187	LLD<1.16E+00	LLD<1.16E+00
ZR-97	LLD<3.62E-01	LLD<3.62E-01
ZR-95	LLD<5.45E-01	LLD<5.45E-01
NB-95	LLD<3.54E-01	LLD<3.54E-01
TL-210	LLD<1.68E+00	LLD<1.68E+00
CO-58	LLD<3.07E-01	LLD<3.07E-01
CS-136	LLD<2.62E-01	LLD<2.62E-01
MN-54	LLD<3.22E-01	LLD<3.22E-01
CO-56	LLD<3.60E-01	LLD<3.60E-01
I-134	LLD<4.27E-01	LLD<4.27E-01
TL-207	LLD<3.24E+02	LLD<3.24E+02
Y-88	LLD<4.59E-01	LLD<4.59E-01
AC-228	LLD<1.74E+00	LLD<1.74E+00
EU-152	LLD<3.93E+00	LLD<3.93E+00
PA-234M	LLD<3.76E+00	LLD<3.76E+00
ZR-91	LLD<1.12E+00	LLD<1.12E+00
RB-89	LLD<9.09E-01	LLD<9.09E-01
FE-59	LLD<8.91E-01	LLD<8.91E-01
ZN-65	LLD<1.05E+00	LLD<1.05E+00
SC-46	LLD<5.23E-01	LLD<5.23E-01
TA-182	LLD<1.36E+00	LLD<1.36E+00
I-135	LLD<1.83E+00	LLD<1.83E+00
CL-39	LLD<1.16E+00	LLD<1.16E+00
NA-22	LLD<5.55E-01	LLD<5.55E-01
AR-41	LLD<5.32E-01	LLD<5.32E-01
CO-60	LLD<5.95E-01	LLD<5.95E-01
NA-24	LLD<2.77E-01	LLD<2.77E-01
SR-92	LLD<3.99E-01	LLD<3.99E-01
SCH-000	LLD<2.06E+00	LLD<2.06E+00
CS-138	LLD<2.68E-01	LLD<2.68E-01
K-40	2.20E+01 +- 5.24E+00	2.20E+01 +- 5.24E+00
KR-88	LLD<4.47E+00	LLD<4.47E+00
TL-209	LLD<6.35E-01	LLD<6.35E-01
LA-140	LLD<5.89E-01	LLD<5.89E-01
AL-26	LLD<2.04E-01	LLD<2.04E-01
MN-56	LLD<7.65E-01	LLD<7.65E-01
RB-88	LLD<1.15E+00	LLD<1.15E+00
	---	---
Total	4.54E+01 +- 7.79E+00	4.54E+01 +- 7.79E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0081

ALL PEAKS USED IN ANALYSIS

0:♥♠ Pile BB C-60, 61, 74, 75

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 09:58:11

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0082
Measured by: dlv

Sample Description: BB:60,61,74,75 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 09:45:32

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 09:58:11

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.76	239.08	1.4	85.	137.	26.7	PB-212
2	677.80	338.55	1.3	29.	41.	52.1	AC-228
3	1167.48	583.35	1.2	11.	40.	39.8	TL-208
4	1219.35	609.29	1.1	12.	44.	38.3	BI-214
5	1324.01	661.63	1.8	9.	30.	47.8	CS-137
6	1788.42	893.95	3.0	7.	9.	109.7	BI-212,LA-142
7	1823.62	911.56	0.9	3.	27.	43.5	AC-228
8	2922.53	1461.73	2.6	4.	96.	21.2	
9E	2950.67	1475.82	0.6	0.	6.	80.0	BR-82,AG110M

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

E - Multiplet Analysis ERROR
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 06-DEC-95 09:58:11

Sample: BB:60,61,74,75 Soil
Data collected on 06-DEC-95 at 09:45:32
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.57E+00		LLD<3.57E+00	
TH-234	LLD<2.94E+01		LLD<2.94E+01	
TH-230	LLD<2.37E+02		LLD<2.37E+02	
XE-133	LLD<1.75E+00		LLD<1.75E+00	
CD-109	LLD<1.14E+01		LLD<1.14E+01	
SCL-000	LLD<6.73E-01		LLD<6.73E-01	
CO-57	LLD<2.23E-01		LLD<2.23E-01	
PA-234	LLD<9.42E-01		LLD<9.42E-01	
CE-144	LLD<1.82E+00		LLD<1.82E+00	
TC-99M	LLD<2.14E-01		LLD<2.14E-01	
U-235	LLD<1.61E+00		LLD<1.61E+00	
CE-141	LLD<3.65E-01		LLD<3.65E-01	
KR-85M	LLD<2.83E-01		LLD<2.83E-01	
XE-131M	LLD<9.20E+00		LLD<9.20E+00	
BA-139	LLD<9.92E-01		LLD<9.92E-01	
[illegible]E-139	LLD<2.01E-01		LLD<2.01E-01	
[illegible]A-226	LLD<6.19E+00		LLD<6.19E+00	
BA-141	LLD<5.58E-01		LLD<5.58E-01	
KR-89	LLD<2.59E+00		LLD<2.59E+00	
TE-132	LLD<2.19E-01		LLD<2.19E-01	
XE-133M	LLD<2.61E+00		LLD<2.61E+00	
TH-227	LLD<1.95E+00		LLD<1.95E+00	
PB-212	1.59E+00	+- 4.27E-01	1.59E+00	+- 4.27E-01
RA-224	LLD<6.34E+00		LLD<6.34E+00	
XE-135	LLD<2.23E-01		LLD<2.23E-01	
XE-138	LLD<7.87E-01		LLD<7.87E-01	
SE-75	LLD<3.58E-01		LLD<3.58E-01	
NP-239	LLD<1.82E+00		LLD<1.82E+00	
HG-203	LLD<2.76E-01		LLD<2.76E-01	
IR-192	LLD<2.97E-01		LLD<2.97E-01	
CR-51	LLD<2.04E+00		LLD<2.04E+00	
SCM-000	LLD<1.36E+00		LLD<1.36E+00	
BI-211	LLD<7.92E+00		LLD<7.92E+00	
PB-214	LLD<8.45E-01		LLD<8.45E-01	
BA-133	LLD<6.10E-01		LLD<6.10E-01	
I-131	LLD<2.39E-01		LLD<2.39E-01	
SN-113	LLD<3.98E-01		LLD<3.98E-01	
KR-87	LLD<5.23E-01		LLD<5.23E-01	
PB-211	LLD<9.36E+00		LLD<9.36E+00	
AU-198	LLD<2.73E-01		LLD<2.73E-01	
SB-125	LLD<7.36E-01		LLD<7.36E-01	
[illegible]I-212	LLD<7.37E+01		LLD<7.37E+01	
BE-7	LLD<2.31E+00		LLD<2.31E+00	
HF-181	LLD<2.98E-01		LLD<2.98E-01	
RU-103	LLD<2.53E-01		LLD<2.53E-01	
KR-85	LLD<7.14E+01		LLD<7.14E+01	

SR-85	LLD<3.12E-01	LLD<3.12E-01
I-133	LLD<3.26E-01	LLD<3.26E-01
BA-140	LLD<9.16E-01	LLD<9.16E-01
Y-91M	LLD<2.85E-01	LLD<2.85E-01
[illegible]-207	LLD<3.11E-01	LLD<3.11E-01
[illegible]-208	LLD<1.23E+00	LLD<1.23E+00
SB-124	LLD<3.45E-01	LLD<3.45E-01
CS-134	LLD<6.24E-01	LLD<6.24E-01
BI-214	1.46E+00 +- 5.59E-01	1.46E+00 +- 5.59E-01
RU-106	LLD<3.28E+00	LLD<3.28E+00
LA-142	LLD<4.71E-01	LLD<4.71E-01
AG-110M	LLD<5.64E-01	LLD<5.64E-01
NB-97	LLD<5.68E-01	LLD<5.68E-01
CS-137	4.72E-01 +- 2.26E-01	4.72E-01 +- 2.26E-01
I-132	LLD<4.19E-01	LLD<4.19E-01
W-187	LLD<9.25E-01	LLD<9.25E-01
ZR-97	LLD<2.72E-01	LLD<2.72E-01
ZR-95	LLD<6.14E-01	LLD<6.14E-01
NB-95	LLD<3.53E-01	LLD<3.53E-01
TL-210	LLD<1.42E+00	LLD<1.42E+00
CO-58	LLD<3.48E-01	LLD<3.48E-01
CS-136	LLD<2.97E-01	LLD<2.97E-01
MN-54	LLD<2.40E-01	LLD<2.40E-01
CO-56	LLD<4.13E-01	LLD<4.13E-01
I-134	LLD<4.04E-01	LLD<4.04E-01
TL-207	LLD<3.88E+02	LLD<3.88E+02
Y-88	LLD<5.62E-01	LLD<5.62E-01
AC-228	1.84E+00 +- 8.01E-01	1.84E+00 +- 8.01E-01
EU-152	LLD<4.27E+00	LLD<4.27E+00
[illegible]-234M	LLD<3.93E+00	LLD<3.93E+00
[illegible]-91	LLD<1.18E+00	LLD<1.18E+00
RB-89	LLD<7.98E-01	LLD<7.98E-01
FE-59	LLD<8.29E-01	LLD<8.29E-01
ZN-65	LLD<1.01E+00	LLD<1.01E+00
SC-46	LLD<5.13E-01	LLD<5.13E-01
TA-182	LLD<1.30E+00	LLD<1.30E+00
I-135	LLD<1.43E+00	LLD<1.43E+00
CL-39	LLD<6.87E-01	LLD<6.87E-01
NA-22	LLD<4.82E-01	LLD<4.82E-01
AR-41	LLD<3.67E-01	LLD<3.67E-01
CO-60	LLD<5.09E-01	LLD<5.09E-01
NA-24	LLD<3.77E-01	LLD<3.77E-01
SR-92	LLD<5.52E-01	LLD<5.52E-01
SCH-000	LLD<9.31E-01	LLD<9.31E-01
CS-138	LLD<2.85E-01	LLD<2.85E-01
K-40	2.42E+01 +- 5.20E+00	2.42E+01 +- 5.20E+00
KR-88	LLD<3.65E+00	LLD<3.65E+00
TL-209	LLD<7.74E-01	LLD<7.74E-01
LA-140	LLD<4.58E-01	LLD<4.58E-01
AL-26	LLD<4.50E-01	LLD<4.50E-01
MN-56	LLD<1.47E+00	LLD<1.47E+00
RB-88	LLD<1.00E+00	LLD<1.00E+00
	---	---
Total	2.95E+01 +- 5.32E+00	2.95E+01 +- 5.32E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0082

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
677.80	338.55	41.	52.1	7.39E+00
1167.48	583.35	40.	39.8	1.26E+01
1788.42	893.95	9.	109.7	4.51E+00
2950.67	1475.82	6.	80.0	4.11E+00

0↕☺

0:♥♠ Pile AA C-45, 46

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 10:12:47

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0083
Measured by: dlv

Sample Description: AA:45,46 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.5000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 10:00:10

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 10:12:47

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	479.07	239.24	1.4	70.	136.	25.7	PB-212
2	556.13	277.75	2.0	17.	19.	77.1	TL-208,NP-239
3	591.85	295.60	1.0	25.	34.	56.3	PB-214
4	705.20	352.25	1.2	22.	62.	33.8	PB-214
5	1219.77	609.50	1.1	13.	43.	39.6	BI-214
6	1325.22	662.24	0.8	7.	21.	56.8	CS-137
7	2921.66	1461.29	2.4	8.	68.	27.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 06-DEC-95 10:12:47

Sample: AA:45,46 Soil
Data collected on 06-DEC-95 at 10:00:10
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.68E+00		LLD<3.68E+00	
TH-234	LLD<2.66E+01		LLD<2.66E+01	
TH-230	LLD<2.33E+02		LLD<2.33E+02	
XE-133	LLD<1.64E+00		LLD<1.64E+00	
CD-109	LLD<1.07E+01		LLD<1.07E+01	
SCL-000	LLD<6.01E-01		LLD<6.01E-01	
CO-57	LLD<2.00E-01		LLD<2.00E-01	
PA-234	LLD<9.59E-01		LLD<9.59E-01	
CE-144	LLD<1.82E+00		LLD<1.82E+00	
TC-99M	LLD<1.99E-01		LLD<1.99E-01	
U-235	LLD<1.84E+00		LLD<1.84E+00	
CE-141	LLD<3.82E-01		LLD<3.82E-01	
KR-85M	LLD<2.72E-01		LLD<2.72E-01	
XE-131M	LLD<9.17E+00		LLD<9.17E+00	
BA-139	LLD<1.18E+00		LLD<1.18E+00	
[illegible]E-139	LLD<2.40E-01		LLD<2.40E-01	
[illegible]A-226	LLD<5.85E+00		LLD<5.85E+00	
BA-141	LLD<4.99E-01		LLD<4.99E-01	
KR-89	LLD<2.28E+00		LLD<2.28E+00	
TE-132	LLD<2.25E-01		LLD<2.25E-01	
XE-133M	LLD<2.39E+00		LLD<2.39E+00	
TH-227	LLD<1.98E+00		LLD<1.98E+00	
PB-212	1.66E+00	+- 4.30E-01	1.66E+00	+- 4.30E-01
RA-224	LLD<6.24E+00		LLD<6.24E+00	
XE-135	LLD<2.22E-01		LLD<2.22E-01	
XE-138	LLD<9.21E-01		LLD<9.21E-01	
SE-75	LLD<3.57E-01		LLD<3.57E-01	
NP-239	LLD<1.51E+00		LLD<1.51E+00	
HG-203	LLD<2.53E-01		LLD<2.53E-01	
IR-192	LLD<2.59E-01		LLD<2.59E-01	
CR-51	LLD<2.07E+00		LLD<2.07E+00	
SCM-000	LLD<1.13E+00		LLD<1.13E+00	
BI-211	LLD<8.13E+00		LLD<8.13E+00	
PB-214	1.48E+00	+- 5.01E-01	1.48E+00	+- 5.01E-01
BA-133	LLD<6.76E-01		LLD<6.76E-01	
I-131	LLD<2.54E-01		LLD<2.54E-01	
SN-113	LLD<3.86E-01		LLD<3.86E-01	
KR-87	LLD<4.73E-01		LLD<4.73E-01	
PB-211	LLD<8.82E+00		LLD<8.82E+00	
AU-198	LLD<2.73E-01		LLD<2.73E-01	
SB-125	LLD<6.54E-01		LLD<6.54E-01	
[illegible]-212	LLD<7.59E+01		LLD<7.59E+01	
BE-7	LLD<2.92E+00		LLD<2.92E+00	
HF-181	LLD<3.17E-01		LLD<3.17E-01	
RU-103	LLD<2.74E-01		LLD<2.74E-01	
KR-85	LLD<7.10E+01		LLD<7.10E+01	

SR-85	LLD<3.10E-01		LLD<3.10E-01		
I-133	LLD<3.29E-01		LLD<3.29E-01		
BA-140	LLD<1.05E+00		LLD<1.05E+00		
Y-91M	LLD<2.97E-01		LLD<2.97E-01		
[illegible]-207	LLD<2.42E-01		LLD<2.42E-01		
[illegible]-208	LLD<1.35E+00		LLD<1.35E+00		
SB-124	LLD<3.13E-01		LLD<3.13E-01		
CS-134	LLD<6.59E-01		LLD<6.59E-01		
BI-214	1.52E+00	+- 6.03E-01	1.52E+00	+-	6.03E-01
RU-106	LLD<2.49E+00		LLD<2.49E+00		
LA-142	LLD<6.79E-01		LLD<6.79E-01		
AG-110M	LLD<4.57E-01		LLD<4.57E-01		
NB-97	LLD<4.60E-01		LLD<4.60E-01		
CS-137	3.48E-01	+- 1.98E-01	3.48E-01	+-	1.98E-01
I-132	LLD<4.67E-01		LLD<4.67E-01		
W-187	LLD<9.65E-01		LLD<9.65E-01		
ZR-97	LLD<2.84E-01		LLD<2.84E-01		
ZR-95	LLD<5.90E-01		LLD<5.90E-01		
NB-95	LLD<3.72E-01		LLD<3.72E-01		
TL-210	LLD<2.19E+00		LLD<2.19E+00		
CO-58	LLD<3.31E-01		LLD<3.31E-01		
CS-136	LLD<3.13E-01		LLD<3.13E-01		
MN-54	LLD<2.96E-01		LLD<2.96E-01		
CO-56	LLD<3.87E-01		LLD<3.87E-01		
I-134	LLD<4.46E-01		LLD<4.46E-01		
TL-207	LLD<2.15E+02		LLD<2.15E+02		
Y-88	LLD<3.33E-01		LLD<3.33E-01		
AC-228	LLD<1.44E+00		LLD<1.44E+00		
EU-152	LLD<3.13E+00		LLD<3.13E+00		
[illegible]A-234M	LLD<4.53E+00		LLD<4.53E+00		
[illegible]-91	LLD<1.09E+00		LLD<1.09E+00		
RB-89	LLD<6.39E-01		LLD<6.39E-01		
FE-59	LLD<8.93E-01		LLD<8.93E-01		
ZN-65	LLD<1.10E+00		LLD<1.10E+00		
SC-46	LLD<4.87E-01		LLD<4.87E-01		
TA-182	LLD<1.41E+00		LLD<1.41E+00		
I-135	LLD<1.54E+00		LLD<1.54E+00		
CL-39	LLD<8.06E-01		LLD<8.06E-01		
NA-22	LLD<3.14E-01		LLD<3.14E-01		
AR-41	LLD<3.13E-01		LLD<3.13E-01		
CO-60	LLD<3.85E-01		LLD<3.85E-01		
NA-24	LLD<3.98E-01		LLD<3.98E-01		
SR-92	LLD<6.48E-01		LLD<6.48E-01		
SCH-000	LLD<1.48E+00		LLD<1.48E+00		
CS-138	LLD<4.68E-01		LLD<4.68E-01		
K-40	1.82E+01	+- 5.12E+00	1.82E+01	+-	5.12E+00
KR-88	LLD<2.52E+00		LLD<2.52E+00		
TL-209	LLD<1.09E+00		LLD<1.09E+00		
LA-140	LLD<5.28E-01		LLD<5.28E-01		
AL-26	LLD<4.47E-01		LLD<4.47E-01		
MN-56	LLD<7.02E-01		LLD<7.02E-01		
RB-88	LLD<4.77E-01		LLD<4.77E-01		
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Total	2.32E+01	+- 5.20E+00	2.32E+01	+-	5.20E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0083

PEAKS NOT USED IN ANALYSIS

Centroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
556.13	277.75	19.	77.1	2.96E+00
591.85	295.60	34.	56.3	5.52E+00

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0↕♥♠ Pile U C-70, 71, 84, 85

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 10:31:14

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0084
Measured by: dlv

Sample Description: U:70,71,84,85 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.2800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 10:13:36

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 10:31:14

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.61	239.01	1.5	60.	118.	27.6	PB-212
2	591.75	295.55	0.9	31.	34.	60.5	PB-214
3	1455.26	727.28	0.8	3.	10.	78.3	BI-212
4	1823.92	911.71	0.7	5.	24.	51.0	AC-228
5	2922.18	1461.55	2.5	6.	62.	27.8	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw

06-DEC-95 10:31:14

Sample: U:70,71,84,85 Soil
Data collected on 06-DEC-95 at 10:13:36
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.04E+00		LLD<4.04E+00	
TH-234	LLD<2.35E+01		LLD<2.35E+01	
TH-230	LLD<2.29E+02		LLD<2.29E+02	
XE-133	LLD<1.65E+00		LLD<1.65E+00	
CD-109	LLD<1.10E+01		LLD<1.10E+01	
SCL-000	LLD<7.57E-01		LLD<7.57E-01	
CO-57	LLD<2.51E-01		LLD<2.51E-01	
PA-234	LLD<9.14E-01		LLD<9.14E-01	
CE-144	LLD<1.85E+00		LLD<1.85E+00	
TC-99M	LLD<1.70E-01		LLD<1.70E-01	
U-235	LLD<1.76E+00		LLD<1.76E+00	
CE-141	LLD<3.80E-01		LLD<3.80E-01	
KR-85M	LLD<2.93E-01		LLD<2.93E-01	
XE-131M	LLD<7.88E+00		LLD<7.88E+00	
BA-139	LLD<1.11E+00		LLD<1.11E+00	
[illegible]E-139	LLD<2.25E-01		LLD<2.25E-01	
[illegible]A-226	LLD<5.60E+00		LLD<5.60E+00	
BA-141	LLD<4.91E-01		LLD<4.91E-01	
KR-89	LLD<2.36E+00		LLD<2.36E+00	
TE-132	LLD<2.13E-01		LLD<2.13E-01	
XE-133M	LLD<1.99E+00		LLD<1.99E+00	
TH-227	LLD<1.73E+00		LLD<1.73E+00	
PB-212	1.49E+00	+- 4.13E-01	1.49E+00	+- 4.13E-01
RA-224	LLD<5.87E+00		LLD<5.87E+00	
XE-135	LLD<2.39E-01		LLD<2.39E-01	
XE-138	LLD<8.87E-01		LLD<8.87E-01	
SE-75	LLD<3.98E-01		LLD<3.98E-01	
NP-239	LLD<1.47E+00		LLD<1.47E+00	
HG-203	LLD<3.05E-01		LLD<3.05E-01	
IR-192	LLD<2.60E-01		LLD<2.60E-01	
CR-51	LLD<2.47E+00		LLD<2.47E+00	
SCM-000	LLD<9.56E-01		LLD<9.56E-01	
BI-211	LLD<7.90E+00		LLD<7.90E+00	
PB-214	LLD<9.43E-01		LLD<9.43E-01	
BA-133	LLD<6.01E-01		LLD<6.01E-01	
I-131	LLD<2.37E-01		LLD<2.37E-01	
SN-113	LLD<3.57E-01		LLD<3.57E-01	
KR-87	LLD<4.92E-01		LLD<4.92E-01	
PB-211	LLD<8.79E+00		LLD<8.79E+00	
AU-198	LLD<2.46E-01		LLD<2.46E-01	
SB-125	LLD<8.26E-01		LLD<8.26E-01	
[illegible]-212	LLD<6.45E+01		LLD<6.45E+01	
BE-7	LLD<2.55E+00		LLD<2.55E+00	
HF-181	LLD<2.86E-01		LLD<2.86E-01	
RU-103	LLD<2.98E-01		LLD<2.98E-01	
KR-85	LLD<7.10E+01		LLD<7.10E+01	

SR-85	LLD<3.10E-01		LLD<3.10E-01		
I-133	LLD<3.19E-01		LLD<3.19E-01		
BA-140	LLD<8.87E-01		LLD<8.87E-01		
[illegible] 91M	LLD<2.38E-01		LLD<2.38E-01		
[illegible]-207	LLD<2.31E-01		LLD<2.31E-01		
TL-208	LLD<1.06E+00		LLD<1.06E+00		
SB-124	LLD<3.10E-01		LLD<3.10E-01		
CS-134	LLD<5.22E-01		LLD<5.22E-01		
BI-214	LLD<1.04E+00		LLD<1.04E+00		
RU-106	LLD<2.29E+00		LLD<2.29E+00		
LA-142	LLD<7.02E-01		LLD<7.02E-01		
AG-110M	LLD<4.05E-01		LLD<4.05E-01		
NB-97	LLD<4.08E-01		LLD<4.08E-01		
CS-137	LLD<3.80E-01		LLD<3.80E-01		
I-132	LLD<3.40E-01		LLD<3.40E-01		
W-187	LLD<9.97E-01		LLD<9.97E-01		
ZR-97	LLD<3.65E-01		LLD<3.65E-01		
ZR-95	LLD<6.11E-01		LLD<6.11E-01		
NB-95	LLD<4.47E-01		LLD<4.47E-01		
TL-210	LLD<2.06E+00		LLD<2.06E+00		
CO-58	LLD<3.07E-01		LLD<3.07E-01		
CS-136	LLD<2.68E-01		LLD<2.68E-01		
MN-54	LLD<3.29E-01		LLD<3.29E-01		
CO-56	LLD<4.00E-01		LLD<4.00E-01		
I-134	LLD<4.26E-01		LLD<4.26E-01		
TL-207	LLD<2.23E+02		LLD<2.23E+02		
Y-88	LLD<3.49E-01		LLD<3.49E-01		
AC-228	1.78E+00	+- 9.10E-01	1.78E+00	+-	9.10E-01
EU-152	LLD<3.89E+00		LLD<3.89E+00		
[illegible]-234M	LLD<3.71E+00		LLD<3.71E+00		
[illegible]-91	LLD<1.24E+00		LLD<1.24E+00		
RB-89	LLD<7.10E-01		LLD<7.10E-01		
FE-59	LLD<9.85E-01		LLD<9.85E-01		
ZN-65	LLD<1.22E+00		LLD<1.22E+00		
SC-46	LLD<5.33E-01		LLD<5.33E-01		
TA-182	LLD<1.53E+00		LLD<1.53E+00		
I-135	LLD<1.13E+00		LLD<1.13E+00		
CL-39	LLD<6.88E-01		LLD<6.88E-01		
NA-22	LLD<4.29E-01		LLD<4.29E-01		
AR-41	LLD<4.84E-01		LLD<4.84E-01		
CO-60	LLD<4.47E-01		LLD<4.47E-01		
NA-24	LLD<3.85E-01		LLD<3.85E-01		
SR-92	LLD<4.99E-01		LLD<4.99E-01		
SCH-000	LLD<1.81E+00		LLD<1.81E+00		
CS-138	LLD<3.56E-01		LLD<3.56E-01		
K-40	1.72E+01	+- 4.82E+00	1.72E+01	+-	4.82E+00
KR-88	LLD<4.12E+00		LLD<4.12E+00		
TL-209	LLD<1.12E+00		LLD<1.12E+00		
LA-140	LLD<2.36E-01		LLD<2.36E-01		
AL-26	LLD<3.92E-01		LLD<3.92E-01		
MN-56	LLD<8.91E-01		LLD<8.91E-01		
RB-88	LLD<1.34E+00		LLD<1.34E+00		
Total	2.04E+01	+- 4.92E+00	2.04E+01	+-	4.92E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0084

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
591.75	295.55	34.	60.5	5.52E+00
1455.26	727.28	10.	78.3	4.01E+00

0↕☺

0:♥♠ Pile T C-68, 69, 82, 83

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 10:45:46

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0085
Measured by: dlv

Sample Description: T:68,69,82,83
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 10:32:07

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 10:45:46

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.70	239.05	1.6	80.	133.	27.2	PB-212
2	592.53	295.94	1.2	31.	39.	54.0	PB-214
3	705.24	352.27	1.0	23.	67.	32.8	PB-214
4	1021.72	510.47	0.9	13.	26.	58.5	TL-208,NA-22, ANN-RD
5	1168.04	583.63	0.9	13.	34.	46.9	TL-208
6	1219.40	609.32	2.2	7.	54.	30.8	BI-214
7	1496.97	748.14	0.7	4.	8.	102.5	
8	1822.59	911.04	1.3	7.	25.	52.7	AC-228
9	2922.70	1461.81	1.8	6.	84.	23.6	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw

06-DEC-95 10:45:46

Sample: T:68,69,82,83
Data collected on 06-DEC-95 at 10:32:07
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.35E+00		LLD<3.35E+00	
TH-234	LLD<2.65E+01		LLD<2.65E+01	
TH-230	LLD<2.08E+02		LLD<2.08E+02	
XE-133	LLD<1.69E+00		LLD<1.69E+00	
CD-109	LLD<1.14E+01		LLD<1.14E+01	
SCL-000	LLD<7.33E-01		LLD<7.33E-01	
CO-57	LLD<2.43E-01		LLD<2.43E-01	
PA-234	LLD<1.15E+00		LLD<1.15E+00	
CE-144	LLD<1.97E+00		LLD<1.97E+00	
TC-99M	LLD<2.25E-01		LLD<2.25E-01	
U-235	LLD<1.81E+00		LLD<1.81E+00	
CE-141	LLD<3.90E-01		LLD<3.90E-01	
KR-85M	LLD<2.46E-01		LLD<2.46E-01	
XE-131M	LLD<8.43E+00		LLD<8.43E+00	
BA-139	LLD<9.73E-01		LLD<9.73E-01	
[illegible]-139	LLD<1.98E-01		LLD<1.98E-01	
[illegible]A-226	LLD<5.33E+00		LLD<5.33E+00	
BA-141	LLD<5.23E-01		LLD<5.23E-01	
KR-89	LLD<2.51E+00		LLD<2.51E+00	
TE-132	LLD<2.34E-01		LLD<2.34E-01	
XE-133M	LLD<1.92E+00		LLD<1.92E+00	
TH-227	LLD<1.76E+00		LLD<1.76E+00	
PB-212	1.49E+00	+- 4.09E-01	1.49E+00	+- 4.09E-01
RA-224	LLD<5.30E+00		LLD<5.30E+00	
XE-135	LLD<2.13E-01		LLD<2.13E-01	
XE-138	LLD<8.04E-01		LLD<8.04E-01	
SE-75	LLD<3.60E-01		LLD<3.60E-01	
NP-239	LLD<1.53E+00		LLD<1.53E+00	
HG-203	LLD<2.59E-01		LLD<2.59E-01	
IR-192	LLD<3.04E-01		LLD<3.04E-01	
CR-51	LLD<2.24E+00		LLD<2.24E+00	
SCM-000	LLD<1.14E+00		LLD<1.14E+00	
BI-211	LLD<7.44E+00		LLD<7.44E+00	
PB-214	1.48E+00	+- 4.85E-01	1.48E+00	+- 4.85E-01
BA-133	LLD<6.76E-01		LLD<6.76E-01	
I-131	LLD<2.64E-01		LLD<2.64E-01	
SN-113	LLD<3.70E-01		LLD<3.70E-01	
KR-87	LLD<5.05E-01		LLD<5.05E-01	
PB-211	LLD<8.51E+00		LLD<8.51E+00	
AU-198	LLD<2.33E-01		LLD<2.33E-01	
[illegible]B-125	LLD<8.03E-01		LLD<8.03E-01	
[illegible]-212	LLD<7.35E+01		LLD<7.35E+01	
BE-7	LLD<2.09E+00		LLD<2.09E+00	
HF-181	LLD<3.17E-01		LLD<3.17E-01	
RU-103	LLD<2.38E-01		LLD<2.38E-01	
KR-85	LLD<7.43E+01		LLD<7.43E+01	

SR-85	LLD<3.25E-01		LLD<3.25E-01		
I-133	LLD<2.84E-01		LLD<2.84E-01		
BA-140	LLD<1.13E+00		LLD<1.13E+00		
91M	LLD<2.69E-01		LLD<2.69E-01		
-207	LLD<2.87E-01		LLD<2.87E-01		
TL-208	1.25E+00	+- 5.86E-01	1.25E+00	+-	5.86E-01
SB-124	LLD<2.98E-01		LLD<2.98E-01		
CS-134	LLD<6.20E-01		LLD<6.20E-01		
BI-214	1.75E+00	+- 5.40E-01	1.75E+00	+-	5.40E-01
RU-106	LLD<3.15E+00		LLD<3.15E+00		
LA-142	LLD<5.11E-01		LLD<5.11E-01		
AG-110M	LLD<4.03E-01		LLD<4.03E-01		
NB-97	LLD<4.06E-01		LLD<4.06E-01		
CS-137	LLD<4.20E-01		LLD<4.20E-01		
I-132	LLD<3.38E-01		LLD<3.38E-01		
W-187	LLD<1.01E+00		LLD<1.01E+00		
ZR-97	LLD<3.63E-01		LLD<3.63E-01		
ZR-95	LLD<6.66E-01		LLD<6.66E-01		
NB-95	LLD<4.41E-01		LLD<4.41E-01		
TL-210	LLD<2.26E+00		LLD<2.26E+00		
CO-58	LLD<3.38E-01		LLD<3.38E-01		
CS-136	LLD<3.46E-01		LLD<3.46E-01		
MN-54	LLD<2.42E-01		LLD<2.42E-01		
CO-56	LLD<2.90E-01		LLD<2.90E-01		
I-134	LLD<3.60E-01		LLD<3.60E-01		
TL-207	LLD<2.83E+02		LLD<2.83E+02		
Y-88	LLD<3.99E-01		LLD<3.99E-01		
AC-228	1.70E+00	+- 8.98E-01	1.70E+00	+-	8.98E-01
EU-152	LLD<3.82E+00		LLD<3.82E+00		
-234M	LLD<4.87E+00		LLD<4.87E+00		
R-91	LLD<1.12E+00		LLD<1.12E+00		
RB-89	LLD<6.89E-01		LLD<6.89E-01		
FE-59	LLD<6.80E-01		LLD<6.80E-01		
ZN-65	LLD<9.73E-01		LLD<9.73E-01		
SC-46	LLD<5.26E-01		LLD<5.26E-01		
TA-182	LLD<1.39E+00		LLD<1.39E+00		
I-135	LLD<1.65E+00		LLD<1.65E+00		
CL-39	LLD<8.07E-01		LLD<8.07E-01		
NA-22	LLD<4.98E-01		LLD<4.98E-01		
AR-41	LLD<4.49E-01		LLD<4.49E-01		
CO-60	LLD<2.66E-01		LLD<2.66E-01		
NA-24	LLD<4.19E-01		LLD<4.19E-01		
SR-92	LLD<3.53E-01		LLD<3.53E-01		
SCH-000	LLD<2.12E+00		LLD<2.12E+00		
CS-138	LLD<4.74E-01		LLD<4.74E-01		
K-40	LLD<8.88E+00		LLD<8.88E+00		
KR-88	LLD<3.77E+00		LLD<3.77E+00		
TL-209	LLD<1.23E+00		LLD<1.23E+00		
LA-140	LLD<4.32E-01		LLD<4.32E-01		
AL-26	LLD<1.72E-01		LLD<1.72E-01		
MN-56	LLD<6.45E-01		LLD<6.45E-01		
RB-88	LLD<1.51E+00		LLD<1.51E+00		
	---		---		
Total	7.67E+00	+- 1.36E+00	7.67E+00	+-	1.36E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0085

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
592.53	295.94	39.	54.0	6.33E+00
1496.97	748.14	8.	102.5	3.42E+00
2922.70	1461.81	84.	23.6	5.73E+01

0↕☺

0‡♥♠ Pile S C-65,66

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 11:05:48

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0086
Measured by: dlv

Sample Description: S:65,66
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.6700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 10:49:51

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw

06-DEC-95 11:05:48

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	478.68	239.04	1.6	39.	162.	22.2	PB-212
2C	485.37	242.39	1.6	29.	47.	42.4	PB-214
3	677.36	338.33	2.3	27.	34.	58.1	AC-228
4	705.19	352.24	1.7	31.	71.	33.6	PB-214
5	1167.62	583.42	2.5	16.	52.	36.8	TL-208
6	1219.36	609.30	1.9	16.	41.	43.9	BI-214
7	1822.95	911.23	2.8	6.	22.	54.2	AC-228
8	2921.80	1461.36	2.4	0.	97.	19.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw

06-DEC-95 11:05:48

Sample: S:65,66
Data collected on 06-DEC-95 at 10:49:51
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.46E+00		LLD<3.46E+00	
TH-234	LLD<2.37E+01		LLD<2.37E+01	
TH-230	LLD<2.16E+02		LLD<2.16E+02	
XE-133	LLD<1.64E+00		LLD<1.64E+00	
CD-109	LLD<1.13E+01		LLD<1.13E+01	
SCL-000	LLD<6.70E-01		LLD<6.70E-01	
CO-57	LLD<2.22E-01		LLD<2.22E-01	
PA-234	LLD<7.97E-01		LLD<7.97E-01	
CE-144	LLD<1.78E+00		LLD<1.78E+00	
TC-99M	LLD<1.91E-01		LLD<1.91E-01	
U-235	LLD<1.44E+00		LLD<1.44E+00	
CE-141	LLD<3.24E-01		LLD<3.24E-01	
KR-85M	LLD<2.40E-01		LLD<2.40E-01	
XE-131M	LLD<8.60E+00		LLD<8.60E+00	
BA-139	LLD<9.83E-01		LLD<9.83E-01	
[illegible]-139	LLD<2.00E-01		LLD<2.00E-01	
[illegible]-226	LLD<4.53E+00		LLD<4.53E+00	
BA-141	LLD<4.86E-01		LLD<4.86E-01	
KR-89	LLD<1.84E+00		LLD<1.84E+00	
TE-132	LLD<2.26E-01		LLD<2.26E-01	
XE-133M	LLD<2.32E+00		LLD<2.32E+00	
TH-227	LLD<1.60E+00		LLD<1.60E+00	
PB-212	1.67E+00	+- 3.75E-01	1.67E+00	+- 3.75E-01
RA-224	LLD<5.85E+00		LLD<5.85E+00	
XE-135	LLD<2.00E-01		LLD<2.00E-01	
XE-138	LLD<7.55E-01		LLD<7.55E-01	
SE-75	LLD<3.37E-01		LLD<3.37E-01	
NP-239	LLD<1.56E+00		LLD<1.56E+00	
HG-203	LLD<2.55E-01		LLD<2.55E-01	
IR-192	LLD<2.75E-01		LLD<2.75E-01	
CR-51	LLD<2.34E+00		LLD<2.34E+00	
SCM-000	LLD<1.09E+00		LLD<1.09E+00	
BI-211	LLD<7.77E+00		LLD<7.77E+00	
PB-214	1.45E+00	+- 4.87E-01	1.45E+00	+- 4.87E-01
BA-133	LLD<6.19E-01		LLD<6.19E-01	
I-131	LLD<2.25E-01		LLD<2.25E-01	
SN-113	LLD<3.12E-01		LLD<3.12E-01	
KR-87	LLD<4.96E-01		LLD<4.96E-01	
PB-211	LLD<9.40E+00		LLD<9.40E+00	
AU-198	LLD<2.34E-01		LLD<2.34E-01	
SB-125	LLD<7.44E-01		LLD<7.44E-01	
[illegible]-212	LLD<7.77E+01		LLD<7.77E+01	
BE-7	LLD<2.39E+00		LLD<2.39E+00	
HF-181	LLD<2.71E-01		LLD<2.71E-01	
RU-103	LLD<2.80E-01		LLD<2.80E-01	
KR-85	LLD<7.28E+01		LLD<7.28E+01	

SR-85	LLD<3.18E-01		LLD<3.18E-01		
I-133	LLD<2.32E-01		LLD<2.32E-01		
BA-140	LLD<9.36E-01		LLD<9.36E-01		
[illegible]91M	LLD<2.91E-01		LLD<2.91E-01		
[illegible]-207	LLD<2.96E-01		LLD<2.96E-01		
[illegible]-208	LLD<1.12E+00		LLD<1.12E+00		
SB-124	LLD<2.79E-01		LLD<2.79E-01		
CS-134	LLD<5.31E-01		LLD<5.31E-01		
BI-214	1.21E+00	+- 5.30E-01	1.21E+00	+-	5.30E-01
RU-106	LLD<2.87E+00		LLD<2.87E+00		
LA-142	LLD<4.93E-01		LLD<4.93E-01		
AG-110M	LLD<3.62E-01		LLD<3.62E-01		
NB-97	LLD<3.65E-01		LLD<3.65E-01		
CS-137	LLD<3.33E-01		LLD<3.33E-01		
I-132	LLD<3.85E-01		LLD<3.85E-01		
W-187	LLD<1.05E+00		LLD<1.05E+00		
ZR-97	LLD<3.05E-01		LLD<3.05E-01		
ZR-95	LLD<4.72E-01		LLD<4.72E-01		
NB-95	LLD<3.40E-01		LLD<3.40E-01		
TL-210	LLD<1.49E+00		LLD<1.49E+00		
CO-58	LLD<3.39E-01		LLD<3.39E-01		
CS-136	LLD<3.28E-01		LLD<3.28E-01		
MN-54	LLD<3.42E-01		LLD<3.42E-01		
CO-56	LLD<2.26E-01		LLD<2.26E-01		
I-134	LLD<2.99E-01		LLD<2.99E-01		
TL-207	LLD<2.33E+02		LLD<2.33E+02		
Y-88	LLD<3.68E-01		LLD<3.68E-01		
AC-228	1.35E+00	+- 7.34E-01	1.35E+00	+-	7.34E-01
EU-152	LLD<4.79E+00		LLD<4.79E+00		
[illegible]-234M	LLD<3.35E+00		LLD<3.35E+00		
[illegible]91	LLD<8.74E-01		LLD<8.74E-01		
RB-89	LLD<7.97E-01		LLD<7.97E-01		
FE-59	LLD<7.41E-01		LLD<7.41E-01		
ZN-65	LLD<1.20E+00		LLD<1.20E+00		
SC-46	LLD<4.59E-01		LLD<4.59E-01		
TA-182	LLD<1.40E+00		LLD<1.40E+00		
I-135	LLD<1.12E+00		LLD<1.12E+00		
CL-39	LLD<9.13E-01		LLD<9.13E-01		
NA-22	LLD<4.72E-01		LLD<4.72E-01		
AR-41	LLD<4.75E-01		LLD<4.75E-01		
CO-60	LLD<2.74E-01		LLD<2.74E-01		
NA-24	LLD<3.82E-01		LLD<3.82E-01		
SR-92	LLD<5.20E-01		LLD<5.20E-01		
SCH-000	LLD<1.45E+00		LLD<1.45E+00		
CS-138	LLD<4.37E-01		LLD<4.37E-01		
K-40	2.18E+01	+- 4.42E+00	2.18E+01	+-	4.42E+00
KR-88	LLD<2.78E+00		LLD<2.78E+00		
TL-209	LLD<4.94E-01		LLD<4.94E-01		
LA-140	LLD<2.83E-01		LLD<2.83E-01		
AL-26	LLD<3.21E-01		LLD<3.21E-01		
MN-56	LLD<8.33E-01		LLD<8.33E-01		
RB-88	LLD<1.82E+00		LLD<1.82E+00		
	---		---		
Total	2.75E+01	+- 4.55E+00	2.75E+01	+-	4.55E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0086

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
485.37	242.39	47.	42.4	6.26E+00
677.36	338.33	34.	58.1	6.16E+00
1167.62	583.42	52.	36.8	1.62E+01

0↕☺

0↕♥♠ Pile W C-58, 59, 72, 73

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw

06-DEC-95 11:20:08

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0087
Measured by: dlv

Sample Description: W:58,59,72,73 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.7000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 11:06:43

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 11:20:08

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.54	238.97	2.2	83.	113.	31.5	PB-212
2	678.33	338.82	1.5	14.	32.	49.0	AC-228
3	705.23	352.26	1.9	21.	68.	31.1	PB-214
4	1167.85	583.54	1.3	12.	39.	43.0	TL-208
5C	1219.39	609.31	1.5	7.	36.	39.3	BI-214
6	1472.96	736.13	1.5	3.	8.	96.5	
7	1823.50	911.50	3.2	4.	40.	34.8	AC-228
8	2921.71	1461.32	2.5	0.	91.	20.5	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 06-DEC-95 11:20:08

Sample: W:58,59,72,73 Soil
Data collected on 06-DEC-95 at 11:06:43
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.66E+00		LLD<3.66E+00	
TH-234	LLD<2.91E+01		LLD<2.91E+01	
TH-230	LLD<2.21E+02		LLD<2.21E+02	
XE-133	LLD<1.81E+00		LLD<1.81E+00	
CD-109	LLD<1.28E+01		LLD<1.28E+01	
SCL-000	LLD<7.55E-01		LLD<7.55E-01	
CO-57	LLD<2.51E-01		LLD<2.51E-01	
PA-234	LLD<1.01E+00		LLD<1.01E+00	
CE-144	LLD<2.00E+00		LLD<2.00E+00	
TC-99M	LLD<2.44E-01		LLD<2.44E-01	
U-235	LLD<1.86E+00		LLD<1.86E+00	
CE-141	LLD<3.95E-01		LLD<3.95E-01	
KR-85M	LLD<2.60E-01		LLD<2.60E-01	
XE-131M	LLD<8.42E+00		LLD<8.42E+00	
BA-139	LLD<1.12E+00		LLD<1.12E+00	
[illegible]-139	LLD<2.26E-01		LLD<2.26E-01	
[illegible]-226	LLD<5.91E+00		LLD<5.91E+00	
BA-141	LLD<5.94E-01		LLD<5.94E-01	
KR-89	LLD<2.36E+00		LLD<2.36E+00	
TE-132	LLD<2.11E-01		LLD<2.11E-01	
XE-133M	LLD<2.37E+00		LLD<2.37E+00	
TH-227	LLD<1.84E+00		LLD<1.84E+00	
PB-212	1.34E+00	+- 4.23E-01	1.34E+00	+- 4.23E-01
RA-224	LLD<5.90E+00		LLD<5.90E+00	
XE-135	LLD<2.33E-01		LLD<2.33E-01	
XE-138	LLD<8.79E-01		LLD<8.79E-01	
SE-75	LLD<3.53E-01		LLD<3.53E-01	
NP-239	LLD<1.65E+00		LLD<1.65E+00	
HG-203	LLD<2.49E-01		LLD<2.49E-01	
IR-192	LLD<2.48E-01		LLD<2.48E-01	
CR-51	LLD<2.17E+00		LLD<2.17E+00	
SCM-000	LLD<1.25E+00		LLD<1.25E+00	
BI-211	LLD<8.28E+00		LLD<8.28E+00	
PB-214	1.58E+00	+- 4.93E-01	1.58E+00	+- 4.93E-01
BA-133	LLD<6.74E-01		LLD<6.74E-01	
I-131	LLD<2.73E-01		LLD<2.73E-01	
SN-113	LLD<3.74E-01		LLD<3.74E-01	
KR-87	LLD<5.30E-01		LLD<5.30E-01	
PB-211	LLD<7.72E+00		LLD<7.72E+00	
AU-198	LLD<2.42E-01		LLD<2.42E-01	
SB-125	LLD<7.40E-01		LLD<7.40E-01	
[illegible]-212	LLD<7.50E+01		LLD<7.50E+01	
BE-7	LLD<2.47E+00		LLD<2.47E+00	
HF-181	LLD<2.30E-01		LLD<2.30E-01	
RU-103	LLD<2.51E-01		LLD<2.51E-01	
KR-85	LLD<7.06E+01		LLD<7.06E+01	

SR-85	LLD<3.09E-01		LLD<3.09E-01		
I-133	LLD<2.95E-01		LLD<2.95E-01		
BA-140	LLD<1.17E+00		LLD<1.17E+00		
Y-91M	LLD<3.81E-01		LLD<3.81E-01		
-207	LLD<3.28E-01		LLD<3.28E-01		
-208	LLD<1.18E+00		LLD<1.18E+00		
SB-124	LLD<3.10E-01		LLD<3.10E-01		
CS-134	LLD<5.82E-01		LLD<5.82E-01		
BI-214	1.22E+00	+- 4.82E-01	1.22E+00	+- 4.82E-01	
RU-106	LLD<3.04E+00		LLD<3.04E+00		
LA-142	LLD<7.01E-01		LLD<7.01E-01		
AG-110M	LLD<4.10E-01		LLD<4.10E-01		
NB-97	LLD<4.13E-01		LLD<4.13E-01		
CS-137	LLD<4.73E-01		LLD<4.73E-01		
I-132	LLD<3.84E-01		LLD<3.84E-01		
W-187	LLD<1.08E+00		LLD<1.08E+00		
ZR-97	LLD<3.52E-01		LLD<3.52E-01		
ZR-95	LLD<6.62E-01		LLD<6.62E-01		
NB-95	LLD<3.20E-01		LLD<3.20E-01		
TL-210	LLD<2.22E+00		LLD<2.22E+00		
CO-58	LLD<3.51E-01		LLD<3.51E-01		
CS-136	LLD<2.89E-01		LLD<2.89E-01		
MN-54	LLD<4.17E-01		LLD<4.17E-01		
CO-56	LLD<3.39E-01		LLD<3.39E-01		
I-134	LLD<3.94E-01		LLD<3.94E-01		
TL-207	LLD<2.93E+02		LLD<2.93E+02		
Y-88	LLD<4.40E-01		LLD<4.40E-01		
AC-228	2.83E+00	+- 9.88E-01	2.83E+00	+- 9.88E-01	
EU-152	LLD<3.49E+00		LLD<3.49E+00		
-234M	LLD<3.80E+00		LLD<3.80E+00		
-91	LLD<9.09E-01		LLD<9.09E-01		
RB-89	LLD<9.49E-01		LLD<9.49E-01		
FE-59	LLD<6.88E-01		LLD<6.88E-01		
ZN-65	LLD<9.56E-01		LLD<9.56E-01		
SC-46	LLD<4.43E-01		LLD<4.43E-01		
TA-182	LLD<1.20E+00		LLD<1.20E+00		
I-135	LLD<1.28E+00		LLD<1.28E+00		
CL-39	LLD<7.57E-01		LLD<7.57E-01		
NA-22	LLD<3.45E-01		LLD<3.45E-01		
AR-41	LLD<3.49E-01		LLD<3.49E-01		
CO-60	LLD<3.68E-01		LLD<3.68E-01		
NA-24	LLD<3.86E-01		LLD<3.86E-01		
SR-92	LLD<5.50E-01		LLD<5.50E-01		
SCH-000	LLD<1.52E+00		LLD<1.52E+00		
CS-138	LLD<4.54E-01		LLD<4.54E-01		
K-40	2.35E+01	+- 4.89E+00	2.35E+01	+- 4.89E+00	
KR-88	LLD<2.67E+00		LLD<2.67E+00		
TL-209	LLD<5.65E-01		LLD<5.65E-01		
LA-140	LLD<4.69E-01		LLD<4.69E-01		
AL-26	LLD<5.24E-01		LLD<5.24E-01		
MN-56	LLD<1.38E+00		LLD<1.38E+00		
RB-88	LLD<1.72E+00		LLD<1.72E+00		
	---		---		
Total	3.04E+01	+- 5.06E+00	3.04E+01	+- 5.06E+00	

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0087

PEAKS NOT USED IN ANALYSIS

Centroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
678.33	338.82	32.	49.0	5.85E+00
1167.85	583.54	39.	43.0	1.22E+01
1472.96	736.13	8.	96.5	3.17E+00

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0:♥♠ Pile V C-86, 87, 88, 89

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 06-DEC-95 12:08:52

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0088
Measured by: dlv

Sample Description: V:86,87,88,89 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 06-DEC-95 at 11:52:05

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 06-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 06-DEC-95 12:08:52

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.24	238.82	1.5	84.	110.	32.3	PB-212
2	677.63	338.47	1.4	24.	43.	46.3	AC-228
3	1022.37	510.80	1.2	15.	13.	106.3	TL-208,NA-22, ANN-RD
4	1219.65	609.44	1.1	4.	50.	30.5	BI-214
5	1323.80	661.53	2.2	14.	54.	34.9	CS-137
6	1822.62	911.06	1.1	8.	20.	63.3	AC-228
7	2921.71	1461.32	2.9	4.	77.	24.0	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw

06-DEC-95 12:08:52

Sample: V:86,87,88,89 Soil
Data collected on 06-DEC-95 at 11:52:05
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.74E+00		LLD<3.74E+00	
TH-234	LLD<2.53E+01		LLD<2.53E+01	
TH-230	LLD<2.28E+02		LLD<2.28E+02	
XE-133	LLD<1.77E+00		LLD<1.77E+00	
CD-109	LLD<1.42E+01		LLD<1.42E+01	
SCL-000	LLD<7.09E-01		LLD<7.09E-01	
CO-57	LLD<2.35E-01		LLD<2.35E-01	
PA-234	LLD<9.94E-01		LLD<9.94E-01	
CE-144	LLD<1.94E+00		LLD<1.94E+00	
TC-99M	LLD<2.31E-01		LLD<2.31E-01	
U-235	LLD<1.72E+00		LLD<1.72E+00	
CE-141	LLD<3.28E-01		LLD<3.28E-01	
KR-85M	LLD<2.38E-01		LLD<2.38E-01	
XE-131M	LLD<8.99E+00		LLD<8.99E+00	
BA-139	LLD<1.01E+00		LLD<1.01E+00	
[illegible]-139	LLD<2.05E-01		LLD<2.05E-01	
[illegible]-226	LLD<4.92E+00		LLD<4.92E+00	
BA-141	LLD<5.74E-01		LLD<5.74E-01	
KR-89	LLD<2.77E+00		LLD<2.77E+00	
TE-132	LLD<2.28E-01		LLD<2.28E-01	
XE-133M	LLD<2.18E+00		LLD<2.18E+00	
TH-227	LLD<1.70E+00		LLD<1.70E+00	
PB-212	1.27E+00	+- 4.13E-01	1.27E+00	+- 4.13E-01
RA-224	LLD<6.31E+00		LLD<6.31E+00	
XE-135	LLD<2.34E-01		LLD<2.34E-01	
XE-138	LLD<8.05E-01		LLD<8.05E-01	
SE-75	LLD<3.87E-01		LLD<3.87E-01	
NP-239	LLD<1.57E+00		LLD<1.57E+00	
HG-203	LLD<2.77E-01		LLD<2.77E-01	
IR-192	LLD<2.73E-01		LLD<2.73E-01	
CR-51	LLD<2.21E+00		LLD<2.21E+00	
SCM-000	LLD<1.21E+00		LLD<1.21E+00	
BI-211	LLD<7.44E+00		LLD<7.44E+00	
PB-214	LLD<8.88E-01		LLD<8.88E-01	
BA-133	LLD<6.01E-01		LLD<6.01E-01	
I-131	LLD<3.11E-01		LLD<3.11E-01	
SN-113	LLD<3.27E-01		LLD<3.27E-01	
KR-87	LLD<5.09E-01		LLD<5.09E-01	
PB-211	LLD<9.16E+00		LLD<9.16E+00	
AU-198	LLD<2.35E-01		LLD<2.35E-01	
SB-125	LLD<9.03E-01		LLD<9.03E-01	
[illegible]-212	LLD<7.07E+01		LLD<7.07E+01	
BE-7	LLD<2.39E+00		LLD<2.39E+00	
HF-181	LLD<2.96E-01		LLD<2.96E-01	
RU-103	LLD<3.38E-01		LLD<3.38E-01	
KR-85	LLD<6.90E+01		LLD<6.90E+01	

SR-85	LLD<3.02E-01		LLD<3.02E-01		
I-133	LLD<3.24E-01		LLD<3.24E-01		
BA-140	LLD<1.05E+00		LLD<1.05E+00		
Y 91M	LLD<3.03E-01		LLD<3.03E-01		
·207	LLD<3.07E-01		LLD<3.07E-01		
L-208	LLD<1.18E+00		LLD<1.18E+00		
SB-124	LLD<3.33E-01		LLD<3.33E-01		
CS-134	LLD<6.36E-01		LLD<6.36E-01		
BI-214	1.66E+00	+- 5.09E-01	1.66E+00	+-	5.09E-01
RU-106	LLD<2.94E+00		LLD<2.94E+00		
LA-142	LLD<5.50E-01		LLD<5.50E-01		
AG-110M	LLD<7.05E-01		LLD<7.05E-01		
NB-97	LLD<7.11E-01		LLD<7.11E-01		
CS-137	8.39E-01	+- 2.94E-01	8.39E-01	+-	2.94E-01
I-132	LLD<5.69E-01		LLD<5.69E-01		
W-187	LLD<1.15E+00		LLD<1.15E+00		
ZR-97	LLD<2.54E-01		LLD<2.54E-01		
ZR-95	LLD<5.37E-01		LLD<5.37E-01		
NB-95	LLD<3.91E-01		LLD<3.91E-01		
TL-210	LLD<1.96E+00		LLD<1.96E+00		
CO-58	LLD<3.07E-01		LLD<3.07E-01		
CS-136	LLD<2.75E-01		LLD<2.75E-01		
MN-54	LLD<3.86E-01		LLD<3.86E-01		
CO-56	LLD<3.42E-01		LLD<3.42E-01		
I-134	LLD<3.40E-01		LLD<3.40E-01		
TL-207	LLD<2.54E+02		LLD<2.54E+02		
Y-88	LLD<4.04E-01		LLD<4.04E-01		
AC-228	1.36E+00	+- 8.62E-01	1.36E+00	+-	8.62E-01
EU-152	LLD<3.78E+00		LLD<3.78E+00		
-234M	LLD<3.70E+00		LLD<3.70E+00		
-91	LLD<9.71E-01		LLD<9.71E-01		
RB-89	LLD<7.16E-01		LLD<7.16E-01		
FE-59	LLD<7.12E-01		LLD<7.12E-01		
ZN-65	LLD<1.06E+00		LLD<1.06E+00		
SC-46	LLD<4.92E-01		LLD<4.92E-01		
TA-182	LLD<1.37E+00		LLD<1.37E+00		
I-135	LLD<1.61E+00		LLD<1.61E+00		
CL-39	LLD<8.49E-01		LLD<8.49E-01		
NA-22	LLD<3.91E-01		LLD<3.91E-01		
AR-41	LLD<5.81E-01		LLD<5.81E-01		
CO-60	LLD<3.12E-01		LLD<3.12E-01		
NA-24	LLD<1.90E-01		LLD<1.90E-01		
SR-92	LLD<4.16E-01		LLD<4.16E-01		
SCH-000	LLD<1.89E+00		LLD<1.89E+00		
CS-138	LLD<3.88E-01		LLD<3.88E-01		
K-40	1.93E+01	+- 4.69E+00	1.93E+01	+-	4.69E+00
KR-88	LLD<3.75E+00		LLD<3.75E+00		
TL-209	LLD<2.48E-01		LLD<2.48E-01		
LA-140	LLD<3.93E-01		LLD<3.93E-01		
AL-26	LLD<1.76E-01		LLD<1.76E-01		
MN-56	LLD<1.21E+00		LLD<1.21E+00		
RB-88	LLD<2.39E+00		LLD<2.39E+00		
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Total	2.44E+01	+- 4.82E+00	2.44E+01	+-	4.82E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0088

PEAKS NOT USED IN ANALYSIS

ıtroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
677.63	338.47	43.	46.3	7.80E+00
1022.37	510.80	13.	106.3	3.53E+00

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GAMMA SPECTROSCOPY RESULTS FROM 12/7/95

FOR

CELLS PILE S-A(163,164,165,166,167),PILE S-C(157,158,161,162),PILE S-B(153,156,159,160),PILE S-D(151,152,154,155)

0↕♥♠ Autocal 12/7

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*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 07-DEC-95 09:10:18

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 07-DEC-95 at 08:41:15

COLLECT Live Time: 1200. sec.

hgtrw 07-DEC-95 09:10:18

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1?	80.78	40.25	1.6	28766.	4454.	17.9	
2?	92.35	46.03	1.6	23514.	1830.	27.2	
3?	236.04	117.81	1.6	37390.	9398.	51.0	
4?	244.87	122.22	1.6	34665.	185775.	2.7	SCL-000,CO-57
5?	481.55	240.48	1.6	14328.	1702.	37.3	RA-224
6?	490.61	245.01	1.6	13610.	35965.	3.8	
7?	495.81	247.60	1.6	13197.	1404.	44.9	
8	592.98	296.16	1.3	9365.	1607.	18.8	PB-214
9?	680.96	340.13	1.7	9096.	3546.	42.1	CS-136
10?	689.62	344.46	1.7	9775.	91613.	1.8	BA-141, SCM-000
11	736.43	367.86	1.9	6540.	2920.	9.3	
12C	823.20	411.23	1.7	5434.	5762.	6.9	AU-198
13C	832.95	416.10	1.7	5168.	325.	52.3	
14	888.83	444.03	1.7	6414.	7542.	4.1	
15	978.29	488.76	1.7	5322.	992.	23.6	
16	1128.57	563.90	1.4	6016.	1017.	25.0	CS-134,SB-122
17C	1173.54	586.39	1.6	4478.	725.	47.1	
18	1357.73	678.50	1.8	4537.	486.	43.8	AG110M
19	1377.63	688.45	1.9	4807.	1511.	15.4	
20C	1439.10	719.19	1.8	4032.	539.	39.2	
21C	1446.04	722.67	1.8	4003.	289.	48.3	SB-124,I-131
22?	1550.00	774.67	2.0	4275.	830.	28.9	TE131M
23?	1558.07	778.71	2.0	4190.	19423.	2.9	MO-99
24?	1564.47	781.91	2.0	4123.	545.	44.3	
25	1621.43	810.40	1.5	4485.	533.	42.6	I-132,CO-58
26	1734.87	867.15	1.9	4825.	5040.	5.3	
27C	1838.61	919.06	2.0	2475.	610.	34.3	
28C	1852.52	926.02	2.0	2571.	265.	38.9	PA-234
29?	1920.02	959.80	2.1	2566.	787.	25.8	
30?	1928.01	963.80	2.1	2718.	18395.	2.2	EU-152
31	2010.03	1004.85	1.7	2061.	880.	18.4	
32C	2163.11	1081.46	2.2	1901.	562.	26.3	
33C	2171.39	1085.60	2.2	1846.	12369.	3.1	EU-152
34C	2179.13	1089.48	2.2	1795.	2142.	9.9	
35?	2215.48	1107.68	2.3	2030.	763.	27.7	
36?	2223.82	1111.85	2.3	2140.	15446.	2.5	TE-129,EU-152
37	2425.34	1212.74	2.2	1438.	1293.	11.4	
38	2548.29	1274.30	2.2	716.	311.	31.3	NA-22
39	2597.70	1299.04	2.0	579.	1410.	7.6	I-133
40?	2807.01	1403.87	2.4	308.	971.	17.7	
41?	2815.31	1408.02	2.4	392.	19194.	1.7	EU-152,BI-214, SCH-000
42C	2914.58	1457.75	2.4	85.	503.	11.4	I-135
43C	2921.08	1461.00	2.4	72.	246.	16.6	K-40
44$	3052.78	1526.98	2.6	39.	103.	69.3	
45$	3058.03	1529.61	2.6	33.	500.	16.9	KR-88
46	3191.76	1596.61	1.2	16.	14.	110.2	LA-140
47	3301.11	1651.40	1.1	12.	17.	83.9	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

15 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.501432E-07*Ch^2 + 4.994601E-01*Ch +-9.596911E-02

New Calibration Coefficients:

Energy = 2.598392E-07*Ch^2 + 4.995955E-01*Ch +-3.897144E-01

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Daily source check 12/7

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 07-DEC-95 10:05:26

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
nalysis of Spectrum saved in Disk File SD1207
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 07-DEC-95 at 09:14:10

COLLECT Live Time: 600. seconds
Real Time: 761. seconds
Dead Time: 21.16 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 07-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 07-DEC-95 10:05:26

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1?	80.58	39.87	1.5	14240.	2179.	25.7	
2?	92.08	45.62	1.5	11558.	893.	38.6	
3?	236.90	117.98	1.6	18052.	5007.	51.4	
4?	244.72	121.89	1.6	15620.	92923.	3.7	SE-75,SCL-000, CO-57
5?	250.27	124.66	1.6	13893.	2350.	93.8	
6?	482.08	240.52	1.6	7383.	541.	70.6	RA-224
7?	490.43	244.69	1.6	7168.	17356.	3.7	
8	592.71	295.82	1.8	5375.	1220.	19.9	PB-214
9?	681.39	340.15	1.7	3988.	2141.	39.0	CS-136
10?	689.41	344.16	1.7	3704.	45980.	2.7	BA-141, SCM-000
11?	695.42	347.16	1.7	3492.	1243.	60.7	
12	736.25	367.58	1.8	3211.	1483.	12.9	
13C	823.01	410.96	1.7	2757.	3131.	9.1	AU-198
14	888.66	443.78	1.7	2625.	3973.	5.0	
15	977.89	488.41	1.5	2987.	342.	51.8	
16C	1128.79	563.88	1.8	2574.	532.	33.6	CS-134,SB-122
17C	1133.27	566.12	1.8	2610.	200.	51.3	
18	1172.56	585.78	1.8	2884.	304.	57.3	
19	1357.45	678.26	1.6	2515.	161.	99.8	I-134,AG110M
20	1377.46	688.28	1.6	2431.	731.	22.6	
21C	1549.67	774.44	2.0	1993.	437.	31.2	TE131M
22C	1557.79	778.51	2.0	1940.	9759.	3.8	MO-99
23C	1564.17	781.70	2.0	1897.	340.	40.6	
24	1621.02	810.15	2.2	1441.	333.	35.2	I-132,CO-58
25	1734.61	867.00	1.9	2392.	2644.	7.1	
26?	1919.68	959.63	2.1	1193.	473.	34.4	
27?	1927.73	963.66	2.1	1301.	9319.	3.2	EU-152
28	2009.61	1004.65	2.2	955.	503.	21.8	
29	2171.06	1085.49	1.9	2424.	5304.	4.1	EU-152
30C	2216.58	1108.28	2.2	940.	537.	24.2	
31C	2223.46	1111.73	2.2	1027.	7639.	3.3	TE-129,EU-152
32	2425.24	1212.78	2.0	708.	617.	16.6	
33	2597.40	1299.01	2.2	276.	775.	10.0	I-133
34C	2806.96	1404.00	2.3	195.	481.	18.4	
35C	2814.95	1408.00	2.3	291.	9452.	2.3	EU-152,BI-214, SCH-000
36N	2866.57	1433.87	1.0	28.	30.	69.7	
37	2914.28	1457.78	3.2	72.	304.	14.7	I-135
38	3057.35	1529.48	4.0	43.	234.	16.2	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

10 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge

? - Multiplet Analysis converged but GFIT > 4

hgtrw 07-DEC-95 10:05:26

Sample: Eu-152 Standard
Data collected on 07-DEC-95 at 09:14:10
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.89E+01		LLD<2.89E+01	
TH-234	LLD<2.19E+02		LLD<2.19E+02	
TH-230	LLD<1.81E+03		LLD<1.81E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	LLD<1.11E+02		LLD<1.11E+02	
SCL-000	9.79E+02	+- 3.81E+01	9.79E+02	+- 3.81E+01
CO-57	3.25E+02	+- 1.26E+01	3.25E+02	+- 1.26E+01
PA-234	LLD<9.09E+00		LLD<9.09E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.95E+00		LLD<1.95E+00	
U-235	LLD<1.59E+01		LLD<1.59E+01	
CE-141	LLD<3.60E+00		LLD<3.60E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.82E+01		LLD<8.82E+01	
BA-139	LLD<1.08E+01		LLD<1.08E+01	
[illegible]-139	LLD<2.16E+00		LLD<2.16E+00	
[illegible]-226	LLD<5.32E+01		LLD<5.32E+01	
BA-141	LLD<4.53E+00		LLD<4.53E+00	
KR-89	LLD<2.79E+01		LLD<2.79E+01	
TE-132	LLD<2.17E+00		LLD<2.17E+00	
XE-133M	LLD<1.92E+01		LLD<1.92E+01	
TH-227	LLD<1.38E+01		LLD<1.38E+01	
PB-212	LLD<5.24E+00		LLD<5.24E+00	
RA-224	5.54E+01	+- 3.91E+01	5.54E+01	+- 3.91E+01
XE-135	LLD<4.25E+00		LLD<4.25E+00	
XE-138	LLD<8.33E+00		LLD<8.33E+00	
SE-75	LLD<3.26E+00		LLD<3.26E+00	
NP-239	LLD<1.37E+01		LLD<1.37E+01	
HG-203	LLD<2.52E+00		LLD<2.52E+00	
IR-192	LLD<2.21E+00		LLD<2.21E+00	
CR-51	LLD<2.08E+01		LLD<2.08E+01	
SCM-000	9.68E+02	+- 3.01E+01	9.68E+02	+- 3.01E+01
BI-211	LLD<8.03E+01		LLD<8.03E+01	
PB-214	LLD<7.25E+00		LLD<7.25E+00	
BA-133	LLD<3.14E+00		LLD<3.14E+00	
I-131	LLD<2.78E+00		LLD<2.78E+00	
SN-113	LLD<3.06E+00		LLD<3.06E+00	
KR-87	LLD<4.40E+00		LLD<4.40E+00	
PB-211	LLD<8.30E+01		LLD<8.30E+01	
AU-198	2.19E+01	+- 2.04E+00	2.19E+01	+- 2.04E+00
SB-125	LLD<7.09E+00		LLD<7.09E+00	
[illegible]-212	LLD<6.57E+02		LLD<6.57E+02	
[illegible]-7	LLD<2.12E+01		LLD<2.12E+01	
HF-181	LLD<2.71E+00		LLD<2.71E+00	
RU-103	LLD<2.64E+00		LLD<2.64E+00	
KR-85	LLD<5.91E+02		LLD<5.91E+02	

SR-85	LLD<2.58E+00	LLD<2.58E+00
I-133	LLD<2.85E+00	LLD<2.85E+00
BA-140	LLD<1.01E+01	LLD<1.01E+01
Y-91M	LLD<3.09E+00	LLD<3.09E+00
[illegible]-207	LLD<2.97E+00	LLD<2.97E+00
[illegible]-208	LLD<1.02E+01	LLD<1.02E+01
SB-124	LLD<2.75E+00	LLD<2.75E+00
CS-134	LLD<2.74E+00	LLD<2.74E+00
BI-214	LLD<7.23E+00	LLD<7.23E+00
RU-106	LLD<2.75E+01	LLD<2.75E+01
LA-142	LLD<5.52E+00	LLD<5.52E+00
AG-110M	LLD<2.97E+00	LLD<2.97E+00
NB-97	LLD<3.23E+00	LLD<3.23E+00
CS-137	LLD<3.18E+00	LLD<3.18E+00
I-132	LLD<2.98E+00	LLD<2.98E+00
W-187	LLD<1.05E+01	LLD<1.05E+01
ZR-97	LLD<3.46E+00	LLD<3.46E+00
ZR-95	LLD<6.11E+00	LLD<6.11E+00
NB-95	LLD<3.11E+00	LLD<3.11E+00
TL-210	LLD<2.29E+01	LLD<2.29E+01
CO-58	4.42E+00 +- 1.56E+00	4.42E+00 +- 1.56E+00
CS-136	LLD<3.39E+00	LLD<3.39E+00
MN-54	LLD<3.59E+00	LLD<3.59E+00
CO-56	LLD<3.52E+00	LLD<3.52E+00
I-134	LLD<3.90E+00	LLD<3.90E+00
TL-207	LLD<3.18E+03	LLD<3.18E+03
Y-88	LLD<3.88E+00	LLD<3.88E+00
AC-228	LLD<1.16E+01	LLD<1.16E+01
EU-152	9.99E+02 +- 3.97E+01	9.99E+02 +- 3.97E+01
[illegible]-234M	LLD<4.46E+01	LLD<4.46E+01
[illegible]-91	LLD<8.89E+00	LLD<8.89E+00
RB-89	LLD<6.62E+00	LLD<6.62E+00
FE-59	LLD<5.29E+00	LLD<5.29E+00
ZN-65	LLD<1.47E+01	LLD<1.47E+01
SC-46	LLD<3.64E+00	LLD<3.64E+00
TA-182	LLD<9.21E+00	LLD<9.21E+00
I-135	LLD<8.21E+00	LLD<8.21E+00
CL-39	LLD<5.29E+00	LLD<5.29E+00
NA-22	LLD<2.30E+00	LLD<2.30E+00
AR-41	LLD<4.24E+00	LLD<4.24E+00
CO-60	LLD<1.46E+00	LLD<1.46E+00
NA-24	LLD<1.30E+00	LLD<1.30E+00
SR-92	LLD<1.26E+00	LLD<1.26E+00
SCH-000	9.23E+02 +- 3.59E+01	9.23E+02 +- 3.59E+01
CS-138	LLD<1.39E+00	LLD<1.39E+00
K-40	LLD<1.27E+01	LLD<1.27E+01
KR-88	LLD<8.89E+00	LLD<8.89E+00
TL-209	LLD<1.75E+00	LLD<1.75E+00
LA-140	LLD<5.29E-01	LLD<5.29E-01
AL-26	LLD<2.77E-01	LLD<2.77E-01
MN-56	LLD<6.34E-01	LLD<6.34E-01
RB-88	LLD<2.14E+00	LLD<2.14E+00
	---	---
Total	4.28E+03 +- 8.32E+01	4.28E+03 +- 8.32E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1207

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
80.58	39.87	2179.	25.7	8.51E+03
92.08	45.62	893.	38.6	1.70E+03
236.90	117.98	5007.	51.4	5.10E+02
250.27	124.66	2350.	93.8	2.27E+02
490.43	244.69	17356.	3.7	2.38E+03
592.71	295.82	1220.	19.9	1.95E+02
681.39	340.15	2141.	39.0	3.90E+02
695.42	347.16	1243.	60.7	2.31E+02
736.25	367.58	1483.	12.9	2.91E+02
888.66	443.78	3973.	5.0	9.42E+02
977.89	488.41	342.	51.8	8.95E+01
1128.79	563.88	532.	33.6	1.61E+02
1133.27	566.12	200.	51.3	6.07E+01
1172.56	585.78	304.	57.3	9.57E+01
1357.45	678.26	161.	99.8	5.90E+01
1377.46	688.28	731.	22.6	2.71E+02
1549.67	774.44	437.	31.2	1.82E+02
1557.79	778.51	9759.	3.8	4.08E+03
1564.17	781.70	340.	40.6	1.43E+02
1734.61	867.00	2644.	7.1	1.22E+03
1919.68	959.63	473.	34.4	2.39E+02
2009.61	1004.65	503.	21.8	2.65E+02
2216.58	1108.28	537.	24.2	3.05E+02
2425.24	1212.78	617.	16.6	3.75E+02
2597.40	1299.01	775.	10.0	4.93E+02
2806.96	1404.00	481.	18.4	3.21E+02
2866.57	1433.87	30.	69.7	2.05E+01
2914.28	1457.78	304.	14.7	2.07E+02
3057.35	1529.48	234.	16.2	1.64E+02

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0‡♥♠ Pile S-A C-163, 164, 166, 167

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 07-DEC-95 10:23:27

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0089
Measured by: dlv

Sample Description: SA:163,164,166,167 S
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.8200E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 07-DEC-95 at 10:06:44

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 07-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 07-DEC-95 10:23:27

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.69	238.82	0.9	54.	92.	32.1	PB-212
2	704.97	351.94	0.7	23.	45.	44.4	BI-211,PB-214
3	1128.17	563.57	0.6	3.	8.	98.9	CS-134,SB-122
4	1167.09	583.04	1.3	3.	27.	43.4	TL-208
5	1219.46	609.23	2.3	7.	45.	34.0	BI-214
6	1323.32	661.19	1.9	3.	44.	32.0	CS-137
7	1822.54	911.01	1.2	3.	17.	55.4	AC-228
8	2920.57	1460.93	1.7	4.	65.	26.7	K-40
9	2990.66	1496.05	2.3	2.	7.	101.0	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 07-DEC-95 10:23:27

Sample: SA:163,164,166,167 S
Data collected on 07-DEC-95 at 10:06:44
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.88E+00		LLD<3.88E+00	
TH-234	LLD<2.63E+01		LLD<2.63E+01	
TH-230	LLD<2.45E+02		LLD<2.45E+02	
XE-133	LLD<1.67E+00		LLD<1.67E+00	
CD-109	LLD<1.18E+01		LLD<1.18E+01	
SCL-000	LLD<7.52E-01		LLD<7.52E-01	
CO-57	LLD<2.50E-01		LLD<2.50E-01	
PA-234	LLD<9.64E-01		LLD<9.64E-01	
CE-144	LLD<2.07E+00		LLD<2.07E+00	
TC-99M	LLD<2.08E-01		LLD<2.08E-01	
U-235	LLD<1.86E+00		LLD<1.86E+00	
CE-141	LLD<4.27E-01		LLD<4.27E-01	
KR-85M	LLD<2.51E-01		LLD<2.51E-01	
XE-131M	LLD<1.03E+01		LLD<1.03E+01	
BA-139	LLD<1.10E+00		LLD<1.10E+00	
[illegible]E-139	LLD<2.23E-01		LLD<2.23E-01	
[illegible]A-226	LLD<5.51E+00		LLD<5.51E+00	
BA-141	LLD<6.26E-01		LLD<6.26E-01	
KR-89	LLD<2.63E+00		LLD<2.63E+00	
TE-132	LLD<2.81E-01		LLD<2.81E-01	
XE-133M	LLD<2.61E+00		LLD<2.61E+00	
TH-227	LLD<2.07E+00		LLD<2.07E+00	
PB-212	1.25E+00	+- 4.04E-01	1.25E+00	+- 4.04E-01
RA-224	LLD<6.34E+00		LLD<6.34E+00	
XE-135	LLD<2.73E-01		LLD<2.73E-01	
XE-138	LLD<9.76E-01		LLD<9.76E-01	
SE-75	LLD<4.72E-01		LLD<4.72E-01	
NP-239	LLD<1.61E+00		LLD<1.61E+00	
HG-203	LLD<2.76E-01		LLD<2.76E-01	
IR-192	LLD<2.69E-01		LLD<2.69E-01	
CR-51	LLD<2.40E+00		LLD<2.40E+00	
SCM-000	LLD<9.43E-01		LLD<9.43E-01	
BI-211	1.03E+01	+- 4.59E+00	1.03E+01	+- 4.59E+00
PB-214	1.21E+00	+- 5.36E-01	1.21E+00	+- 5.36E-01
BA-133	LLD<7.33E-01		LLD<7.33E-01	
I-131	LLD<3.24E-01		LLD<3.24E-01	
SN-113	LLD<4.00E-01		LLD<4.00E-01	
KR-87	LLD<4.87E-01		LLD<4.87E-01	
PB-211	LLD<9.55E+00		LLD<9.55E+00	
AU-198	LLD<3.04E-01		LLD<3.04E-01	
SB-125	LLD<9.12E-01		LLD<9.12E-01	
[illegible]-212	LLD<6.97E+01		LLD<6.97E+01	
BE-7	LLD<2.25E+00		LLD<2.25E+00	
HF-181	LLD<2.93E-01		LLD<2.93E-01	
RU-103	LLD<3.29E-01		LLD<3.29E-01	
KR-85	LLD<7.42E+01		LLD<7.42E+01	

SR-85	LLD<3.25E-01		LLD<3.25E-01		
I-133	LLD<3.02E-01		LLD<3.02E-01		
BA-140	LLD<1.05E+00		LLD<1.05E+00		
Y-91M	LLD<2.91E-01		LLD<2.91E-01		
[illegible]-207	LLD<2.89E-01		LLD<2.89E-01		
[illegible]-208	LLD<9.76E-01		LLD<9.76E-01		
SB-124	LLD<3.57E-01		LLD<3.57E-01		
CS-134	LLD<6.95E-01		LLD<6.95E-01		
BI-214	1.76E+00	+- 6.01E-01	1.76E+00	+-	6.01E-01
RU-106	LLD<2.77E+00		LLD<2.77E+00		
LA-142	LLD<6.74E-01		LLD<6.74E-01		
AG-110M	LLD<6.53E-01		LLD<6.53E-01		
NB-97	LLD<6.44E-01		LLD<6.44E-01		
CS-137	8.10E-01	+- 2.60E-01	8.10E-01	+-	2.60E-01
I-132	LLD<3.98E-01		LLD<3.98E-01		
W-187	LLD<1.04E+00		LLD<1.04E+00		
ZR-97	LLD<3.18E-01		LLD<3.18E-01		
ZR-95	LLD<6.48E-01		LLD<6.48E-01		
NB-95	LLD<3.62E-01		LLD<3.62E-01		
TL-210	LLD<2.38E+00		LLD<2.38E+00		
CO-58	LLD<3.91E-01		LLD<3.91E-01		
CS-136	LLD<3.50E-01		LLD<3.50E-01		
MN-54	LLD<3.93E-01		LLD<3.93E-01		
CO-56	LLD<4.63E-01		LLD<4.63E-01		
I-134	LLD<4.91E-01		LLD<4.91E-01		
TL-207	LLD<2.21E+02		LLD<2.21E+02		
Y-88	LLD<3.46E-01		LLD<3.46E-01		
AC-228	1.40E+00	+- 7.75E-01	1.40E+00	+-	7.75E-01
EU-152	LLD<4.64E+00		LLD<4.64E+00		
[illegible]-234M	LLD<4.95E+00		LLD<4.95E+00		
[illegible]-91	LLD<1.70E+00		LLD<1.70E+00		
RB-89	LLD<7.90E-01		LLD<7.90E-01		
FE-59	LLD<8.18E-01		LLD<8.18E-01		
ZN-65	LLD<1.24E+00		LLD<1.24E+00		
SC-46	LLD<5.27E-01		LLD<5.27E-01		
TA-182	LLD<1.24E+00		LLD<1.24E+00		
I-135	LLD<1.73E+00		LLD<1.73E+00		
CL-39	LLD<9.54E-01		LLD<9.54E-01		
NA-22	LLD<3.75E-01		LLD<3.75E-01		
AR-41	LLD<2.58E-01		LLD<2.58E-01		
CO-60	LLD<6.49E-01		LLD<6.49E-01		
NA-24	LLD<3.75E-01		LLD<3.75E-01		
SR-92	LLD<4.83E-01		LLD<4.83E-01		
SCH-000	LLD<2.11E+00		LLD<2.11E+00		
CS-138	LLD<4.77E-01		LLD<4.77E-01		
K-40	1.92E+01	+- 5.18E+00	1.92E+01	+-	5.18E+00
KR-88	LLD<3.28E+00		LLD<3.28E+00		
TL-209	LLD<1.59E+00		LLD<1.59E+00		
LA-140	LLD<5.06E-01		LLD<5.06E-01		
AL-26	LLD<3.81E-01		LLD<3.81E-01		
MN-56	LLD<7.83E-01		LLD<7.83E-01		
RB-88	LLD<2.94E+00		LLD<2.94E+00		
	---		---		
Total	3.60E+01	+- 7.03E+00	3.60E+01	+-	7.03E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0089

PEAKS NOT USED IN ANALYSIS

Centroid nnel	Energy keV	Net Area counts	Error %	Gammas/sec
1128.17	563.57	8.	98.9	2.31E+00
1167.09	583.04	27.	43.4	8.63E+00
2990.66	1496.05	7.	101.0	4.83E+00

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0↕♥♠ Pile S-C C-157, 158, 161, 162

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 07-DEC-95 10:42:37

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0090
Measured by: dlv

Sample Description: SC:157,158,161,162 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.1800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 07-DEC-95 at 10:24:48

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 07-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 07-DEC-95 10:42:37

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	479.12	239.04	1.6	37.	126.	24.7	PB-212
2C	485.64	242.29	1.6	30.	41.	39.9	PB-214
3	591.94	295.43	1.2	26.	39.	50.0	PB-214
4	705.73	352.32	0.9	36.	51.	46.1	PB-214
5	1219.30	609.16	1.9	16.	45.	40.1	BI-214
6	1324.39	661.73	1.6	6.	30.	42.0	CS-137
7	1821.36	910.41	1.8	6.	19.	60.2	AC-228
8	1937.95	968.78	3.8	5.	22.	54.2	AC-228,RU-105
9	2920.27	1460.78	1.5	4.	86.	22.4	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw

07-DEC-95 10:42:37

Sample: SC:157,158,161,162
Data collected on 07-DEC-95 at 10:24:48
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.28E+00		LLD<3.28E+00	
TH-234	LLD<2.45E+01		LLD<2.45E+01	
TH-230	LLD<2.08E+02		LLD<2.08E+02	
XE-133	LLD<1.60E+00		LLD<1.60E+00	
CD-109	LLD<9.94E+00		LLD<9.94E+00	
SCL-000	LLD<7.92E-01		LLD<7.92E-01	
CO-57	LLD<2.63E-01		LLD<2.63E-01	
PA-234	LLD<9.00E-01		LLD<9.00E-01	
CE-144	LLD<1.85E+00		LLD<1.85E+00	
TC-99M	LLD<1.95E-01		LLD<1.95E-01	
U-235	LLD<1.63E+00		LLD<1.63E+00	
CE-141	LLD<3.72E-01		LLD<3.72E-01	
KR-85M	LLD<2.86E-01		LLD<2.86E-01	
XE-131M	LLD<7.95E+00		LLD<7.95E+00	
BA-139	LLD<9.37E-01		LLD<9.37E-01	
[illegible]-139	LLD<1.90E-01		LLD<1.90E-01	
[illegible]-226	LLD<5.35E+00		LLD<5.35E+00	
BA-141	LLD<5.00E-01		LLD<5.00E-01	
KR-89	LLD<2.29E+00		LLD<2.29E+00	
TE-132	LLD<2.13E-01		LLD<2.13E-01	
XE-133M	LLD<2.07E+00		LLD<2.07E+00	
TH-227	LLD<1.70E+00		LLD<1.70E+00	
PB-212	1.38E+00	+- 3.45E-01	1.38E+00	+- 3.45E-01
RA-224	LLD<5.44E+00		LLD<5.44E+00	
XE-135	LLD<2.11E-01		LLD<2.11E-01	
XE-138	LLD<8.75E-01		LLD<8.75E-01	
SE-75	LLD<3.54E-01		LLD<3.54E-01	
NP-239	LLD<1.56E+00		LLD<1.56E+00	
HG-203	LLD<2.73E-01		LLD<2.73E-01	
IR-192	LLD<2.13E-01		LLD<2.13E-01	
CR-51	LLD<1.91E+00		LLD<1.91E+00	
SCM-000	LLD<9.80E-01		LLD<9.80E-01	
BI-211	LLD<7.93E+00		LLD<7.93E+00	
PB-214	1.11E+00	+- 5.11E-01	1.11E+00	+- 5.11E-01
BA-133	LLD<6.50E-01		LLD<6.50E-01	
I-131	LLD<2.21E-01		LLD<2.21E-01	
SN-113	LLD<3.43E-01		LLD<3.43E-01	
KR-87	LLD<4.59E-01		LLD<4.59E-01	
PB-211	LLD<8.75E+00		LLD<8.75E+00	
AU-198	LLD<2.64E-01		LLD<2.64E-01	
SB-125	LLD<8.26E-01		LLD<8.26E-01	
[illegible]-212	LLD<6.74E+01		LLD<6.74E+01	
BE-7	LLD<2.53E+00		LLD<2.53E+00	
HF-181	LLD<3.50E-01		LLD<3.50E-01	
RU-103	LLD<2.49E-01		LLD<2.49E-01	
KR-85	LLD<7.27E+01		LLD<7.27E+01	

SR-85	LLD<3.18E-01		LLD<3.18E-01		
I-133	LLD<2.55E-01		LLD<2.55E-01		
BA-140	LLD<9.80E-01		LLD<9.80E-01		
Y-91M	LLD<2.98E-01		LLD<2.98E-01		
[illegible]-207	LLD<2.77E-01		LLD<2.77E-01		
[illegible]-208	LLD<9.90E-01		LLD<9.90E-01		
SB-124	LLD<3.01E-01		LLD<3.01E-01		
CS-134	LLD<6.09E-01		LLD<6.09E-01		
BI-214	1.44E+00	+- 5.78E-01	1.44E+00	+-	5.78E-01
RU-106	LLD<2.81E+00		LLD<2.81E+00		
LA-142	LLD<4.00E-01		LLD<4.00E-01		
AG-110M	LLD<5.66E-01		LLD<5.66E-01		
NB-97	LLD<5.74E-01		LLD<5.74E-01		
CS-137	4.53E-01	+- 1.91E-01	4.53E-01	+-	1.91E-01
I-132	LLD<3.21E-01		LLD<3.21E-01		
W-187	LLD<8.78E-01		LLD<8.78E-01		
ZR-97	LLD<3.25E-01		LLD<3.25E-01		
ZR-95	LLD<6.70E-01		LLD<6.70E-01		
NB-95	LLD<3.39E-01		LLD<3.39E-01		
TL-210	LLD<1.63E+00		LLD<1.63E+00		
CO-58	LLD<2.41E-01		LLD<2.41E-01		
CS-136	LLD<2.71E-01		LLD<2.71E-01		
MN-54	LLD<3.45E-01		LLD<3.45E-01		
CO-56	LLD<3.28E-01		LLD<3.28E-01		
I-134	LLD<3.54E-01		LLD<3.54E-01		
TL-207	LLD<2.54E+02		LLD<2.54E+02		
Y-88	LLD<3.52E-01		LLD<3.52E-01		
AC-228	1.25E+00	+- 7.51E-01	1.25E+00	+-	7.51E-01
EU-152	LLD<4.78E+00		LLD<4.78E+00		
[illegible]-234M	LLD<3.40E+00		LLD<3.40E+00		
[illegible]-91	LLD<7.95E-01		LLD<7.95E-01		
RB-89	LLD<6.79E-01		LLD<6.79E-01		
FE-59	LLD<8.19E-01		LLD<8.19E-01		
ZN-65	LLD<1.08E+00		LLD<1.08E+00		
SC-46	LLD<3.76E-01		LLD<3.76E-01		
TA-182	LLD<1.00E+00		LLD<1.00E+00		
I-135	LLD<1.65E+00		LLD<1.65E+00		
CL-39	LLD<7.94E-01		LLD<7.94E-01		
NA-22	LLD<3.04E-01		LLD<3.04E-01		
AR-41	LLD<4.51E-01		LLD<4.51E-01		
CO-60	LLD<2.62E-01		LLD<2.62E-01		
NA-24	LLD<3.04E-01		LLD<3.04E-01		
SR-92	LLD<5.27E-01		LLD<5.27E-01		
SCH-000	LLD<1.49E+00		LLD<1.49E+00		
CS-138	LLD<2.73E-01		LLD<2.73E-01		
K-40	2.07E+01	+- 4.70E+00	2.07E+01	+-	4.70E+00
KR-88	LLD<3.37E+00		LLD<3.37E+00		
TL-209	LLD<5.27E-01		LLD<5.27E-01		
LA-140	LLD<4.48E-01		LLD<4.48E-01		
AL-26	LLD<1.69E-01		LLD<1.69E-01		
MN-56	LLD<6.35E-01		LLD<6.35E-01		
RB-88	LLD<9.57E-01		LLD<9.57E-01		
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Total	2.64E+01	+- 4.84E+00	2.64E+01	+-	4.84E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0090

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
485.64	242.29	41.	39.9	5.50E+00
591.94	295.43	39.	50.0	6.20E+00
1937.95	968.78	22.	54.2	1.11E+01

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0↕♥♠ Pile S-B C-153, 156, 159, 160

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 07-DEC-95 11:00:24

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0091
Measured by: dlv

Sample Description: SB:153,156,159,160 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 07-DEC-95 at 10:43:30

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 07-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 07-DEC-95 11:00:24

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.16	238.55	1.5	46.	140.	21.9	PB-212
2	591.66	295.29	1.4	34.	36.	59.6	PB-214
3	704.89	351.90	1.4	18.	78.	28.1	BI-211,PB-214
4	1166.44	582.71	1.8	8.	35.	41.6	TL-208
5	1218.55	608.78	1.2	9.	33.	42.9	XE-135,BI-214
6	1323.60	661.33	0.7	10.	21.	63.0	CS-137
7	1763.97	881.69	0.7	2.	7.	93.9	BR-84
8	1821.11	910.29	1.6	5.	19.	57.4	AC-228
9	2920.31	1460.80	2.4	4.	73.	24.8	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 07-DEC-95 11:00:24

Sample: SB:153,156,159,160 S
Data collected on 07-DEC-95 at 10:43:30
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.20E+00		LLD<3.20E+00	
TH-234	LLD<2.41E+01		LLD<2.41E+01	
TH-230	LLD<2.35E+02		LLD<2.35E+02	
XE-133	LLD<1.42E+00		LLD<1.42E+00	
CD-109	LLD<9.52E+00		LLD<9.52E+00	
SCL-000	LLD<7.16E-01		LLD<7.16E-01	
CO-57	LLD<2.38E-01		LLD<2.38E-01	
PA-234	LLD<9.78E-01		LLD<9.78E-01	
CE-144	LLD<1.78E+00		LLD<1.78E+00	
TC-99M	LLD<1.60E-01		LLD<1.60E-01	
U-235	LLD<1.68E+00		LLD<1.68E+00	
CE-141	LLD<3.12E-01		LLD<3.12E-01	
KR-85M	LLD<2.16E-01		LLD<2.16E-01	
XE-131M	LLD<8.35E+00		LLD<8.35E+00	
BA-139	LLD<9.75E-01		LLD<9.75E-01	
[illegible]-139	LLD<1.98E-01		LLD<1.98E-01	
[illegible]-226	LLD<5.39E+00		LLD<5.39E+00	
BA-141	LLD<5.16E-01		LLD<5.16E-01	
KR-89	LLD<2.30E+00		LLD<2.30E+00	
TE-132	LLD<2.67E-01		LLD<2.67E-01	
XE-133M	LLD<2.80E+00		LLD<2.80E+00	
TH-227	LLD<1.75E+00		LLD<1.75E+00	
PB-212	1.57E+00	+- 3.47E-01	1.57E+00	+- 3.47E-01
RA-224	LLD<5.38E+00		LLD<5.38E+00	
XE-135	LLD<2.17E-01		LLD<2.17E-01	
XE-138	LLD<8.20E-01		LLD<8.20E-01	
SE-75	LLD<3.42E-01		LLD<3.42E-01	
NP-239	LLD<1.42E+00		LLD<1.42E+00	
HG-203	LLD<2.77E-01		LLD<2.77E-01	
IR-192	LLD<2.13E-01		LLD<2.13E-01	
CR-51	LLD<2.04E+00		LLD<2.04E+00	
SCM-000	LLD<7.67E-01		LLD<7.67E-01	
BI-211	1.47E+01	+- 4.13E+00	1.47E+01	+- 4.13E+00
PB-214	1.72E+00	+- 4.83E-01	1.72E+00	+- 4.83E-01
BA-133	LLD<7.33E-01		LLD<7.33E-01	
I-131	LLD<2.71E-01		LLD<2.71E-01	
SN-113	LLD<3.73E-01		LLD<3.73E-01	
KR-87	LLD<4.88E-01		LLD<4.88E-01	
PB-211	LLD<1.01E+01		LLD<1.01E+01	
AU-198	LLD<2.72E-01		LLD<2.72E-01	
SB-125	LLD<8.36E-01		LLD<8.36E-01	
[illegible]-212	LLD<6.66E+01		LLD<6.66E+01	
BE-7	LLD<2.45E+00		LLD<2.45E+00	
HF-181	LLD<3.03E-01		LLD<3.03E-01	
RU-103	LLD<2.56E-01		LLD<2.56E-01	
KR-85	LLD<8.89E+01		LLD<8.89E+01	

SR-85	LLD<3.89E-01		LLD<3.89E-01		
I-133	LLD<3.20E-01		LLD<3.20E-01		
BA-140	LLD<1.12E+00		LLD<1.12E+00		
[illegible]91M	LLD<3.24E-01		LLD<3.24E-01		
[illegible] 207	LLD<2.33E-01		LLD<2.33E-01		
[illegible]-208	LLD<1.03E+00		LLD<1.03E+00		
SB-124	LLD<3.06E-01		LLD<3.06E-01		
CS-134	LLD<5.45E-01		LLD<5.45E-01		
BI-214	1.07E+00	+- 4.59E-01	1.07E+00	+-	4.59E-01
RU-106	LLD<3.22E+00		LLD<3.22E+00		
LA-142	LLD<6.21E-01		LLD<6.21E-01		
AG-110M	LLD<4.50E-01		LLD<4.50E-01		
NB-97	LLD<4.67E-01		LLD<4.67E-01		
CS-137	3.26E-01	+- 2.06E-01	3.26E-01	+-	2.06E-01
I-132	LLD<3.15E-01		LLD<3.15E-01		
W-187	LLD<9.31E-01		LLD<9.31E-01		
ZR-97	LLD<3.06E-01		LLD<3.06E-01		
ZR-95	LLD<5.51E-01		LLD<5.51E-01		
NB-95	LLD<2.84E-01		LLD<2.84E-01		
TL-210	LLD<2.06E+00		LLD<2.06E+00		
CO-58	LLD<2.80E-01		LLD<2.80E-01		
CS-136	LLD<3.41E-01		LLD<3.41E-01		
MN-54	LLD<3.81E-01		LLD<3.81E-01		
CO-56	LLD<3.39E-01		LLD<3.39E-01		
I-134	LLD<3.80E-01		LLD<3.80E-01		
TL-207	LLD<2.11E+02		LLD<2.11E+02		
Y-88	LLD<3.22E-01		LLD<3.22E-01		
AC-228	1.30E+00	+- 7.48E-01	1.30E+00	+-	7.48E-01
EU-152	LLD<3.99E+00		LLD<3.99E+00		
[illegible]-234M	LLD<3.34E+00		LLD<3.34E+00		
[illegible] 91	LLD<9.86E-01		LLD<9.86E-01		
RB-89	LLD<8.59E-01		LLD<8.59E-01		
FE-59	LLD<5.75E-01		LLD<5.75E-01		
ZN-65	LLD<9.43E-01		LLD<9.43E-01		
SC-46	LLD<3.74E-01		LLD<3.74E-01		
TA-182	LLD<1.14E+00		LLD<1.14E+00		
I-135	LLD<1.48E+00		LLD<1.48E+00		
CL-39	LLD<6.12E-01		LLD<6.12E-01		
NA-22	LLD<4.20E-01		LLD<4.20E-01		
AR-41	LLD<3.56E-01		LLD<3.56E-01		
CO-60	LLD<4.40E-01		LLD<4.40E-01		
NA-24	LLD<4.90E-01		LLD<4.90E-01		
SR-92	LLD<4.74E-01		LLD<4.74E-01		
SCH-000	LLD<1.93E+00		LLD<1.93E+00		
CS-138	LLD<4.74E-01		LLD<4.74E-01		
K-40	1.79E+01	+- 4.47E+00	1.79E+01	+-	4.47E+00
KR-88	LLD<1.50E+00		LLD<1.50E+00		
TL-209	LLD<9.67E-01		LLD<9.67E-01		
LA-140	LLD<2.10E-01		LLD<2.10E-01		
AL-26	LLD<3.65E-01		LLD<3.65E-01		
MN-56	LLD<1.00E+00		LLD<1.00E+00		
RB-88	LLD<1.51E+00		LLD<1.51E+00		
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Total	3.86E+01	+- 6.18E+00	3.86E+01	+-	6.18E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0091

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
591.66	295.29	36.	59.6	5.70E+00
1166.44	582.71	35.	41.6	1.09E+01
1763.97	881.69	7.	93.9	3.40E+00

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0:♥♠ Pile S-D C-151, 152, 154, 155

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 07-DEC-95 11:16:30

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0092
Measured by: dlv

Sample Description: SD:151,152,154,155 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.1600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 07-DEC-95 at 11:01:13

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 07-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 07-DEC-95 11:16:30

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.72	238.34	1.0	49.	121.	24.9	PB-212
2	676.82	337.87	2.0	19.	31.	55.7	AC-228
3	704.40	351.65	1.4	15.	53.	34.9	BI-211,PB-214
4	1022.06	510.50	2.0	16.	21.	74.1	TL-208,NA-22, ANN-RD
5	1165.45	582.22	1.8	9.	27.	51.1	TL-208
6	1218.06	608.53	1.6	7.	37.	39.2	XE-135,BI-214
7	1322.89	660.97	2.4	3.	64.	25.9	CS-137
8	1821.39	910.43	2.1	4.	15.	65.4	AC-228
9	2919.07	1460.18	2.5	2.	79.	22.8	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 07-DEC-95 11:16:30

Sample: SD:151,152,154,155
Data collected on 07-DEC-95 at 11:01:13
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.82E+00		LLD<3.82E+00	
TH-234	LLD<2.79E+01		LLD<2.79E+01	
TH-230	LLD<2.10E+02		LLD<2.10E+02	
XE-133	LLD<1.70E+00		LLD<1.70E+00	
CD-109	LLD<1.07E+01		LLD<1.07E+01	
SCL-000	LLD<7.42E-01		LLD<7.42E-01	
CO-57	LLD<2.46E-01		LLD<2.46E-01	
PA-234	LLD<9.21E-01		LLD<9.21E-01	
CE-144	LLD<1.99E+00		LLD<1.99E+00	
TC-99M	LLD<2.32E-01		LLD<2.32E-01	
U-235	LLD<1.93E+00		LLD<1.93E+00	
CE-141	LLD<4.11E-01		LLD<4.11E-01	
KR-85M	LLD<2.73E-01		LLD<2.73E-01	
XE-131M	LLD<8.62E+00		LLD<8.62E+00	
BA-139	LLD<1.01E+00		LLD<1.01E+00	
[illegible]-139	LLD<2.05E-01		LLD<2.05E-01	
[illegible]-226	LLD<5.36E+00		LLD<5.36E+00	
BA-141	LLD<5.46E-01		LLD<5.46E-01	
KR-89	LLD<2.60E+00		LLD<2.60E+00	
TE-132	LLD<2.41E-01		LLD<2.41E-01	
XE-133M	LLD<3.14E+00		LLD<3.14E+00	
TH-227	LLD<2.00E+00		LLD<2.00E+00	
PB-212	1.56E+00	+- 3.93E-01	1.56E+00	+- 3.93E-01
RA-224	LLD<6.17E+00		LLD<6.17E+00	
XE-135	LLD<2.38E-01		LLD<2.38E-01	
XE-138	LLD<9.05E-01		LLD<9.05E-01	
SE-75	LLD<3.77E-01		LLD<3.77E-01	
NP-239	LLD<1.56E+00		LLD<1.56E+00	
HG-203	LLD<2.89E-01		LLD<2.89E-01	
IR-192	LLD<2.75E-01		LLD<2.75E-01	
CR-51	LLD<2.22E+00		LLD<2.22E+00	
SCM-000	LLD<8.72E-01		LLD<8.72E-01	
BI-211	1.14E+01	+- 3.99E+00	1.14E+01	+- 3.99E+00
PB-214	1.33E+00	+- 4.66E-01	1.33E+00	+- 4.66E-01
BA-133	LLD<7.06E-01		LLD<7.06E-01	
I-131	LLD<2.99E-01		LLD<2.99E-01	
SN-113	LLD<3.53E-01		LLD<3.53E-01	
KR-87	LLD<5.46E-01		LLD<5.46E-01	
PB-211	LLD<1.03E+01		LLD<1.03E+01	
AU-198	LLD<2.96E-01		LLD<2.96E-01	
SB-125	LLD<6.86E-01		LLD<6.86E-01	
[illegible]-212	LLD<7.90E+01		LLD<7.90E+01	
BE-7	LLD<3.06E+00		LLD<3.06E+00	
HF-181	LLD<3.72E-01		LLD<3.72E-01	
RU-103	LLD<2.63E-01		LLD<2.63E-01	
KR-85	LLD<9.26E+01		LLD<9.26E+01	

SR-85	LLD<4.05E-01		LLD<4.05E-01		
I-133	LLD<3.22E-01		LLD<3.22E-01		
BA-140	LLD<1.22E+00		LLD<1.22E+00		
Y-91M	LLD<3.58E-01		LLD<3.58E-01		
207	LLD<2.60E-01		LLD<2.60E-01		
TL-208	1.12E+00	+- 5.72E-01	1.12E+00	+-	5.72E-01
SB-124	LLD<3.34E-01		LLD<3.34E-01		
CS-134	LLD<6.49E-01		LLD<6.49E-01		
BI-214	1.38E+00	+- 5.43E-01	1.38E+00	+-	5.43E-01
RU-106	LLD<2.55E+00		LLD<2.55E+00		
LA-142	LLD<5.88E-01		LLD<5.88E-01		
AG-110M	LLD<7.27E-01		LLD<7.27E-01		
NB-97	LLD<6.57E-01		LLD<6.57E-01		
CS-137	1.11E+00	+- 2.90E-01	1.11E+00	+-	2.90E-01
I-132	LLD<3.68E-01		LLD<3.68E-01		
W-187	LLD<1.06E+00		LLD<1.06E+00		
ZR-97	LLD<3.26E-01		LLD<3.26E-01		
ZR-95	LLD<6.83E-01		LLD<6.83E-01		
NB-95	LLD<4.13E-01		LLD<4.13E-01		
TL-210	LLD<2.57E+00		LLD<2.57E+00		
CO-58	LLD<3.36E-01		LLD<3.36E-01		
CS-136	LLD<2.63E-01		LLD<2.63E-01		
MN-54	LLD<4.08E-01		LLD<4.08E-01		
CO-56	LLD<2.81E-01		LLD<2.81E-01		
I-134	LLD<2.92E-01		LLD<2.92E-01		
TL-207	LLD<2.34E+02		LLD<2.34E+02		
Y-88	LLD<3.61E-01		LLD<3.61E-01		
AC-228	1.14E+00	+- 7.46E-01	1.14E+00	+-	7.46E-01
EU-152	LLD<4.04E+00		LLD<4.04E+00		
PA-234M	LLD<4.09E+00		LLD<4.09E+00		
Y-91	LLD<1.02E+00		LLD<1.02E+00		
RB-89	LLD<6.21E-01		LLD<6.21E-01		
FE-59	LLD<8.12E-01		LLD<8.12E-01		
ZN-65	LLD<1.27E+00		LLD<1.27E+00		
SC-46	LLD<4.98E-01		LLD<4.98E-01		
TA-182	LLD<1.33E+00		LLD<1.33E+00		
I-135	LLD<1.86E+00		LLD<1.86E+00		
CL-39	LLD<9.02E-01		LLD<9.02E-01		
NA-22	LLD<4.65E-01		LLD<4.65E-01		
AR-41	LLD<4.94E-01		LLD<4.94E-01		
CO-60	LLD<5.25E-01		LLD<5.25E-01		
NA-24	LLD<3.10E-01		LLD<3.10E-01		
SR-92	LLD<5.09E-01		LLD<5.09E-01		
SCH-000	LLD<1.85E+00		LLD<1.85E+00		
CS-138	LLD<5.06E-01		LLD<5.06E-01		
K-40	2.22E+01	+- 5.11E+00	2.22E+01	+-	5.11E+00
KR-88	LLD<2.41E+00		LLD<2.41E+00		
TL-209	LLD<7.54E-01		LLD<7.54E-01		
LA-140	LLD<3.30E-01		LLD<3.30E-01		
AL-26	LLD<3.81E-01		LLD<3.81E-01		
MN-56	LLD<1.35E+00		LLD<1.35E+00		
RB-88	LLD<1.37E+00		LLD<1.37E+00		
	---		---		
Total	4.12E+01	+- 6.61E+00	4.12E+01	+-	6.61E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0092

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
676.82	337.87	31.	55.7	5.57E+00

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GAMMA SPECTROSCOPY RESULTS FROM 12/8/95

0:♥♠ Autocal 12/8

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*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-DEC-95 11:06:10

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 08-DEC-95 at 09:44:13

COLLECT Live Time: 1200. sec.

hgtrw 08-DEC-95 11:06:10

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.79	39.97	1.9	35011.	4905.	15.0	
2C	92.39	45.77	1.9	29286.	2884.	19.4	
3?	234.10	116.58	1.6	38128.	8114.	49.3	
4?	245.02	122.04	1.6	35544.	186772.	2.3	SE-75,SCL-000, CO-57
5?	479.88	239.42	1.7	15072.	1636.	31.1	PB-212
6?	490.85	244.90	1.7	14146.	36490.	3.4	
7?	496.80	247.87	1.7	13644.	1327.	36.3	
8	593.27	296.10	1.8	10269.	1906.	17.1	PB-214
9?	679.21	339.06	1.8	8257.	3712.	37.9	AC-228
10?	689.93	344.42	1.8	7649.	93476.	2.2	BA-141, SCM-000
11?	695.86	347.38	1.8	7312.	2370.	56.4	
12	736.76	367.84	1.9	7036.	2976.	9.6	
13$	823.53	411.22	1.8	5724.	6160.	7.2	AU-198
14	889.23	444.07	1.8	6471.	7841.	3.9	
15C	978.45	488.69	1.8	5330.	1013.	34.8	
16	1128.89	563.93	2.0	6405.	1171.	22.9	CS-134,SB-122
17	1173.76	586.37	1.3	5824.	643.	38.5	
18	1358.32	678.70	2.0	4223.	523.	38.5	
[illegible]	1378.40	688.74	2.1	4426.	1474.	14.9	
[illegible]	1439.32	719.22	1.7	3418.	387.	44.3	
21?	1548.46	773.84	2.0	4407.	683.	36.5	W-187,TE131M
22?	1558.70	778.96	2.0	4194.	19753.	3.0	
23?	1565.03	782.13	2.0	4062.	666.	39.3	
24	1621.58	810.43	2.4	4135.	710.	30.4	I-132,CO-58
25	1735.56	867.47	2.0	4804.	5159.	5.1	
26	1839.70	919.60	1.8	2324.	496.	30.6	
27?	1917.94	958.76	2.1	2480.	726.	29.3	
28?	1928.78	964.19	2.1	2777.	18317.	2.3	EU-152
29	2010.64	1005.17	2.1	1835.	882.	16.8	
30C	2161.90	1080.90	2.2	1850.	481.	31.2	
31C	2172.25	1086.08	2.2	1837.	12440.	3.3	EU-152
32C	2179.97	1089.95	2.2	1827.	2273.	10.2	
33?	2214.54	1107.26	2.2	2049.	685.	30.4	
34?	2224.69	1112.34	2.2	2320.	15221.	2.6	TE-129,EU-152
35	2426.43	1213.37	2.2	1301.	1357.	10.3	
36C	2500.32	1250.38	1.8	980.	184.	59.5	MO-101
37$	2550.13	1275.33	2.3	601.	292.	40.9	NA-22
38	2598.73	1299.68	2.2	553.	1374.	7.7	
39?	2805.96	1403.50	2.4	371.	740.	24.5	
40?	2816.41	1408.74	2.4	565.	19439.	1.8	EU-152,BI-214, SCH-000
41C	2915.79	1458.53	2.3	83.	429.	12.6	I-135
42C	2921.97	1461.63	2.3	70.	302.	15.4	K-40
[illegible]	3058.45	1530.03	3.3	94.	461.	11.8	KR-88
[illegible]	3193.94	1597.94	0.8	8.	21.	62.6	

Error Quotation at 1.96 sigma

Peak Confidence Level at 95.0%

13 Multiplets processed.

- Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.598392E-07*Ch^2 + 4.995955E-01*Ch +-3.897144E-01

New Calibration Coefficients:

Energy = 2.624703E-07*Ch^2 + 4.994038E-01*Ch +-4.173381E-01

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GAMMA SPECTROSCOPY RESULTS FROM 12/11/95

0:♥♠ Autocal 12/11

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*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
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CANBERRA SPECTRAN-AT V4.2a.

hgtrw 11-DEC-95 09:13:35

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

gular Output.
pectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard'
COLLECT started on 11-DEC-95 at 08:37:14

COLLECT Live Time: 1200. sec.

hgtrw 11-DEC-95 09:13:35

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.55	39.81	1.6	29101.	5198.	14.8	
2C	92.13	45.59	1.6	23627.	2398.	20.8	
3$	172.54	85.76	2.4	58685.	2276.	50.4	
4$	177.12	88.05	2.4	61077.	2216.	48.6	PB-214,CD-109
5?	236.56	117.74	1.6	37155.	10447.	46.3	
6?	244.62	121.76	1.6	32114.	188338.	3.4	SE-75,SCL-000, CO-57
7?	250.21	124.56	1.6	28611.	4660.	89.5	
8?	482.01	240.36	1.7	14923.	1372.	42.2	RA-224
9?	490.37	244.54	1.7	14122.	35428.	3.7	
10?	496.02	247.36	1.7	13579.	1310.	43.1	
11	592.95	295.80	1.9	9534.	1603.	19.0	PB-214
12?	681.06	339.83	1.8	8212.	4172.	35.5	CS-136
13?	689.37	343.98	1.8	7614.	92851.	2.3	BA-141, SCM-000
14?	695.30	346.94	1.8	7187.	2754.	50.7	
15	736.25	367.41	2.0	7163.	3027.	9.6	
16C	823.03	410.79	1.7	5548.	5771.	8.7	
17	888.69	443.61	1.7	6505.	7725.	4.0	
18$	978.20	488.35	1.6	4540.	727.	51.1	
19	1128.37	563.43	2.3	6058.	1286.	20.0	CS-134,SB-122
20	1172.90	585.69	2.1	5187.	885.	26.1	
21	1357.72	678.12	1.6	4624.	502.	42.8	I-134,AG110M
22	1377.55	688.04	1.7	4711.	1436.	16.0	
23	1438.80	718.67	2.5	4702.	257.	83.4	
24?	1550.27	774.42	2.0	4316.	666.	44.7	TE131M
25?	1557.91	778.25	2.0	4563.	19263.	2.7	MO-99
26	1620.49	809.55	1.6	2718.	444.	34.8	I-132
27	1734.75	866.71	2.0	4446.	5310.	4.8	
28	1838.99	918.87	2.2	2660.	615.	27.8	
29?	1919.59	959.20	2.1	2270.	936.	22.8	
30?	1927.84	963.33	2.1	2235.	18566.	2.6	EU-152
31?	1934.87	966.85	2.1	2204.	519.	38.7	
32	2010.06	1004.48	2.2	2111.	910.	18.0	
33C	2163.17	1081.11	2.2	1838.	617.	23.7	
34C	2171.27	1085.16	2.2	1818.	12547.	3.0	EU-152
35C	2178.99	1089.02	2.2	1799.	2266.	9.3	
36?	2215.56	1107.33	2.2	1937.	911.	19.7	
37?	2223.68	1111.40	2.2	2169.	15274.	2.4	TE-129,EU-152
38	2425.29	1212.33	2.1	1234.	1369.	9.9	
39C	2548.52	1274.03	1.9	564.	263.	30.5	NA-22
40	2597.66	1298.64	2.3	538.	1605.	6.9	I-133
41?	2806.77	1403.36	2.5	339.	845.	17.1	
42?	2815.24	1407.60	2.5	422.	19547.	1.6	EU-152,BI-214, SCH-000
43C	2914.40	1457.27	2.2	95.	444.	10.6	I-135
44C	2921.00	1460.58	2.2	65.	283.	12.2	K-40
45	3057.54	1528.98	3.1	64.	505.	10.3	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

13 Multiplets processed.

- Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.624703E-07*Ch^2 + 4.994038E-01*Ch +-4.173381E-01

New Calibration Coefficients:

Energy = 2.532927E-07*Ch^2 + 4.995799E-01*Ch +-2.582365E-01

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0↕♥♠ Daily Source Check 12/11

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            G A M M A   S P E C T R U M   A N A L Y S I S              *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 11-DEC-95 09:33:35

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1211
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 11-DEC-95 at 09:17:22

COLLECT Live Time: 600. seconds
Real Time: 764. seconds
Dead Time: 21.47 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 11-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 11-DEC-95 09:33:35

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.56	39.99	1.5	13777.	2300.	24.3	
2C	92.01	45.71	1.5	11335.	759.	37.3	
3N	169.08	84.22	2.7	31882.	1156.	47.3	
4N	173.28	86.32	2.7	33572.	1540.	39.5	PB-214
5N	178.17	88.76	2.7	35538.	1200.	42.3	CD-109
6?	237.04	118.18	1.6	17879.	5551.	46.1	
7?	244.57	121.94	1.6	15624.	93900.	3.6	SE-75,SCL-000, CO-57
8?	250.22	124.76	1.6	13931.	2082.	102.6	
9?	482.72	240.96	1.6	7032.	807.	50.2	RA-224
10?	490.28	244.74	1.6	6710.	18161.	5.0	
11?	496.16	247.68	1.6	6460.	653.	59.1	
12	592.75	295.96	1.7	5548.	900.	27.1	PB-214
13?	681.70	340.42	1.7	4626.	1917.	45.0	CS-136
14?	689.27	344.21	1.7	5157.	45204.	2.2	BA-141, SCM-000
15	736.19	367.67	1.9	3539.	1572.	13.0	
16	822.83	410.98	1.7	3012.	3012.	6.7	AU-198
17	888.54	443.84	1.8	3198.	3836.	5.7	
18C	1128.22	563.70	1.5	2119.	440.	34.3	CS-134,SB-122
19	1172.98	586.09	1.3	2593.	497.	32.9	
20	1357.14	678.21	1.7	1865.	310.	42.4	I-134,AG110M
21	1377.45	688.37	1.7	2106.	987.	15.7	
22C	1550.58	774.99	2.0	2230.	422.	35.4	
23C	1557.68	778.54	2.0	2258.	9844.	3.3	MO-99
24C	1734.33	866.94	1.9	1914.	2841.	11.3	
25	1838.60	919.13	1.5	1284.	369.	32.5	
26C	1920.13	959.94	2.1	1215.	508.	21.4	
27C	1927.56	963.65	2.1	1276.	9417.	2.9	EU-152
28	2009.56	1004.70	1.7	1106.	428.	27.5	
29	2170.98	1085.51	1.8	2260.	5546.	3.9	EU-152
30C	2216.74	1108.43	2.2	921.	567.	21.4	
31C	2223.37	1111.74	2.2	978.	7751.	3.2	TE-129,EU-152
32	2425.02	1212.72	1.9	486.	746.	11.6	
33	2547.71	1274.17	2.3	368.	139.	49.7	NA-22
34	2597.16	1298.94	2.2	268.	716.	10.6	I-133
35C	2807.72	1404.42	2.3	161.	539.	21.8	
36C	2814.75	1407.94	2.3	216.	9493.	2.4	EU-152,BI-214, SCH-000
37	2913.99	1457.66	2.4	53.	332.	13.2	I-135
38	3057.37	1529.51	3.7	34.	227.	15.8	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

11 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge

? - Multiplet Analysis converged but GFIT > 4

hgtrw 11-DEC-95 09:33:35

Sample: Eu-152 Standard
Data collected on 11-DEC-95 at 09:17:22
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.91E+01		LLD<2.91E+01	
TH-234	LLD<2.22E+02		LLD<2.22E+02	
TH-230	LLD<1.82E+03		LLD<1.82E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	1.65E+02	+- 7.02E+01	1.65E+02	+- 7.02E+01
SCL-000	9.90E+02	+- 3.76E+01	9.90E+02	+- 3.76E+01
CO-57	3.29E+02	+- 1.25E+01	3.29E+02	+- 1.25E+01
PA-234	LLD<9.40E+00		LLD<9.40E+00	
CE-144	LLD<1.65E+01		LLD<1.65E+01	
TC-99M	LLD<1.97E+00		LLD<1.97E+00	
U-235	LLD<1.58E+01		LLD<1.58E+01	
CE-141	LLD<3.60E+00		LLD<3.60E+00	
KR-85M	LLD<2.36E+00		LLD<2.36E+00	
XE-131M	LLD<8.85E+01		LLD<8.85E+01	
BA-139	LLD<1.07E+01		LLD<1.07E+01	
[illegible]-139	LLD<2.15E+00		LLD<2.15E+00	
[illegible]-226	LLD<5.30E+01		LLD<5.30E+01	
BA-141	LLD<4.24E+00		LLD<4.24E+00	
KR-89	LLD<2.79E+01		LLD<2.79E+01	
TE-132	LLD<2.17E+00		LLD<2.17E+00	
XE-133M	LLD<1.89E+01		LLD<1.89E+01	
TH-227	LLD<1.38E+01		LLD<1.38E+01	
PB-212	LLD<4.88E+00		LLD<4.88E+00	
RA-224	8.27E+01	+- 4.16E+01	8.27E+01	+- 4.16E+01
XE-135	LLD<4.21E+00		LLD<4.21E+00	
XE-138	LLD<8.30E+00		LLD<8.30E+00	
SE-75	LLD<3.07E+00		LLD<3.07E+00	
NP-239	LLD<1.40E+01		LLD<1.40E+01	
HG-203	LLD<2.54E+00		LLD<2.54E+00	
IR-192	LLD<2.38E+00		LLD<2.38E+00	
CR-51	LLD<2.04E+01		LLD<2.04E+01	
SCM-000	9.52E+02	+- 2.60E+01	9.52E+02	+- 2.60E+01
BI-211	LLD<9.42E+01		LLD<9.42E+01	
PB-214	LLD<7.15E+00		LLD<7.15E+00	
BA-133	LLD<3.13E+00		LLD<3.13E+00	
I-131	LLD<2.74E+00		LLD<2.74E+00	
SN-113	LLD<3.02E+00		LLD<3.02E+00	
KR-87	LLD<4.30E+00		LLD<4.30E+00	
PB-211	LLD<8.26E+01		LLD<8.26E+01	
AU-198	2.11E+01	+- 1.47E+00	2.11E+01	+- 1.47E+00
SB-125	LLD<7.10E+00		LLD<7.10E+00	
[illegible]-212	LLD<6.68E+02		LLD<6.68E+02	
BE-7	LLD<2.33E+01		LLD<2.33E+01	
HF-181	LLD<2.72E+00		LLD<2.72E+00	
RU-103	LLD<2.83E+00		LLD<2.83E+00	
KR-85	LLD<5.53E+02		LLD<5.53E+02	

SR-85	LLD<2.42E+00	LLD<2.42E+00
I-133	LLD<2.90E+00	LLD<2.90E+00
BA-140	LLD<9.97E+00	LLD<9.97E+00
[illegible] 91M	LLD<3.30E+00	LLD<3.30E+00
[illegible]-207	LLD<2.95E+00	LLD<2.95E+00
[illegible]L-208	LLD<1.12E+01	LLD<1.12E+01
SB-124	LLD<2.74E+00	LLD<2.74E+00
CS-134	LLD<2.68E+00	LLD<2.68E+00
BI-214	LLD<7.20E+00	LLD<7.20E+00
RU-106	LLD<2.72E+01	LLD<2.72E+01
LA-142	LLD<5.93E+00	LLD<5.93E+00
AG-110M	LLD<3.02E+00	LLD<3.02E+00
NB-97	LLD<3.09E+00	LLD<3.09E+00
CS-137	LLD<3.40E+00	LLD<3.40E+00
I-132	LLD<3.17E+00	LLD<3.17E+00
W-187	LLD<1.05E+01	LLD<1.05E+01
ZR-97	LLD<3.29E+00	LLD<3.29E+00
ZR-95	LLD<6.21E+00	LLD<6.21E+00
NB-95	LLD<3.37E+00	LLD<3.37E+00
TL-210	LLD<2.33E+01	LLD<2.33E+01
CO-58	LLD<3.42E+00	LLD<3.42E+00
CS-136	LLD<3.44E+00	LLD<3.44E+00
MN-54	LLD<3.41E+00	LLD<3.41E+00
CO-56	LLD<3.59E+00	LLD<3.59E+00
I-134	LLD<4.05E+00	LLD<4.05E+00
TL-207	LLD<3.20E+03	LLD<3.20E+03
Y-88	LLD<3.90E+00	LLD<3.90E+00
AC-228	LLD<1.19E+01	LLD<1.19E+01
EU-152	1.01E+03 +- 3.76E+01	1.01E+03 +- 3.76E+01
[illegible]-234M	LLD<4.53E+01	LLD<4.53E+01
[illegible]-91	LLD<9.08E+00	LLD<9.08E+00
RB-89	LLD<6.53E+00	LLD<6.53E+00
FE-59	LLD<5.31E+00	LLD<5.31E+00
ZN-65	LLD<1.52E+01	LLD<1.52E+01
SC-46	LLD<3.73E+00	LLD<3.73E+00
TA-182	LLD<9.12E+00	LLD<9.12E+00
I-135	LLD<7.86E+00	LLD<7.86E+00
CL-39	LLD<4.86E+00	LLD<4.86E+00
NA-22	LLD<2.29E+00	LLD<2.29E+00
AR-41	LLD<4.37E+00	LLD<4.37E+00
CO-60	LLD<1.36E+00	LLD<1.36E+00
NA-24	LLD<1.44E+00	LLD<1.44E+00
SR-92	LLD<1.26E+00	LLD<1.26E+00
SCH-000	9.27E+02 +- 3.66E+01	9.27E+02 +- 3.66E+01
CS-138	LLD<1.19E+00	LLD<1.19E+00
K-40	LLD<1.18E+01	LLD<1.18E+01
KR-88	LLD<7.20E+00	LLD<7.20E+00
TL-209	LLD<1.66E+00	LLD<1.66E+00
LA-140	LLD<5.70E-01	LLD<5.70E-01
AL-26	LLD<2.90E-01	LLD<2.90E-01
MN-56	LLD<1.49E+00	LLD<1.49E+00
RB-88	LLD<2.30E+00	LLD<2.30E+00
	---	---
Total	4.48E+03 +- 1.08E+02	4.48E+03 +- 1.08E+02

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1211

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
80.56	39.99	2300.	24.3	8.84E+03
92.01	45.71	759.	37.3	1.43E+03
169.08	84.22	1156.	47.3	2.17E+02
173.28	86.32	1540.	39.5	2.72E+02
237.04	118.18	5551.	46.1	5.65E+02
250.22	124.76	2082.	102.6	2.01E+02
490.28	244.74	18161.	5.0	2.49E+03
496.16	247.68	653.	59.1	9.01E+01
592.75	295.96	900.	27.1	1.44E+02
681.70	340.42	1917.	45.0	3.50E+02
736.19	367.67	1572.	13.0	3.09E+02
888.54	443.84	3836.	5.7	9.10E+02
1128.22	563.70	440.	34.3	1.33E+02
1172.98	586.09	497.	32.9	1.57E+02
1357.14	678.21	310.	42.4	1.13E+02
1377.45	688.37	987.	15.7	3.66E+02
1550.58	774.99	422.	35.4	1.76E+02
1557.68	778.54	9844.	3.3	4.12E+03
1734.33	866.94	2841.	11.3	1.31E+03
1838.60	919.13	369.	32.5	1.80E+02
1920.13	959.94	508.	21.4	2.57E+02
2009.56	1004.70	428.	27.5	2.25E+02
2216.74	1108.43	567.	21.4	3.22E+02
2425.02	1212.72	746.	11.6	4.53E+02
2547.71	1274.17	139.	49.7	8.73E+01
2597.16	1298.94	716.	10.6	4.55E+02
2807.72	1404.42	539.	21.8	3.60E+02
2913.99	1457.66	332.	13.2	2.26E+02
3057.37	1529.51	227.	15.8	1.59E+02

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GAMMA SPECTROSCOPY RESULTS FROM 12/12/95

FOR

CELLS PILE N(124,125),PILE G(119,120,130),PILE L(92,93)

0‡♥♠ Auto cal 12/12

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*                                                                     *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 12-DEC-95 08:48:36

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

gular Output.
pectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 12-DEC-95 at 08:06:19

COLLECT Live Time: 1200. sec.

hgtrw 12-DEC-95 08:48:36

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.70	40.06	1.7	31000.	4324.	16.9	
2C	92.42	45.92	1.7	25961.	2309.	21.4	
3?	235.55	117.43	1.6	36895.	8851.	54.6	
4?	244.97	122.14	1.6	34323.	186691.	2.7	SCL-000,CO-57
5?	480.99	240.10	1.7	14442.	1654.	39.8	RA-224
6?	490.76	244.97	1.7	13614.	36521.	3.8	
7?	496.66	247.93	1.7	13113.	1317.	47.3	
8	593.20	296.18	1.6	9563.	1538.	19.8	
9?	680.50	339.82	1.8	7825.	4061.	40.7	CS-136
10?	689.78	344.46	1.8	7352.	93805.	2.5	BA-141, SCM-000
11?	695.76	347.45	1.8	7047.	2603.	60.0	
12	736.55	367.85	2.0	7127.	2797.	10.3	
13	823.40	411.27	1.7	5710.	5759.	4.7	AU-198
14	889.07	444.10	1.7	6967.	7632.	4.2	
15	978.59	488.87	2.0	4888.	1045.	21.1	
16	1128.93	564.06	1.7	6485.	1096.	24.6	CS-134,SB-122
17	1173.41	586.30	1.8	4785.	992.	22.0	
18	1357.91	678.59	1.5	4483.	689.	31.0	AG110M
19	1378.19	688.74	1.9	4916.	1617.	14.9	
[illegible]?	1548.69	774.04	2.0	4271.	709.	32.8	TE131M
[illegible]1?	1558.35	778.88	2.0	4564.	19237.	2.4	MO-99
22	1621.45	810.45	2.2	4228.	479.	45.0	I-132,CO-58
23	1735.24	867.40	1.8	4623.	5255.	5.0	
24C	1839.04	919.34	1.5	1965.	346.	38.1	
25C	1853.48	926.57	1.8	2211.	343.	52.0	PA-234
26?	1919.57	959.65	2.1	2368.	856.	24.6	
27?	1928.35	964.05	2.1	2299.	18790.	2.6	EU-152
28?	1934.99	967.37	2.1	2246.	465.	44.4	
29	2010.44	1005.14	2.2	1768.	1037.	14.2	
30C	2171.70	1085.88	1.9	4612.	9572.	3.0	EU-152
31?	2215.82	1107.96	2.2	2065.	699.	32.3	
32?	2224.18	1112.15	2.2	2175.	15295.	2.6	TE-129,EU-152
33	2425.86	1213.14	2.1	1454.	1226.	12.0	
34	2548.70	1274.67	1.6	645.	381.	24.3	NA-22
35	2598.12	1299.42	2.3	447.	1509.	6.7	
36?	2806.89	1404.00	2.4	403.	868.	19.0	
37?	2815.77	1408.45	2.4	593.	18876.	1.7	EU-152,BI-214, SCH-000
38C	2914.93	1458.13	2.5	86.	459.	12.2	I-135
39C	2921.42	1461.38	2.5	76.	296.	15.4	K-40
40	3058.06	1529.85	3.2	92.	530.	10.7	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

10 Multiplets processed.

C - Multiplet Analysis converged normally

? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.532927E-07*Ch^2 + 4.995799E-01*Ch +-2.582365E-01

New Calibration Coefficients:

Energy = 2.654223E-07*Ch^2 + 4.995122E-01*Ch +-4.196320E-01

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0↕♥♠ Daily Source check 12/12

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*                                                               *
*            G A M M A   S P E C T R U M   A N A L Y S I S      *
*                                                               *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 12-DEC-95 09:07:00

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1212
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 12-DEC-95 at 08:50:50

COLLECT Live Time: 600. seconds
Real Time: 763. seconds
Dead Time: 21.36 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 12-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 12-DEC-95 09:07:00

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.62	39.85	1.7	14912.	1843.	25.4	
2C	92.26	45.67	1.7	12363.	1165.	30.6	
3C	169.13	84.07	3.3	41802.	1079.	41.8	
4C	175.02	87.01	3.3	46712.	1381.	36.0	PB-214
5?	236.80	117.88	1.6	18351.	5286.	44.8	
6?	244.96	121.96	1.6	15969.	93837.	3.4	SE-75,SCL-000, CO-57
7?	250.59	124.77	1.6	14325.	2201.	92.3	
8?	482.42	240.61	1.7	7421.	794.	42.3	RA-224
9?	490.73	244.77	1.7	7036.	17694.	4.8	
10?	496.55	247.68	1.7	6767.	621.	51.8	
11	593.18	295.98	1.8	5462.	868.	27.8	PB-214
12?	681.27	340.01	1.8	3962.	2293.	27.9	CS-136
13?	689.77	344.25	1.8	3750.	45774.	2.4	BA-141, SCM-000
14?	695.77	347.25	1.8	3601.	1296.	44.8	
15	736.81	367.77	1.7	3525.	1463.	13.9	
16	823.30	411.01	1.6	3151.	2665.	7.6	AU-198
17	889.04	443.88	1.6	3495.	3739.	6.1	
18	978.61	488.66	2.0	2883.	479.	36.7	
19	1128.98	563.86	2.2	3225.	623.	30.7	CS-134,SB-122
20	1173.48	586.11	1.7	2461.	380.	40.7	
21	1357.73	678.27	2.1	2476.	378.	42.9	I-134,AG110M
22	1378.14	688.48	1.8	2128.	856.	18.0	
23C	1549.82	774.37	2.0	2220.	398.	38.3	TE131M
24C	1558.38	778.65	2.0	2302.	9447.	3.5	MO-99
25$	1621.40	810.19	1.3	1147.	190.	108.6	I-132,CO-58
26	1735.29	867.18	1.9	2354.	2728.	6.9	
27	1838.85	919.00	2.3	1285.	254.	46.5	
28C	1920.13	959.68	2.2	1233.	385.	27.0	
29C	1928.35	963.80	2.2	1199.	9059.	3.4	EU-152
30C	1934.61	966.94	2.2	1173.	266.	42.5	
31	2010.77	1005.06	2.2	700.	527.	17.4	
32?	2171.73	1085.64	1.9	2322.	4881.	4.2	EU-152
33C	2215.92	1107.76	2.2	1047.	364.	27.7	
34C	2224.24	1111.93	2.2	1097.	7660.	3.3	TE-129,EU-152
35	2425.93	1212.92	2.2	595.	745.	12.8	
36	2598.27	1299.24	2.1	324.	624.	12.2	I-133
37C	2807.55	1404.08	2.4	201.	461.	18.5	
38C	2815.80	1408.21	2.4	283.	9418.	2.3	EU-152,BI-214, SCH-000
39	2915.02	1457.93	2.6	88.	320.	15.1	I-135
40	3058.51	1529.83	3.7	45.	256.	15.2	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

11 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 12-DEC-95 09:07:00

Sample: Eu-152 Standard
Data collected on 12-DEC-95 at 08:50:50
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.91E+01		LLD<2.91E+01	
TH-234	LLD<2.21E+02		LLD<2.21E+02	
TH-230	LLD<1.82E+03		LLD<1.82E+03	
XE-133	LLD<1.30E+01		LLD<1.30E+01	
CD-109	LLD<1.10E+02		LLD<1.10E+02	
SCL-000	9.89E+02	+- 3.57E+01	9.89E+02	+- 3.57E+01
CO-57	3.28E+02	+- 1.19E+01	3.28E+02	+- 1.19E+01
PA-234	LLD<9.34E+00		LLD<9.34E+00	
CE-144	LLD<1.65E+01		LLD<1.65E+01	
TC-99M	LLD<1.97E+00		LLD<1.97E+00	
U-235	LLD<1.59E+01		LLD<1.59E+01	
CE-141	LLD<3.58E+00		LLD<3.58E+00	
KR-85M	LLD<2.38E+00		LLD<2.38E+00	
XE-131M	LLD<8.86E+01		LLD<8.86E+01	
BA-139	LLD<1.07E+01		LLD<1.07E+01	
[illegible]-139	LLD<2.15E+00		LLD<2.15E+00	
RA-226	LLD<5.35E+01		LLD<5.35E+01	
BA-141	LLD<4.51E+00		LLD<4.51E+00	
KR-89	LLD<2.77E+01		LLD<2.77E+01	
TE-132	LLD<2.17E+00		LLD<2.17E+00	
XE-133M	LLD<1.91E+01		LLD<1.91E+01	
TH-227	LLD<1.30E+01		LLD<1.30E+01	
PB-212	LLD<5.09E+00		LLD<5.09E+00	
RA-224	8.13E+01	+- 3.45E+01	8.13E+01	+- 3.45E+01
XE-135	LLD<4.35E+00		LLD<4.35E+00	
XE-138	LLD<8.28E+00		LLD<8.28E+00	
SE-75	LLD<3.22E+00		LLD<3.22E+00	
NP-239	LLD<1.36E+01		LLD<1.36E+01	
HG-203	LLD<2.54E+00		LLD<2.54E+00	
IR-192	LLD<2.38E+00		LLD<2.38E+00	
CR-51	LLD<2.07E+01		LLD<2.07E+01	
SCM-000	9.64E+02	+- 2.80E+01	9.64E+02	+- 2.80E+01
BI-211	LLD<8.51E+01		LLD<8.51E+01	
PB-214	LLD<7.12E+00		LLD<7.12E+00	
BA-133	LLD<3.20E+00		LLD<3.20E+00	
I-131	LLD<2.68E+00		LLD<2.68E+00	
SN-113	LLD<3.03E+00		LLD<3.03E+00	
KR-87	LLD<4.36E+00		LLD<4.36E+00	
PB-211	LLD<7.95E+01		LLD<7.95E+01	
AU-198	1.87E+01	+- 1.46E+00	1.87E+01	+- 1.46E+00
[illegible]B-125	LLD<7.48E+00		LLD<7.48E+00	
[illegible]-212	LLD<6.71E+02		LLD<6.71E+02	
BE-7	LLD<2.16E+01		LLD<2.16E+01	
HF-181	LLD<2.75E+00		LLD<2.75E+00	
RU-103	LLD<2.64E+00		LLD<2.64E+00	
KR-85	LLD<5.62E+02		LLD<5.62E+02	

SR-85	LLD<2.46E+00		LLD<2.46E+00		
I-133	LLD<3.11E+00		LLD<3.11E+00		
BA-140	LLD<1.09E+01		LLD<1.09E+01		
[illegible]1M	LLD<3.07E+00		LLD<3.07E+00		
207	LLD<2.98E+00		LLD<2.98E+00		
TL-208	LLD<1.04E+01		LLD<1.04E+01		
SB-124	LLD<2.76E+00		LLD<2.76E+00		
CS-134	LLD<2.73E+00		LLD<2.73E+00		
BI-214	LLD<7.80E+00		LLD<7.80E+00		
RU-106	LLD<2.93E+01		LLD<2.93E+01		
LA-142	LLD<5.52E+00		LLD<5.52E+00		
AG-110M	LLD<3.25E+00		LLD<3.25E+00		
NB-97	LLD<3.32E+00		LLD<3.32E+00		
CS-137	LLD<3.30E+00		LLD<3.30E+00		
I-132	LLD<3.02E+00		LLD<3.02E+00		
W-187	LLD<1.12E+01		LLD<1.12E+01		
ZR-97	LLD<3.51E+00		LLD<3.51E+00		
ZR-95	LLD<6.19E+00		LLD<6.19E+00		
NB-95	LLD<3.44E+00		LLD<3.44E+00		
TL-210	LLD<2.31E+01		LLD<2.31E+01		
CO-58	2.52E+00	+- 2.74E+00	2.52E+00	+- 2.74E+00	
CS-136	LLD<3.38E+00		LLD<3.38E+00		
MN-54	LLD<3.55E+00		LLD<3.55E+00		
CO-56	LLD<3.85E+00		LLD<3.85E+00		
I-134	LLD<4.10E+00		LLD<4.10E+00		
TL-207	LLD<3.27E+03		LLD<3.27E+03		
Y-88	LLD<3.60E+00		LLD<3.60E+00		
AC-228	LLD<1.12E+01		LLD<1.12E+01		
EU-152	9.71E+02	+- 4.02E+01	9.71E+02	+- 4.02E+01	
[illegible]-234M	LLD<4.86E+01		LLD<4.86E+01		
[illegible]R-91	LLD<8.82E+00		LLD<8.82E+00		
RB-89	LLD<6.24E+00		LLD<6.24E+00		
FE-59	LLD<5.50E+00		LLD<5.50E+00		
ZN-65	LLD<1.46E+01		LLD<1.46E+01		
SC-46	LLD<3.50E+00		LLD<3.50E+00		
TA-182	LLD<1.01E+01		LLD<1.01E+01		
I-135	LLD<8.07E+00		LLD<8.07E+00		
CL-39	LLD<5.01E+00		LLD<5.01E+00		
NA-22	LLD<2.15E+00		LLD<2.15E+00		
AR-41	LLD<3.74E+00		LLD<3.74E+00		
CO-60	LLD<1.45E+00		LLD<1.45E+00		
NA-24	LLD<1.32E+00		LLD<1.32E+00		
SR-92	LLD<1.37E+00		LLD<1.37E+00		
SCH-000	9.20E+02	+- 3.57E+01	9.20E+02	+- 3.57E+01	
CS-138	LLD<1.48E+00		LLD<1.48E+00		
K-40	LLD<1.13E+01		LLD<1.13E+01		
KR-88	LLD<7.43E+00		LLD<7.43E+00		
TL-209	LLD<2.37E+00		LLD<2.37E+00		
LA-140	LLD<5.75E-01		LLD<5.75E-01		
AL-26	LLD<4.43E-01		LLD<4.43E-01		
MN-56	LLD<1.70E+00		LLD<1.70E+00		
RB-88	LLD<1.86E+00		LLD<1.86E+00		
Total	4.28E+03	+- 7.93E+01	4.28E+03	+- 7.93E+01	

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1212

PEAKS NOT USED IN ANALYSIS

ntroid annel	Energy keV	Net Area counts	Error %	Gammas/sec
80.62	39.85	1843.	25.4	7.22E+03
92.26	45.67	1165.	30.6	2.21E+03
169.13	84.07	1079.	41.8	2.03E+02
175.02	87.01	1381.	36.0	2.39E+02
236.80	117.88	5286.	44.8	5.39E+02
250.59	124.77	2201.	92.3	2.12E+02
490.73	244.77	17694.	4.8	2.42E+03
496.55	247.68	621.	51.8	8.57E+01
593.18	295.98	868.	27.8	1.39E+02
681.27	340.01	2293.	27.9	4.17E+02
695.77	347.25	1296.	44.8	2.41E+02
736.81	367.77	1463.	13.9	2.87E+02
889.04	443.88	3739.	6.1	8.87E+02
978.61	488.66	479.	36.7	1.25E+02
1128.98	563.86	623.	30.7	1.89E+02
1173.48	586.11	380.	40.7	1.20E+02
1357.73	678.27	378.	42.9	1.38E+02
1378.14	688.48	856.	18.0	3.18E+02
1549.82	774.37	398.	38.3	1.66E+02
1558.38	778.65	9447.	3.5	3.95E+03
1735.29	867.18	2728.	6.9	1.26E+03
1838.85	919.00	254.	46.5	1.23E+02
1920.13	959.68	385.	27.0	1.95E+02
1934.61	966.94	266.	42.5	1.35E+02
2010.77	1005.06	527.	17.4	2.77E+02
2215.92	1107.76	364.	27.7	2.07E+02
2425.93	1212.92	745.	12.8	4.52E+02
2598.27	1299.24	624.	12.2	3.97E+02
2807.55	1404.08	461.	18.5	3.07E+02
2915.02	1457.93	320.	15.1	2.18E+02
3058.51	1529.83	256.	15.2	1.79E+02

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Pile N C-124, 125

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 12-DEC-95 09:47:29

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0093
Measured by: dlv

Sample Description: N:124,125
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.6100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 12-DEC-95 at 09:21:35

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 12-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 12-DEC-95 09:47:29

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.16	238.49	1.5	105.	112.	33.9	PB-212
2	704.79	351.76	2.1	29.	71.	33.6	BI-211,PB-214
3	1166.69	582.72	1.5	16.	47.	38.9	TL-208
4	1219.23	608.99	1.7	18.	28.	59.8	XE-135,BI-214
5	1323.57	661.19	1.9	6.	18.	62.6	CS-137
6	1822.53	910.84	3.1	6.	29.	45.3	AC-228
7	2920.66	1460.75	1.9	6.	67.	26.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 12-DEC-95 09:47:29

Sample: N:124,125
Data collected on 12-DEC-95 at 09:21:35
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.32E+00		LLD<3.32E+00	
TH-234	LLD<3.07E+01		LLD<3.07E+01	
TH-230	LLD<2.29E+02		LLD<2.29E+02	
XE-133	LLD<1.65E+00		LLD<1.65E+00	
CD-109	LLD<1.06E+01		LLD<1.06E+01	
SCL-000	LLD<7.78E-01		LLD<7.78E-01	
CO-57	LLD<2.58E-01		LLD<2.58E-01	
PA-234	LLD<9.61E-01		LLD<9.61E-01	
CE-144	LLD<1.92E+00		LLD<1.92E+00	
TC-99M	LLD<2.22E-01		LLD<2.22E-01	
U-235	LLD<1.85E+00		LLD<1.85E+00	
CE-141	LLD<3.79E-01		LLD<3.79E-01	
KR-85M	LLD<2.68E-01		LLD<2.68E-01	
XE-131M	LLD<9.81E+00		LLD<9.81E+00	
BA-139	LLD<1.16E+00		LLD<1.16E+00	
[illegible]-139	LLD<2.36E-01		LLD<2.36E-01	
[illegible]A-226	LLD<5.32E+00		LLD<5.32E+00	
BA-141	LLD<5.51E-01		LLD<5.51E-01	
KR-89	LLD<2.36E+00		LLD<2.36E+00	
TE-132	LLD<2.17E-01		LLD<2.17E-01	
XE-133M	LLD<3.34E+00		LLD<3.34E+00	
TH-227	LLD<1.70E+00		LLD<1.70E+00	
PB-212	1.34E+00	+- 4.56E-01	1.34E+00	+- 4.56E-01
RA-224	LLD<6.70E+00		LLD<6.70E+00	
XE-135	LLD<2.34E-01		LLD<2.34E-01	
XE-138	LLD<7.85E-01		LLD<7.85E-01	
SE-75	LLD<3.65E-01		LLD<3.65E-01	
NP-239	LLD<1.81E+00		LLD<1.81E+00	
HG-203	LLD<3.22E-01		LLD<3.22E-01	
IR-192	LLD<2.80E-01		LLD<2.80E-01	
CR-51	LLD<2.42E+00		LLD<2.42E+00	
SCM-000	LLD<9.64E-01		LLD<9.64E-01	
BI-211	1.42E+01	+- 4.79E+00	1.42E+01	+- 4.79E+00
PB-214	1.66E+00	+- 5.60E-01	1.66E+00	+- 5.60E-01
BA-133	LLD<7.98E-01		LLD<7.98E-01	
I-131	LLD<2.49E-01		LLD<2.49E-01	
SN-113	LLD<3.80E-01		LLD<3.80E-01	
KR-87	LLD<5.07E-01		LLD<5.07E-01	
PB-211	LLD<1.03E+01		LLD<1.03E+01	
AU-198	LLD<2.90E-01		LLD<2.90E-01	
[illegible]B-125	LLD<8.75E-01		LLD<8.75E-01	
[illegible]-212	LLD<6.95E+01		LLD<6.95E+01	
BE-7	LLD<2.55E+00		LLD<2.55E+00	
HF-181	LLD<2.83E-01		LLD<2.83E-01	
RU-103	LLD<2.35E-01		LLD<2.35E-01	
KR-85	LLD<7.32E+01		LLD<7.32E+01	

SR-85	LLD<3.20E-01		LLD<3.20E-01		
I-133	LLD<3.07E-01		LLD<3.07E-01		
BA-140	LLD<1.20E+00		LLD<1.20E+00		
91M	LLD<3.52E-01		LLD<3.52E-01		
207	LLD<2.72E-01		LLD<2.72E-01		
TL-208	LLD<1.41E+00		LLD<1.41E+00		
SB-124	LLD<3.35E-01		LLD<3.35E-01		
CS-134	LLD<5.97E-01		LLD<5.97E-01		
BI-214	9.61E-01	+- 5.75E-01	9.61E-01	+-	5.75E-01
RU-106	LLD<3.42E+00		LLD<3.42E+00		
LA-142	LLD<6.10E-01		LLD<6.10E-01		
AG-110M	LLD<4.02E-01		LLD<4.02E-01		
NB-97	LLD<4.05E-01		LLD<4.05E-01		
CS-137	2.92E-01	+- 1.83E-01	2.92E-01	+-	1.83E-01
I-132	LLD<2.77E-01		LLD<2.77E-01		
W-187	LLD<1.11E+00		LLD<1.11E+00		
ZR-97	LLD<3.67E-01		LLD<3.67E-01		
ZR-95	LLD<5.49E-01		LLD<5.49E-01		
NB-95	LLD<3.62E-01		LLD<3.62E-01		
TL-210	LLD<2.30E+00		LLD<2.30E+00		
CO-58	LLD<2.54E-01		LLD<2.54E-01		
CS-136	LLD<3.08E-01		LLD<3.08E-01		
MN-54	LLD<2.75E-01		LLD<2.75E-01		
CO-56	LLD<4.40E-01		LLD<4.40E-01		
I-134	LLD<4.79E-01		LLD<4.79E-01		
TL-207	LLD<3.38E+02		LLD<3.38E+02		
Y-88	LLD<4.10E-01		LLD<4.10E-01		
AC-228	2.10E+00	+- 9.55E-01	2.10E+00	+-	9.55E-01
EU-152	LLD<3.37E+00		LLD<3.37E+00		
-234M	LLD<3.93E+00		LLD<3.93E+00		
-91	LLD<1.08E+00		LLD<1.08E+00		
RB-89	LLD<5.91E-01		LLD<5.91E-01		
FE-59	LLD<8.47E-01		LLD<8.47E-01		
ZN-65	LLD<9.48E-01		LLD<9.48E-01		
SC-46	LLD<3.82E-01		LLD<3.82E-01		
TA-182	LLD<1.59E+00		LLD<1.59E+00		
I-135	LLD<1.38E+00		LLD<1.38E+00		
CL-39	LLD<1.08E+00		LLD<1.08E+00		
NA-22	LLD<4.84E-01		LLD<4.84E-01		
AR-41	LLD<3.81E-01		LLD<3.81E-01		
CO-60	LLD<3.91E-01		LLD<3.91E-01		
NA-24	LLD<3.15E-01		LLD<3.15E-01		
SR-92	LLD<3.78E-01		LLD<3.78E-01		
SCH-000	LLD<1.10E+00		LLD<1.10E+00		
CS-138	LLD<6.06E-01		LLD<6.06E-01		
K-40	1.76E+01	+- 4.72E+00	1.76E+01	+-	4.72E+00
KR-88	LLD<4.36E+00		LLD<4.36E+00		
TL-209	LLD<8.03E-01		LLD<8.03E-01		
LA-140	LLD<5.23E-01		LLD<5.23E-01		
AL-26	LLD<3.90E-01		LLD<3.90E-01		
MN-56	LLD<9.67E-01		LLD<9.67E-01		
RB-88	LLD<1.28E+00		LLD<1.28E+00		
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Total	3.82E+01	+- 6.86E+00	3.82E+01	+-	6.86E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0093

PEAKS NOT USED IN ANALYSIS

troid annel	Energy keV	Net Area counts	Error %	Gammas/sec
1166.69	582.72	47.	38.9	1.49E+01

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 12-DEC-95 10:13:24

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0094
Measured by: dlv

Sample Description: G:119,120,130
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.9700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 12-DEC-95 at 09:49:02

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 12-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 12-DEC-95 10:13:24

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	372.31	185.59	1.9	52.	82.	34.4	U-235,RA-226
2	478.23	238.52	1.5	48.	102.	28.6	PB-212
3$	677.45	338.10	1.7	7.	20.	75.5	AC-228
4	1218.79	608.78	1.0	10.	33.	45.2	XE-135,BI-214
5	1322.98	660.89	1.8	12.	66.	29.7	CS-137
6	1721.48	860.27	0.7	1.	9.	75.1	TL-208,BI-212
7	1821.39	910.27	2.6	1.	25.	42.0	AC-228
8	2127.92	1063.70	0.7	0.	6.	80.0	BI-207
9	2920.56	1460.70	2.1	8.	59.	30.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 12-DEC-95 10:13:24

mple: G:119,120,130
ata collected on 12-DEC-95 at 09:49:02
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.25E+00		LLD<4.25E+00	
TH-234	LLD<2.53E+01		LLD<2.53E+01	
TH-230	LLD<2.61E+02		LLD<2.61E+02	
XE-133	LLD<1.92E+00		LLD<1.92E+00	
CD-109	LLD<1.36E+01		LLD<1.36E+01	
SCL-000	LLD<7.57E-01		LLD<7.57E-01	
CO-57	LLD<2.51E-01		LLD<2.51E-01	
PA-234	LLD<1.01E+00		LLD<1.01E+00	
CE-144	LLD<1.99E+00		LLD<1.99E+00	
TC-99M	LLD<2.50E-01		LLD<2.50E-01	
U-235	LLD<2.07E+00		LLD<2.07E+00	
CE-141	LLD<4.16E-01		LLD<4.16E-01	
KR-85M	LLD<2.67E-01		LLD<2.67E-01	
XE-131M	LLD<8.77E+00		LLD<8.77E+00	
BA-139	LLD<1.23E+00		LLD<1.23E+00	
[illegible]-139	LLD<2.49E-01		LLD<2.49E-01	
RA-226	1.07E+01	+- 3.68E+00	1.07E+01	+- 3.68E+00
BA-141	LLD<7.48E-01		LLD<7.48E-01	
KR-89	LLD<2.32E+00		LLD<2.32E+00	
TE-132	LLD<2.32E-01		LLD<2.32E-01	
XE-133M	LLD<3.19E+00		LLD<3.19E+00	
TH-227	LLD<1.84E+00		LLD<1.84E+00	
PB-212	1.35E+00	+- 3.90E-01	1.35E+00	+- 3.90E-01
RA-224	LLD<6.08E+00		LLD<6.08E+00	
XE-135	LLD<2.23E-01		LLD<2.23E-01	
XE-138	LLD<7.98E-01		LLD<7.98E-01	
SE-75	LLD<4.19E-01		LLD<4.19E-01	
NP-239	LLD<2.03E+00		LLD<2.03E+00	
HG-203	LLD<3.02E-01		LLD<3.02E-01	
IR-192	LLD<2.63E-01		LLD<2.63E-01	
CR-51	LLD<2.29E+00		LLD<2.29E+00	
SCM-000	LLD<9.46E-01		LLD<9.46E-01	
BI-211	LLD<7.93E+00		LLD<7.93E+00	
PB-214	LLD<9.69E-01		LLD<9.69E-01	
BA-133	LLD<6.71E-01		LLD<6.71E-01	
I-131	LLD<3.23E-01		LLD<3.23E-01	
SN-113	LLD<3.99E-01		LLD<3.99E-01	
KR-87	LLD<5.16E-01		LLD<5.16E-01	
PB-211	LLD<1.07E+01		LLD<1.07E+01	
AU-198	LLD<3.02E-01		LLD<3.02E-01	
[illegible]B-125	LLD<8.42E-01		LLD<8.42E-01	
[illegible]I-212	LLD<7.79E+01		LLD<7.79E+01	
BE-7	LLD<3.00E+00		LLD<3.00E+00	
HF-181	LLD<3.02E-01		LLD<3.02E-01	
RU-103	LLD<3.02E-01		LLD<3.02E-01	
KR-85	LLD<8.02E+01		LLD<8.02E+01	

SR-85	LLD<3.51E-01		LLD<3.51E-01		
I-133	LLD<3.11E-01		LLD<3.11E-01		
BA-140	LLD<9.34E-01		LLD<9.34E-01		
[illegible]1M	LLD<3.39E-01		LLD<3.39E-01		
[illegible] 207	LLD<3.03E-01		LLD<3.03E-01		
TL-208	LLD<1.11E+00		LLD<1.11E+00		
SB-124	LLD<3.76E-01		LLD<3.76E-01		
CS-134	LLD<6.09E-01		LLD<6.09E-01		
BI-214	1.27E+00	+- 5.77E-01	1.27E+00	+-	5.77E-01
RU-106	LLD<3.41E+00		LLD<3.41E+00		
LA-142	LLD<6.56E-01		LLD<6.56E-01		
AG-110M	LLD<6.85E-01		LLD<6.85E-01		
NB-97	LLD<6.90E-01		LLD<6.90E-01		
CS-137	1.18E+00	+- 3.52E-01	1.18E+00	+-	3.52E-01
I-132	LLD<3.41E-01		LLD<3.41E-01		
W-187	LLD<1.16E+00		LLD<1.16E+00		
ZR-97	LLD<4.08E-01		LLD<4.08E-01		
ZR-95	LLD<6.85E-01		LLD<6.85E-01		
NB-95	LLD<3.60E-01		LLD<3.60E-01		
TL-210	LLD<1.76E+00		LLD<1.76E+00		
CO-58	LLD<4.36E-01		LLD<4.36E-01		
CS-136	LLD<2.72E-01		LLD<2.72E-01		
MN-54	LLD<3.13E-01		LLD<3.13E-01		
CO-56	LLD<3.75E-01		LLD<3.75E-01		
I-134	LLD<4.01E-01		LLD<4.01E-01		
TL-207	LLD<3.49E+02		LLD<3.49E+02		
Y-88	LLD<4.74E-01		LLD<4.74E-01		
AC-228	1.94E+00	+- 8.19E-01	1.94E+00	+-	8.19E-01
[illegible]-152	LLD<3.94E+00		LLD<3.94E+00		
[illegible]234M	LLD<5.01E+00		LLD<5.01E+00		
[illegible]-91	LLD<1.51E+00		LLD<1.51E+00		
RB-89	LLD<9.08E-01		LLD<9.08E-01		
FE-59	LLD<6.59E-01		LLD<6.59E-01		
ZN-65	LLD<1.13E+00		LLD<1.13E+00		
SC-46	LLD<6.04E-01		LLD<6.04E-01		
TA-182	LLD<1.54E+00		LLD<1.54E+00		
I-135	LLD<1.39E+00		LLD<1.39E+00		
CL-39	LLD<1.11E+00		LLD<1.11E+00		
NA-22	LLD<4.27E-01		LLD<4.27E-01		
AR-41	LLD<2.51E-01		LLD<2.51E-01		
CO-60	LLD<4.27E-01		LLD<4.27E-01		
NA-24	LLD<2.76E-01		LLD<2.76E-01		
SR-92	LLD<3.54E-01		LLD<3.54E-01		
SCH-000	LLD<1.61E+00		LLD<1.61E+00		
CS-138	LLD<2.67E-01		LLD<2.67E-01		
K-40	1.72E+01	+- 5.30E+00	1.72E+01	+-	5.30E+00
KR-88	LLD<8.01E-01		LLD<8.01E-01		
TL-209	LLD<1.18E+00		LLD<1.18E+00		
LA-140	LLD<7.42E-01		LLD<7.42E-01		
AL-26	LLD<9.19E-02		LLD<9.19E-02		
MN-56	LLD<3.45E-01		LLD<3.45E-01		
RB-88	LLD<3.26E+00		LLD<3.26E+00		
Total	3.36E+01	+- 6.55E+00	3.36E+01	+-	6.55E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0094

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
677.45	338.10	20.	75.5	3.67E+00
1721.48	860.27	9.	75.1	4.36E+00
2127.92	1063.70	6.	80.0	3.30E+00

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Dile L C-92,93

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 12-DEC-95 10:35:33

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0095
Measured by: dlv

Sample Description: L:92,93
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.2000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 12-DEC-95 at 10:15:19

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 12-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 12-DEC-95 10:35:33

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.29	238.55	1.7	65.	76.	40.5	PB-212
2	704.68	351.71	1.7	22.	50.	39.0	BI-211,PB-214
3	925.86	462.29	0.7	10.	18.	68.5	CS-138
4	1166.79	582.77	0.8	6.	30.	44.3	TL-208
5	1218.21	608.48	1.1	11.	20.	70.3	XE-135,BI-214
6	1323.54	661.17	2.5	10.	50.	33.4	CS-137
7	1821.49	910.32	1.7	4.	18.	57.7	AC-228
8N	1865.26	932.22	0.7	2.	11.	71.6	
9	2921.06	1460.95	3.1	4.	80.	23.7	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

N - Multiplet Analysis did NOT converge

hgtrw 12-DEC-95 10:35:33

Sample: L:92,93
Data collected on 12-DEC-95 at 10:15:19
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.92E+00		LLD<3.92E+00	
TH-234	LLD<2.57E+01		LLD<2.57E+01	
TH-230	LLD<2.37E+02		LLD<2.37E+02	
XE-133	LLD<1.89E+00		LLD<1.89E+00	
CD-109	LLD<1.22E+01		LLD<1.22E+01	
SCL-000	LLD<6.57E-01		LLD<6.57E-01	
CO-57	LLD<2.18E-01		LLD<2.18E-01	
PA-234	LLD<1.01E+00		LLD<1.01E+00	
CE-144	LLD<1.93E+00		LLD<1.93E+00	
TC-99M	LLD<2.38E-01		LLD<2.38E-01	
U-235	LLD<1.73E+00		LLD<1.73E+00	
CE-141	LLD<3.85E-01		LLD<3.85E-01	
KR-85M	LLD<2.44E-01		LLD<2.44E-01	
XE-131M	LLD<8.89E+00		LLD<8.89E+00	
BA-139	LLD<1.05E+00		LLD<1.05E+00	
[illegible]-139	LLD<2.12E-01		LLD<2.12E-01	
[illegible]-226	LLD<5.81E+00		LLD<5.81E+00	
BA-141	LLD<6.18E-01		LLD<6.18E-01	
KR-89	LLD<2.73E+00		LLD<2.73E+00	
TE-132	LLD<2.17E-01		LLD<2.17E-01	
XE-133M	LLD<2.74E+00		LLD<2.74E+00	
TH-227	LLD<1.43E+00		LLD<1.43E+00	
PB-212	9.70E-01	+- 3.94E-01	9.70E-01	+- 3.94E-01
RA-224	LLD<5.52E+00		LLD<5.52E+00	
XE-135	LLD<2.22E-01		LLD<2.22E-01	
XE-138	LLD<8.33E-01		LLD<8.33E-01	
SE-75	LLD<3.72E-01		LLD<3.72E-01	
NP-239	LLD<1.70E+00		LLD<1.70E+00	
HG-203	LLD<3.09E-01		LLD<3.09E-01	
IR-192	LLD<2.72E-01		LLD<2.72E-01	
CR-51	LLD<2.27E+00		LLD<2.27E+00	
SCM-000	LLD<9.81E-01		LLD<9.81E-01	
BI-211	1.08E+01	+- 4.23E+00	1.08E+01	+- 4.23E+00
PB-214	1.26E+00	+- 4.94E-01	1.26E+00	+- 4.94E-01
BA-133	LLD<8.12E-01		LLD<8.12E-01	
I-131	LLD<3.03E-01		LLD<3.03E-01	
SN-113	LLD<4.09E-01		LLD<4.09E-01	
KR-87	LLD<5.80E-01		LLD<5.80E-01	
PB-211	LLD<1.03E+01		LLD<1.03E+01	
AU-198	LLD<2.88E-01		LLD<2.88E-01	
SB-125	LLD<8.78E-01		LLD<8.78E-01	
[illegible]-212	LLD<8.93E+01		LLD<8.93E+01	
BE-7	LLD<2.35E+00		LLD<2.35E+00	
HF-181	LLD<3.35E-01		LLD<3.35E-01	
RU-103	LLD<2.91E-01		LLD<2.91E-01	
KR-85	LLD<7.82E+01		LLD<7.82E+01	

SR-85	LLD<3.42E-01		LLD<3.42E-01		
I-133	LLD<3.36E-01		LLD<3.36E-01		
BA-140	LLD<1.22E+00		LLD<1.22E+00		
[illegible]1M	LLD<3.10E-01		LLD<3.10E-01		
[illegible]207	LLD<2.74E-01		LLD<2.74E-01		
[illegible]L-208	LLD<1.07E+00		LLD<1.07E+00		
SB-124	LLD<2.65E-01		LLD<2.65E-01		
CS-134	LLD<5.30E-01		LLD<5.30E-01		
BI-214	7.18E-01	+- 5.05E-01	7.18E-01	+-	5.05E-01
RU-106	LLD<2.82E+00		LLD<2.82E+00		
LA-142	LLD<5.81E-01		LLD<5.81E-01		
AG-110M	LLD<6.82E-01		LLD<6.82E-01		
NB-97	LLD<6.87E-01		LLD<6.87E-01		
CS-137	8.64E-01	+- 2.89E-01	8.64E-01	+-	2.89E-01
I-132	LLD<3.79E-01		LLD<3.79E-01		
W-187	LLD<1.10E+00		LLD<1.10E+00		
ZR-97	LLD<2.98E-01		LLD<2.98E-01		
ZR-95	LLD<5.61E-01		LLD<5.61E-01		
NB-95	LLD<3.21E-01		LLD<3.21E-01		
TL-210	LLD<1.66E+00		LLD<1.66E+00		
CO-58	LLD<3.86E-01		LLD<3.86E-01		
CS-136	LLD<4.11E-01		LLD<4.11E-01		
MN-54	LLD<3.41E-01		LLD<3.41E-01		
CO-56	LLD<3.40E-01		LLD<3.40E-01		
I-134	LLD<3.42E-01		LLD<3.42E-01		
TL-207	LLD<2.87E+02		LLD<2.87E+02		
Y-88	LLD<3.90E-01		LLD<3.90E-01		
AC-228	1.36E+00	+- 7.85E-01	1.36E+00	+-	7.85E-01
EU-152	LLD<3.55E+00		LLD<3.55E+00		
[illegible]234M	LLD<3.57E+00		LLD<3.57E+00		
[illegible]-91	LLD<1.33E+00		LLD<1.33E+00		
RB-89	LLD<9.53E-01		LLD<9.53E-01		
FE-59	LLD<8.76E-01		LLD<8.76E-01		
ZN-65	LLD<1.00E+00		LLD<1.00E+00		
SC-46	LLD<5.22E-01		LLD<5.22E-01		
TA-182	LLD<1.56E+00		LLD<1.56E+00		
I-135	LLD<1.43E+00		LLD<1.43E+00		
CL-39	LLD<5.38E-01		LLD<5.38E-01		
NA-22	LLD<3.59E-01		LLD<3.59E-01		
AR-41	LLD<4.32E-01		LLD<4.32E-01		
CO-60	LLD<5.80E-01		LLD<5.80E-01		
NA-24	LLD<4.04E-01		LLD<4.04E-01		
SR-92	LLD<6.17E-01		LLD<6.17E-01		
SCH-000	LLD<1.98E+00		LLD<1.98E+00		
CS-138	LLD<3.16E-01		LLD<3.16E-01		
K-40	2.24E+01	+- 5.39E+00	2.24E+01	+-	5.39E+00
KR-88	LLD<4.04E+00		LLD<4.04E+00		
TL-209	LLD<1.07E+00		LLD<1.07E+00		
LA-140	LLD<3.84E-01		LLD<3.84E-01		
AL-26	LLD<1.96E-01		LLD<1.96E-01		
MN-56	LLD<7.35E-01		LLD<7.35E-01		
RB-88	LLD<2.14E+00		LLD<2.14E+00		
	---		---		
Total	3.84E+01	+- 6.95E+00	3.84E+01	+-	6.95E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0095

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
925.86	462.29	18.	68.5	4.54E+00
1166.79	582.77	30.	44.3	9.56E+00
1865.26	932.22	11.	71.6	5.49E+00

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GAMMA SPECTROSCOPY RESULTS FROM 12/13/95

FOR

CELLS PILE V(89)

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                                                                       *
        G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 13-DEC-95 07:56:51

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

gular Output.
ectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 13-DEC-95 at 07:31:12

COLLECT Live Time: 1200. sec.

hgtrw 13-DEC-95 07:56:51

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.23	39.66	1.7	29018.	3927.	18.5	
2C	91.93	45.50	1.7	24333.	2048.	23.6	
3	171.43	85.22	1.7	35086.	2859.	20.1	
4?	237.10	118.03	1.6	38613.	9315.	57.0	
5?	244.48	121.72	1.6	36226.	180581.	3.0	SE-75,SCL-000, CO-57
6?	483.34	241.08	1.6	14295.	1645.	43.4	RA-224,PB-214
7?	490.25	244.53	1.6	13630.	34434.	4.2	
8?	494.88	246.84	1.6	13184.	1656.	47.4	
9	592.57	295.67	1.7	9456.	1565.	19.4	PB-214
10?	681.72	340.23	1.8	9121.	4070.	40.9	CS-136
11?	689.33	344.04	1.8	9424.	90774.	2.0	BA-141, SCM-000
12	736.20	367.47	1.6	7069.	2853.	10.1	
13C	822.90	410.81	1.8	5784.	5980.	7.1	AU-198
14C	832.47	415.59	1.8	5510.	405.	30.2	SB-126
15	888.56	443.64	1.7	6180.	7842.	3.9	
16	977.92	488.32	1.7	4881.	904.	24.2	
17	1128.51	563.62	2.6	5757.	1448.	17.4	CS-134,SB-122
18	1173.17	585.96	1.7	4116.	877.	22.5	
19	1357.59	678.20	1.5	4893.	548.	41.4	I-134,AG110M
20	1377.60	688.21	1.9	4597.	1424.	16.0	
21	1439.05	718.95	1.4	3794.	297.	62.0	
22?	1550.31	774.61	2.1	4479.	771.	38.9	TE131M
23?	1557.97	778.45	2.1	4639.	18900.	2.7	MO-99
24C	1621.22	810.10	1.7	3411.	339.	53.2	I-132,CO-58
25	1734.84	866.95	2.0	4636.	5274.	5.0	
26C	1838.54	918.85	2.2	2843.	546.	37.3	
27C	1852.52	925.85	2.2	2746.	318.	42.0	PA-234
28?	1920.48	959.86	2.1	2571.	886.	29.5	
29?	1928.00	963.63	2.1	2730.	18241.	2.4	EU-152
30	2010.21	1004.78	2.1	1341.	921.	13.4	
31C	2164.18	1081.86	2.2	1888.	595.	23.4	
32C	2171.45	1085.50	2.2	1912.	11956.	3.1	EU-152
33C	2179.01	1089.28	2.2	1936.	2056.	9.3	
34?	2216.92	1108.26	2.2	1866.	974.	25.2	
35?	2223.87	1111.74	2.2	1966.	15615.	2.5	TE-129,EU-152
36	2425.56	1212.74	2.1	1376.	1288.	11.2	
37	2499.60	1249.82	2.3	697.	203.	42.5	
38C	2548.25	1274.19	1.6	656.	318.	29.0	NA-22
39	2597.80	1299.00	2.2	516.	1558.	6.9	I-133
40C	2808.13	1404.37	2.4	351.	981.	14.4	
41C	2815.48	1408.05	2.4	478.	18874.	1.7	EU-152,BI-214, SCH-000
42C	2914.34	1457.58	2.5	63.	471.	11.6	I-135
43C	2920.89	1460.87	2.5	66.	275.	15.6	K-40
44	3057.42	1529.28	3.3	94.	481.	11.4	KR-88

Error Quotation at 1.96 sigma

Peak Confidence Level at 95.0%

13 Multiplets processed.

- Multiplet Analysis converged normally
- Multiplet Analysis did NOT converge
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.654223E-07*Ch^2 + 4.995122E-01*Ch +-4.196320E-01

New Calibration Coefficients:

Energy = 2.656047E-07*Ch^2 + 4.994693E-01*Ch +-1.626767E-01

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Daily Source check 12/13

0↕♥♠

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*                                                                   *
*            G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 13-DEC-95 08:22:46

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1213
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 13-DEC-95 at 07:59:05

COLLECT Live Time: 600. seconds
Real Time: 758. seconds
Dead Time: 20.84 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 13-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 13-DEC-95 08:22:46

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.42	40.00	1.7	15338.	2036.	22.2	
2C	91.68	45.63	1.7	12859.	1179.	25.3	
3C	170.22	84.86	2.4	27957.	1374.	30.3	
4C	175.83	87.67	2.4	29346.	1976.	25.4	PB-214,CD-109
5C	182.70	91.10	2.4	31045.	1263.	27.6	
6?	238.31	118.88	1.6	18257.	5196.	53.2	
7?	244.63	122.04	1.6	17249.	90423.	3.2	SE-75,SCL-000, CO-57
8?	483.14	241.21	1.6	7066.	678.	62.2	RA-224,PB-214
9?	490.46	244.87	1.6	7130.	17053.	3.7	
10	592.80	296.02	1.6	5551.	915.	26.7	PB-214
11?	682.75	340.98	1.7	4395.	2228.	41.2	CS-136
12?	689.56	344.38	1.7	4682.	45573.	2.3	BA-141, SCM-000
13	736.38	367.78	1.8	3393.	1582.	12.7	
14	823.16	411.16	1.5	3455.	2785.	7.7	AU-198
15	888.84	443.99	1.6	3263.	3853.	5.7	
16	978.47	488.81	2.3	2604.	563.	29.3	
17	1128.63	563.89	1.8	3039.	582.	31.1	CS-134,SB-122
18	1173.01	586.09	1.6	2717.	567.	30.3	
19	1378.14	688.68	1.6	2059.	801.	18.9	
[illegible]?	1552.76	776.03	1.9	2155.	472.	40.8	BR-82
21?	1558.38	778.85	1.9	2225.	9309.	3.6	MO-99
22	1735.18	867.31	1.8	2249.	2764.	6.7	
23?	1921.99	960.79	2.1	1171.	507.	33.4	
24?	1928.47	964.04	2.1	1194.	9236.	3.2	EU-152
25	2010.57	1005.13	1.7	908.	412.	25.2	
26	2172.01	1085.94	2.0	2308.	5439.	4.0	EU-152
27C	2217.77	1108.85	2.2	927.	473.	28.6	
28C	2224.34	1112.14	2.2	991.	7629.	3.3	TE-129,EU-152
29	2426.10	1213.17	2.0	609.	721.	13.5	
30	2598.50	1299.50	2.3	310.	737.	11.0	
31?	2809.51	1405.20	2.4	215.	485.	30.1	
32?	2816.09	1408.50	2.4	289.	9317.	2.6	EU-152,BI-214, SCH-000
33	2915.63	1458.36	2.0	86.	291.	15.6	I-135
34	3059.66	1530.53	4.1	28.	254.	14.2	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

9 Multiplets processed.

C - Multiplet Analysis converged normally
Multiplet Analysis converged but GFIT > 4

hgtrw 13-DEC-95 08:22:46

mple: Eu-152 Standard
ta collected on 13-DEC-95 at 07:59:05
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.86E+01		LLD<2.86E+01	
TH-234	LLD<2.19E+02		LLD<2.19E+02	
TH-230	LLD<1.83E+03		LLD<1.83E+03	
XE-133	LLD<1.30E+01		LLD<1.30E+01	
CD-109	2.72E+02	+- 6.99E+01	2.72E+02	+- 6.99E+01
SCL-000	9.53E+02	+- 3.27E+01	9.53E+02	+- 3.27E+01
CO-57	3.16E+02	+- 1.08E+01	3.16E+02	+- 1.08E+01
PA-234	LLD<9.17E+00		LLD<9.17E+00	
CE-144	LLD<1.63E+01		LLD<1.63E+01	
TC-99M	LLD<1.95E+00		LLD<1.95E+00	
U-235	LLD<1.56E+01		LLD<1.56E+01	
CE-141	LLD<3.54E+00		LLD<3.54E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.82E+01		LLD<8.82E+01	
BA-139	LLD<1.07E+01		LLD<1.07E+01	
-139	LLD<2.15E+00		LLD<2.15E+00	
A-226	LLD<5.30E+01		LLD<5.30E+01	
BA-141	LLD<4.51E+00		LLD<4.51E+00	
KR-89	LLD<2.78E+01		LLD<2.78E+01	
TE-132	LLD<2.20E+00		LLD<2.20E+00	
XE-133M	LLD<1.75E+01		LLD<1.75E+01	
TH-227	LLD<1.39E+01		LLD<1.39E+01	
PB-212	LLD<4.84E+00		LLD<4.84E+00	
RA-224	6.94E+01	+- 4.32E+01	6.94E+01	+- 4.32E+01
XE-135	LLD<4.23E+00		LLD<4.23E+00	
XE-138	LLD<8.18E+00		LLD<8.18E+00	
SE-75	LLD<3.24E+00		LLD<3.24E+00	
NP-239	LLD<1.37E+01		LLD<1.37E+01	
HG-203	LLD<2.38E+00		LLD<2.38E+00	
IR-192	LLD<2.37E+00		LLD<2.37E+00	
CR-51	LLD<2.08E+01		LLD<2.08E+01	
SCM-000	9.60E+02	+- 2.69E+01	9.60E+02	+- 2.69E+01
BI-211	LLD<1.05E+02		LLD<1.05E+02	
PB-214	LLD<7.28E+00		LLD<7.28E+00	
BA-133	LLD<3.08E+00		LLD<3.08E+00	
I-131	LLD<2.78E+00		LLD<2.78E+00	
SN-113	LLD<2.98E+00		LLD<2.98E+00	
KR-87	LLD<4.32E+00		LLD<4.32E+00	
PB-211	LLD<8.05E+01		LLD<8.05E+01	
AU-198	1.95E+01	+- 1.54E+00	1.95E+01	+- 1.54E+00
B-125	LLD<7.01E+00		LLD<7.01E+00	
-212	LLD<6.60E+02		LLD<6.60E+02	
E-7	LLD<2.22E+01		LLD<2.22E+01	
HF-181	LLD<2.75E+00		LLD<2.75E+00	
RU-103	LLD<2.76E+00		LLD<2.76E+00	
KR-85	LLD<5.43E+02		LLD<5.43E+02	

SR-85	LLD<2.38E+00		LLD<2.38E+00		
I-133	LLD<2.88E+00		LLD<2.88E+00		
BA-140	LLD<1.00E+01		LLD<1.00E+01		
91M	LLD<3.27E+00		LLD<3.27E+00		
207	LLD<2.98E+00		LLD<2.98E+00		
-208	LLD<1.08E+01		LLD<1.08E+01		
SB-124	LLD<2.72E+00		LLD<2.72E+00		
CS-134	LLD<2.67E+00		LLD<2.67E+00		
BI-214	LLD<7.19E+00		LLD<7.19E+00		
RU-106	LLD<2.82E+01		LLD<2.82E+01		
LA-142	LLD<5.82E+00		LLD<5.82E+00		
AG-110M	LLD<2.98E+00		LLD<2.98E+00		
NB-97	LLD<3.04E+00		LLD<3.04E+00		
CS-137	LLD<3.39E+00		LLD<3.39E+00		
I-132	LLD<3.15E+00		LLD<3.15E+00		
W-187	LLD<1.07E+01		LLD<1.07E+01		
ZR-97	LLD<3.31E+00		LLD<3.31E+00		
ZR-95	LLD<6.24E+00		LLD<6.24E+00		
NB-95	LLD<3.51E+00		LLD<3.51E+00		
TL-210	LLD<2.30E+01		LLD<2.30E+01		
CO-58	LLD<3.39E+00		LLD<3.39E+00		
CS-136	LLD<3.33E+00		LLD<3.33E+00		
MN-54	LLD<3.39E+00		LLD<3.39E+00		
CO-56	LLD<3.54E+00		LLD<3.54E+00		
I-134	LLD<4.05E+00		LLD<4.05E+00		
TL-207	LLD<3.15E+03		LLD<3.15E+03		
Y-88	LLD<3.93E+00		LLD<3.93E+00		
AC-228	LLD<1.16E+01		LLD<1.16E+01		
EU-152	9.90E+02	+- 3.93E+01	9.90E+02	+-	3.93E+01
234M	LLD<4.71E+01		LLD<4.71E+01		
-91	LLD<8.98E+00		LLD<8.98E+00		
RB-89	LLD<6.32E+00		LLD<6.32E+00		
FE-59	LLD<5.16E+00		LLD<5.16E+00		
ZN-65	LLD<1.21E+01		LLD<1.21E+01		
SC-46	LLD<3.95E+00		LLD<3.95E+00		
TA-182	LLD<9.60E+00		LLD<9.60E+00		
I-135	LLD<8.50E+00		LLD<8.50E+00		
CL-39	LLD<5.02E+00		LLD<5.02E+00		
NA-22	LLD<2.25E+00		LLD<2.25E+00		
AR-41	LLD<3.67E+00		LLD<3.67E+00		
CO-60	LLD<1.40E+00		LLD<1.40E+00		
NA-24	LLD<1.18E+00		LLD<1.18E+00		
SR-92	LLD<1.40E+00		LLD<1.40E+00		
SCH-000	9.10E+02	+- 3.72E+01	9.10E+02	+-	3.72E+01
CS-138	LLD<1.18E+00		LLD<1.18E+00		
K-40	LLD<8.60E+00		LLD<8.60E+00		
KR-88	LLD<1.29E+01		LLD<1.29E+01		
TL-209	LLD<1.65E+00		LLD<1.65E+00		
LA-140	LLD<5.53E-01		LLD<5.53E-01		
AL-26	LLD<3.76E-01		LLD<3.76E-01		
MN-56	LLD<8.66E-01		LLD<8.66E-01		
RB-88	LLD<2.34E+00		LLD<2.34E+00		
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Total	4.49E+03	+- 1.08E+02	4.49E+03	+-	1.08E+02

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1213

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
80.42	40.00	2036.	22.2	7.80E+03
91.68	45.63	1179.	25.3	2.24E+03
170.22	84.86	1374.	30.3	2.53E+02
182.70	91.10	1263.	27.6	1.97E+02
238.31	118.88	5196.	53.2	5.25E+02
490.46	244.87	17053.	3.7	2.34E+03
592.80	296.02	915.	26.7	1.47E+02
682.75	340.98	2228.	41.2	4.07E+02
736.38	367.78	1582.	12.7	3.11E+02
888.84	443.99	3853.	5.7	9.14E+02
978.47	488.81	563.	29.3	1.47E+02
1128.63	563.89	582.	31.1	1.77E+02
1173.01	586.09	567.	30.3	1.79E+02
1378.14	688.68	801.	18.9	2.97E+02
1552.76	776.03	472.	40.8	1.97E+02
1558.38	778.85	9309.	3.6	3.89E+03
1735.18	867.31	2764.	6.7	1.28E+03
1921.99	960.79	507.	33.4	2.57E+02
2010.57	1005.13	412.	25.2	2.16E+02
2217.77	1108.85	473.	28.6	2.69E+02
2426.10	1213.17	721.	13.5	4.38E+02
2598.50	1299.50	737.	11.0	4.69E+02
2809.51	1405.20	485.	30.1	3.24E+02
2915.63	1458.36	291.	15.6	1.98E+02
3059.66	1530.53	254.	14.2	1.77E+02

0↕♥♠ Pile V C-89

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 13-DEC-95 08:40:04

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0096
Measured by: dlv

Sample Description: Pile V, C-89
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.5900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 13-DEC-95 at 08:27:06

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 13-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 13-DEC-95 08:40:04

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.38	238.83	2.1	52.	142.	22.8	PB-212
2	705.28	352.24	2.1	21.	68.	31.1	PB-214
3	1167.80	583.48	1.2	4.	40.	34.8	TL-208
4	1220.14	609.66	1.6	16.	43.	42.4	BI-214
5	2922.68	1461.89	1.6	2.	69.	24.5	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

hgtrw 13-DEC-95 08:40:04

Sample: Pile V, C-89
Data collected on 13-DEC-95 at 08:27:06
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.60E+00		LLD<3.60E+00	
TH-234	LLD<2.98E+01		LLD<2.98E+01	
TH-230	LLD<2.31E+02		LLD<2.31E+02	
XE-133	LLD<1.73E+00		LLD<1.73E+00	
CD-109	LLD<1.21E+01		LLD<1.21E+01	
SCL-000	LLD<7.86E-01		LLD<7.86E-01	
CO-57	LLD<2.61E-01		LLD<2.61E-01	
PA-234	LLD<9.81E-01		LLD<9.81E-01	
CE-144	LLD<1.83E+00		LLD<1.83E+00	
TC-99M	LLD<2.17E-01		LLD<2.17E-01	
U-235	LLD<1.92E+00		LLD<1.92E+00	
CE-141	LLD<3.54E-01		LLD<3.54E-01	
KR-85M	LLD<2.51E-01		LLD<2.51E-01	
XE-131M	LLD<8.66E+00		LLD<8.66E+00	
BA-139	LLD<1.01E+00		LLD<1.01E+00	
[illegible]-139	LLD<2.05E-01		LLD<2.05E-01	
[illegible]A-226	LLD<6.44E+00		LLD<6.44E+00	
BA-141	LLD<5.40E-01		LLD<5.40E-01	
KR-89	LLD<2.87E+00		LLD<2.87E+00	
TE-132	LLD<2.28E-01		LLD<2.28E-01	
XE-133M	LLD<2.52E+00		LLD<2.52E+00	
TH-227	LLD<1.91E+00		LLD<1.91E+00	
PB-212	1.71E+00	+- 3.94E-01	1.71E+00	+- 3.94E-01
RA-224	LLD<6.67E+00		LLD<6.67E+00	
XE-135	LLD<2.32E-01		LLD<2.32E-01	
XE-138	LLD<8.46E-01		LLD<8.46E-01	
SE-75	LLD<3.79E-01		LLD<3.79E-01	
NP-239	LLD<1.65E+00		LLD<1.65E+00	
HG-203	LLD<2.80E-01		LLD<2.80E-01	
IR-192	LLD<2.60E-01		LLD<2.60E-01	
CR-51	LLD<2.11E+00		LLD<2.11E+00	
SCM-000	LLD<1.20E+00		LLD<1.20E+00	
BI-211	LLD<8.17E+00		LLD<8.17E+00	
PB-214	1.60E+00	+- 4.97E-01	1.60E+00	+- 4.97E-01
BA-133	LLD<6.66E-01		LLD<6.66E-01	
I-131	LLD<2.72E-01		LLD<2.72E-01	
SN-113	LLD<3.44E-01		LLD<3.44E-01	
KR-87	LLD<4.78E-01		LLD<4.78E-01	
PB-211	LLD<1.00E+01		LLD<1.00E+01	
AU-198	LLD<3.01E-01		LLD<3.01E-01	
[illegible]B-125	LLD<7.82E-01		LLD<7.82E-01	
[illegible]-212	LLD<8.68E+01		LLD<8.68E+01	
BE-7	LLD<2.85E+00		LLD<2.85E+00	
HF-181	LLD<2.98E-01		LLD<2.98E-01	
RU-103	LLD<2.83E-01		LLD<2.83E-01	
KR-85	LLD<7.97E+01		LLD<7.97E+01	

SR-85	LLD<3.48E-01	LLD<3.48E-01
I-133	LLD<2.75E-01	LLD<2.75E-01
BA-140	LLD<1.05E+00	LLD<1.05E+00
[illegible]91M	LLD<3.13E-01	LLD<3.13E-01
[illegible] 207	LLD<2.94E-01	LLD<2.94E-01
[illegible]-208	LLD<1.10E+00	LLD<1.10E+00
SB-124	LLD<3.47E-01	LLD<3.47E-01
CS-134	LLD<5.60E-01	LLD<5.60E-01
BI-214	1.47E+00 +- 6.25E-01	1.47E+00 +- 6.25E-01
RU-106	LLD<2.74E+00	LLD<2.74E+00
LA-142	LLD<4.33E-01	LLD<4.33E-01
AG-110M	LLD<4.03E-01	LLD<4.03E-01
NB-97	LLD<4.06E-01	LLD<4.06E-01
CS-137	LLD<4.68E-01	LLD<4.68E-01
I-132	LLD<4.18E-01	LLD<4.18E-01
W-187	LLD<1.01E+00	LLD<1.01E+00
ZR-97	LLD<2.72E-01	LLD<2.72E-01
ZR-95	LLD<6.11E-01	LLD<6.11E-01
NB-95	LLD<3.47E-01	LLD<3.47E-01
TL-210	LLD<2.07E+00	LLD<2.07E+00
CO-58	LLD<3.20E-01	LLD<3.20E-01
CS-136	LLD<2.87E-01	LLD<2.87E-01
MN-54	LLD<4.33E-01	LLD<4.33E-01
CO-56	LLD<3.92E-01	LLD<3.92E-01
I-134	LLD<4.06E-01	LLD<4.06E-01
TL-207	LLD<2.34E+02	LLD<2.34E+02
Y-88	LLD<3.05E-01	LLD<3.05E-01
AC-228	LLD<1.90E+00	LLD<1.90E+00
EU-152	LLD<4.11E+00	LLD<4.11E+00
[illegible]-234M	LLD<3.78E+00	LLD<3.78E+00
[illegible]91	LLD<1.16E+00	LLD<1.16E+00
RB-89	LLD<8.05E-01	LLD<8.05E-01
FE-59	LLD<7.52E-01	LLD<7.52E-01
ZN-65	LLD<1.66E+00	LLD<1.66E+00
SC-46	LLD<5.94E-01	LLD<5.94E-01
TA-182	LLD<1.62E+00	LLD<1.62E+00
I-135	LLD<1.81E+00	LLD<1.81E+00
CL-39	LLD<9.89E-01	LLD<9.89E-01
NA-22	LLD<5.18E-01	LLD<5.18E-01
AR-41	LLD<4.61E-01	LLD<4.61E-01
CO-60	LLD<3.86E-01	LLD<3.86E-01
NA-24	LLD<4.33E-01	LLD<4.33E-01
SR-92	LLD<2.27E-01	LLD<2.27E-01
SCH-000	LLD<3.56E-01	LLD<3.56E-01
CS-138	LLD<5.50E-01	LLD<5.50E-01
K-40	LLD<8.03E+00	LLD<8.03E+00
KR-88	LLD<3.92E+00	LLD<3.92E+00
TL-209	LLD<1.10E+00	LLD<1.10E+00
LA-140	LLD<5.68E-01	LLD<5.68E-01
AL-26	LLD<4.07E-01	LLD<4.07E-01
MN-56	LLD<1.91E+00	LLD<1.91E+00
RB-88	LLD<1.04E+00	LLD<1.04E+00
	---	---
Total	4.78E+00 +- 8.90E-01	4.78E+00 +- 8.90E-01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0096

PEAKS NOT USED IN ANALYSIS

Centroid nnel	Energy keV	Net Area counts	Error %	Gammas/sec
1167.80	583.48	40.	34.8	1.27E+01
2922.68	1461.89	69.	24.5	4.71E+01

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GAMMA SPECTROSCOPY RESULTS FROM 12/14/95

FOR

CELL 126

0:♥♠ Autocal 12/14

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*                                                                     *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 14-DEC-95 08:09:06

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description:
COLLECT started on 14-DEC-95 at 07:42:40

COLLECT Live Time: 1200. sec.

hgtrw 14-DEC-95 08:09:06

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.45	40.02	1.7	30301.	3457.	18.5	
2C	92.12	45.85	1.7	25311.	2114.	21.3	
3$	150.60	75.06	0.9	37952.	1115.	59.6	PB-214
4?	235.90	117.68	1.6	38690.	8923.	53.4	
5?	244.69	122.07	1.6	35237.	185032.	2.7	SE-75,SCL-000, CO-57
6?	481.80	240.54	1.7	14579.	1545.	39.0	RA-224
7?	490.50	244.89	1.7	13849.	35099.	3.8	
8?	496.13	247.71	1.7	13376.	1332.	43.8	
9	592.89	296.06	1.6	9353.	1713.	17.7	PB-214
10?	680.74	339.97	1.8	7860.	4231.	33.7	CS-136
11?	689.55	344.37	1.8	7434.	92640.	2.2	BA-141, SCM-000
12?	695.38	347.29	1.8	7152.	2633.	51.3	
13	736.34	367.76	2.0	6468.	3066.	8.9	
14C	823.14	411.15	1.6	5295.	5649.	7.0	AU-198
15	888.83	443.99	1.7	6505.	7647.	4.0	
16	978.31	488.73	1.6	3889.	1036.	18.2	
17	1128.59	563.87	2.1	6045.	1108.	23.0	CS-134,SB-122
18$	1173.10	586.13	1.3	3439.	565.	72.2	
19	1357.77	678.49	1.1	5041.	393.	58.2	AG110M
20	1377.93	688.58	1.9	3964.	1399.	14.6	
21	1438.79	719.02	1.6	4588.	323.	65.8	
22?	1549.55	774.43	2.0	4375.	682.	35.5	TE131M
23?	1558.26	778.79	2.0	4563.	19174.	2.5	MO-99
24	1621.35	810.35	1.6	3673.	428.	44.8	I-132,CO-58
25	1735.19	867.31	1.9	4739.	5398.	4.9	
26C	1839.11	919.31	1.8	2219.	502.	29.7	
27	1852.71	926.12	1.1	2070.	148.	91.8	PA-234
28?	1919.52	959.56	2.2	2339.	923.	24.2	
29?	1928.28	963.94	2.2	2248.	18557.	2.6	EU-152
30?	1935.27	967.44	2.2	2176.	441.	46.4	
31	2010.31	1005.00	1.6	2032.	913.	17.6	
32?	2171.70	1085.79	2.0	4534.	9562.	3.0	EU-152
33C	2216.02	1107.97	2.2	2115.	752.	22.2	
34C	2224.18	1112.06	2.2	2276.	15264.	2.4	TE-129,EU-152
35	2425.81	1213.02	2.1	1396.	1319.	11.0	
36C	2549.09	1274.76	2.2	606.	298.	39.0	NA-22
37	2598.21	1299.36	2.3	590.	1426.	7.6	
38?	2807.13	1404.00	2.4	347.	919.	18.3	
39?	2815.87	1408.38	2.4	510.	19164.	1.7	EU-152,BI-214, SCH-000
40C	2915.16	1458.13	2.3	96.	467.	11.3	I-135
41C	2921.44	1461.28	2.3	78.	276.	14.5	K-40
42	3057.40	1529.40	3.4	92.	507.	11.0	KR-88
43	3286.87	1644.40	0.9	15.	32.	54.1	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

12 Multiplets processed.

C - Multiplet Analysis converged normally
- Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.656047E-07*Ch^2 + 4.994693E-01*Ch +-1.626767E-01

New Calibration Coefficients:

Energy = 2.563665E-07*Ch^2 + 4.994648E-01*Ch +-2.679951E-01

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*                                                                     *
*                G A M M A   S P E C T R U M   A N A L Y S I S        *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 14-DEC-95 08:29:55

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD1214
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 14-DEC-95 at 08:11:48

COLLECT Live Time: 600. seconds
Real Time: 760. seconds
Dead Time: 21.05 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 14-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 14-DEC-95 08:29:55

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	80.52	39.95	2.1	16066.	1805.	22.8	
2C	170.11	84.70	2.7	33315.	1416.	27.3	
3C	175.33	87.31	2.7	36433.	1389.	27.5	PB-214,CD-109
4?	236.52	117.88	1.6	18230.	5099.	44.5	
5?	244.68	121.96	1.6	15805.	92942.	3.3	SE-75,SCL-000, CO-57
6?	250.51	124.87	1.6	14073.	2271.	84.7	
7?	481.57	240.32	1.7	7283.	783.	45.4	RA-224
8?	490.45	244.76	1.7	6904.	17911.	4.8	
9?	496.64	247.85	1.7	6640.	677.	50.0	
10	593.02	296.01	1.7	4297.	785.	25.5	PB-214
11?	680.95	339.96	1.8	3909.	2244.	35.3	CS-136
12?	689.48	344.23	1.8	3683.	45890.	2.6	BA-141, SCM-000
13?	695.44	347.20	1.8	3526.	1273.	57.1	
14$	736.43	367.69	1.9	3465.	1275.	22.0	
15	823.12	411.02	1.6	2380.	2869.	6.1	AU-198
16	888.72	443.82	1.6	3271.	3719.	5.8	
17	978.41	488.66	1.8	2061.	423.	32.1	
18	1128.62	563.76	1.9	2909.	604.	29.4	CS-134,SB-122
19	1357.67	678.31	1.4	2620.	251.	67.4	I-134,AG110M
20	1377.92	688.44	1.6	2550.	662.	25.9	
21C	1549.57	774.30	2.0	2126.	407.	36.8	TE131M
22C	1558.09	778.56	2.0	2248.	9747.	3.4	MO-99
23	1734.97	867.06	1.9	2310.	2623.	7.1	
24C	1919.65	959.47	2.2	1272.	431.	25.3	
25C	1928.07	963.69	2.2	1312.	9213.	3.0	EU-152
26	2010.09	1004.74	2.1	964.	489.	22.5	
27	2171.51	1085.53	2.1	2501.	5182.	4.2	EU-152
28?	2215.52	1107.56	2.2	932.	437.	31.4	
29?	2223.96	1111.79	2.2	1069.	7905.	3.4	TE-129,EU-152
30	2425.58	1212.73	2.4	577.	703.	13.1	
31	2597.95	1299.04	2.2	269.	755.	10.0	I-133
32C	2807.37	1403.93	2.4	180.	484.	18.5	
33C	2815.58	1408.05	2.4	251.	9499.	2.3	EU-152,BI-214, SCH-000
34	2914.78	1457.74	2.1	149.	248.	21.1	I-135
35	3058.03	1529.51	3.0	47.	237.	16.4	KR-88
36E	3700.20	1851.36	1.2	0.	7.	74.1	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

9 Multiplets processed.

C - Multiplet Analysis converged normally
E - Multiplet Analysis ERROR
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 14-DEC-95 08:29:55

Sample: Eu-152 Standard
Data collected on 14-DEC-95 at 08:11:48
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.89E+01		LLD<2.89E+01	
TH-234	LLD<2.18E+02		LLD<2.18E+02	
TH-230	LLD<1.80E+03		LLD<1.80E+03	
XE-133	LLD<1.30E+01		LLD<1.30E+01	
CD-109	1.91E+02	+- 5.30E+01	1.91E+02	+- 5.30E+01
SCL-000	9.80E+02	+- 3.43E+01	9.80E+02	+- 3.43E+01
CO-57	3.25E+02	+- 1.14E+01	3.25E+02	+- 1.14E+01
PA-234	LLD<9.39E+00		LLD<9.39E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.98E+00		LLD<1.98E+00	
U-235	LLD<1.57E+01		LLD<1.57E+01	
CE-141	LLD<3.59E+00		LLD<3.59E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.79E+01		LLD<8.79E+01	
BA-139	LLD<1.08E+01		LLD<1.08E+01	
[illegible]-139	LLD<2.16E+00		LLD<2.16E+00	
[illegible]A-226	LLD<5.32E+01		LLD<5.32E+01	
BA-141	LLD<4.49E+00		LLD<4.49E+00	
KR-89	LLD<2.76E+01		LLD<2.76E+01	
TE-132	LLD<2.18E+00		LLD<2.18E+00	
XE-133M	LLD<1.89E+01		LLD<1.89E+01	
TH-227	LLD<1.39E+01		LLD<1.39E+01	
PB-212	LLD<4.58E+00		LLD<4.58E+00	
RA-224	8.02E+01	+- 3.65E+01	8.02E+01	+- 3.65E+01
XE-135	LLD<4.24E+00		LLD<4.24E+00	
XE-138	LLD<8.34E+00		LLD<8.34E+00	
SE-75	LLD<3.25E+00		LLD<3.25E+00	
NP-239	LLD<1.36E+01		LLD<1.36E+01	
HG-203	LLD<2.48E+00		LLD<2.48E+00	
IR-192	LLD<2.39E+00		LLD<2.39E+00	
CR-51	LLD<2.09E+01		LLD<2.09E+01	
SCM-000	9.66E+02	+- 2.93E+01	9.66E+02	+- 2.93E+01
BI-211	LLD<8.16E+01		LLD<8.16E+01	
PB-214	LLD<7.32E+00		LLD<7.32E+00	
BA-133	LLD<3.10E+00		LLD<3.10E+00	
I-131	LLD<2.79E+00		LLD<2.79E+00	
SN-113	LLD<2.98E+00		LLD<2.98E+00	
KR-87	LLD<4.35E+00		LLD<4.35E+00	
PB-211	LLD<8.11E+01		LLD<8.11E+01	
AU-198	2.01E+01	+- 1.28E+00	2.01E+01	+- 1.28E+00
[illegible]B-125	LLD<7.03E+00		LLD<7.03E+00	
[illegible]-212	LLD<6.48E+02		LLD<6.48E+02	
BE-7	LLD<2.16E+01		LLD<2.16E+01	
HF-181	LLD<2.74E+00		LLD<2.74E+00	
RU-103	LLD<2.68E+00		LLD<2.68E+00	
KR-85	LLD<5.90E+02		LLD<5.90E+02	

SR-85	LLD<2.58E+00		LLD<2.58E+00		
I-133	LLD<2.90E+00		LLD<2.90E+00		
BA-140	LLD<1.03E+01		LLD<1.03E+01		
[illegible]-91M	LLD<3.05E+00		LLD<3.05E+00		
[illegible]-207	LLD<2.91E+00		LLD<2.91E+00		
[illegible]-208	LLD<1.02E+01		LLD<1.02E+01		
SB-124	LLD<2.72E+00		LLD<2.72E+00		
CS-134	LLD<2.73E+00		LLD<2.73E+00		
BI-214	LLD<6.96E+00		LLD<6.96E+00		
RU-106	LLD<2.92E+01		LLD<2.92E+01		
LA-142	LLD<5.52E+00		LLD<5.52E+00		
AG-110M	LLD<3.01E+00		LLD<3.01E+00		
NB-97	LLD<3.24E+00		LLD<3.24E+00		
CS-137	LLD<3.26E+00		LLD<3.26E+00		
I-132	LLD<2.97E+00		LLD<2.97E+00		
W-187	LLD<1.09E+01		LLD<1.09E+01		
ZR-97	LLD<3.45E+00		LLD<3.45E+00		
ZR-95	LLD<5.86E+00		LLD<5.86E+00		
NB-95	LLD<3.25E+00		LLD<3.25E+00		
TL-210	LLD<2.29E+01		LLD<2.29E+01		
CO-58	LLD<3.51E+00		LLD<3.51E+00		
CS-136	LLD<3.39E+00		LLD<3.39E+00		
MN-54	LLD<3.39E+00		LLD<3.39E+00		
CO-56	LLD<3.70E+00		LLD<3.70E+00		
I-134	LLD<3.95E+00		LLD<3.95E+00		
TL-207	LLD<3.27E+03		LLD<3.27E+03		
Y-88	LLD<3.66E+00		LLD<3.66E+00		
AC-228	LLD<1.13E+01		LLD<1.13E+01		
EU-152	9.88E+02	+- 3.79E+01	9.88E+02	+-	3.79E+01
[illegible]-234M	LLD<4.63E+01		LLD<4.63E+01		
[illegible]-91	LLD<8.87E+00		LLD<8.87E+00		
RB-89	LLD<6.45E+00		LLD<6.45E+00		
FE-59	LLD<5.70E+00		LLD<5.70E+00		
ZN-65	LLD<1.57E+01		LLD<1.57E+01		
SC-46	LLD<3.61E+00		LLD<3.61E+00		
TA-182	LLD<1.03E+01		LLD<1.03E+01		
I-135	LLD<8.30E+00		LLD<8.30E+00		
CL-39	LLD<5.57E+00		LLD<5.57E+00		
NA-22	LLD<2.27E+00		LLD<2.27E+00		
AR-41	LLD<3.95E+00		LLD<3.95E+00		
CO-60	LLD<1.47E+00		LLD<1.47E+00		
NA-24	LLD<1.15E+00		LLD<1.15E+00		
SR-92	LLD<1.42E+00		LLD<1.42E+00		
SCH-000	9.28E+02	+- 3.60E+01	9.28E+02	+-	3.60E+01
CS-138	LLD<1.31E+00		LLD<1.31E+00		
K-40	LLD<9.68E+00		LLD<9.68E+00		
KR-88	LLD<8.85E+00		LLD<8.85E+00		
TL-209	LLD<2.00E+00		LLD<2.00E+00		
LA-140	LLD<5.15E-01		LLD<5.15E-01		
AL-26	LLD<3.14E-01		LLD<3.14E-01		
MN-56	LLD<1.22E+00		LLD<1.22E+00		
RB-88	LLD<2.24E+00		LLD<2.24E+00		
	---		---		
Total	4.48E+03	+- 9.51E+01	4.48E+03	+-	9.51E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1214

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
80.52	39.95	1805.	22.8	6.97E+03
170.11	84.70	1416.	27.3	2.62E+02
236.52	117.88	5099.	44.5	5.20E+02
250.51	124.87	2271.	84.7	2.19E+02
490.45	244.76	17911.	4.8	2.45E+03
496.64	247.85	677.	50.0	9.35E+01
593.02	296.01	785.	25.5	1.26E+02
680.95	339.96	2244.	35.3	4.09E+02
695.44	347.20	1273.	57.1	2.36E+02
736.43	367.69	1275.	22.0	2.50E+02
888.72	443.82	3719.	5.8	8.82E+02
978.41	488.66	423.	32.1	1.11E+02
1128.62	563.76	604.	29.4	1.83E+02
1357.67	678.31	251.	67.4	9.18E+01
1377.92	688.44	662.	25.9	2.46E+02
1549.57	774.30	407.	36.8	1.69E+02
1558.09	778.56	9747.	3.4	4.08E+03
1734.97	867.06	2623.	7.1	1.21E+03
1919.65	959.47	431.	25.3	2.18E+02
2010.09	1004.74	489.	22.5	2.57E+02
2215.52	1107.56	437.	31.4	2.48E+02
2425.58	1212.73	703.	13.1	4.27E+02
2597.95	1299.04	755.	10.0	4.80E+02
2807.37	1403.93	484.	18.5	3.23E+02
2914.78	1457.74	248.	21.1	1.69E+02
3058.03	1529.51	237.	16.4	1.65E+02
3700.20	1851.36	7.	74.1	5.27E+00

0↕©

C-126

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 14-DEC-95 08:45:53

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0097
Measured by: dlv

Sample Description: C-126
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.5300E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 14-DEC-95 at 08:31:25

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 14-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 14-DEC-95 08:45:53

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	186.70	92.99	1.5	129.	141.	29.5	TH-234,TH-234
2	372.43	185.78	2.0	69.	100.	32.4	U-235,RA-226
3	478.12	238.59	1.2	93.	127.	29.6	PB-212
4	541.43	270.23	1.9	28.	27.	70.8	
5	591.27	295.14	1.3	25.	32.	58.0	PB-214
6	656.58	327.78	1.0	24.	20.	87.7	LA-140
7	677.30	338.14	1.7	21.	37.	48.7	AC-228
8	1166.63	582.77	1.3	14.	45.	38.2	TL-208
9	1218.50	608.71	2.3	8.	31.	45.2	XE-135,BI-214
10	1323.76	661.35	0.9	16.	31.	54.2	CS-137
11	1821.77	910.49	1.0	10.	26.	53.8	AC-228
12E	2189.41	1094.50	1.0	5.	9.	106.5	
13	2920.40	1460.55	2.4	8.	84.	24.4	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

E - Multiplet Analysis ERROR

hgtrw 14-DEC-95 08:45:53

Sample: C-126
Data collected on 14-DEC-95 at 08:31:25
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.63E+00		LLD<4.63E+00	
TH-234	LLD<2.95E+01		LLD<2.95E+01	
TH-230	LLD<2.94E+02		LLD<2.94E+02	
XE-133	LLD<1.99E+00		LLD<1.99E+00	
CD-109	LLD<1.70E+01		LLD<1.70E+01	
SCL-000	LLD<8.83E-01		LLD<8.83E-01	
CO-57	LLD<2.93E-01		LLD<2.93E-01	
PA-234	LLD<1.17E+00		LLD<1.17E+00	
CE-144	LLD<2.24E+00		LLD<2.24E+00	
TC-99M	LLD<2.73E-01		LLD<2.73E-01	
U-235	LLD<1.69E+00		LLD<1.69E+00	
CE-141	LLD<4.25E-01		LLD<4.25E-01	
KR-85M	LLD<2.75E-01		LLD<2.75E-01	
XE-131M	LLD<9.93E+00		LLD<9.93E+00	
BA-139	LLD<1.25E+00		LLD<1.25E+00	
[illegible]-139	LLD<2.53E-01		LLD<2.53E-01	
[illegible]-226	1.19E+01	+- 3.87E+00	1.19E+01	+- 3.87E+00
BA-141	LLD<7.72E-01		LLD<7.72E-01	
KR-89	LLD<2.56E+00		LLD<2.56E+00	
TE-132	LLD<2.27E-01		LLD<2.27E-01	
XE-133M	LLD<3.24E+00		LLD<3.24E+00	
TH-227	LLD<1.84E+00		LLD<1.84E+00	
PB-212	1.54E+00	+- 4.60E-01	1.54E+00	+- 4.60E-01
RA-224	LLD<6.94E+00		LLD<6.94E+00	
XE-135	LLD<2.89E-01		LLD<2.89E-01	
XE-138	LLD<1.03E+00		LLD<1.03E+00	
SE-75	LLD<4.26E-01		LLD<4.26E-01	
NP-239	LLD<1.88E+00		LLD<1.88E+00	
HG-203	LLD<3.30E-01		LLD<3.30E-01	
IR-192	LLD<2.76E-01		LLD<2.76E-01	
CR-51	LLD<2.18E+00		LLD<2.18E+00	
SCM-000	LLD<1.29E+00		LLD<1.29E+00	
BI-211	LLD<8.38E+00		LLD<8.38E+00	
PB-214	LLD<9.87E-01		LLD<9.87E-01	
BA-133	LLD<6.66E-01		LLD<6.66E-01	
I-131	LLD<2.68E-01		LLD<2.68E-01	
SN-113	LLD<4.16E-01		LLD<4.16E-01	
KR-87	LLD<5.16E-01		LLD<5.16E-01	
PB-211	LLD<1.09E+01		LLD<1.09E+01	
AU-198	LLD<3.17E-01		LLD<3.17E-01	
SB-125	LLD<9.18E-01		LLD<9.18E-01	
[illegible]-212	LLD<8.71E+01		LLD<8.71E+01	
BE-7	LLD<2.89E+00		LLD<2.89E+00	
HF-181	LLD<3.27E-01		LLD<3.27E-01	
RU-103	LLD<3.14E-01		LLD<3.14E-01	
KR-85	LLD<8.74E+01		LLD<8.74E+01	

SR-85	LLD<3.82E-01		LLD<3.82E-01		
I-133	LLD<3.24E-01		LLD<3.24E-01		
BA-140	LLD<1.17E+00		LLD<1.17E+00		
91M	LLD<3.59E-01		LLD<3.59E-01		
207	LLD<2.38E-01		LLD<2.38E-01		
-208	LLD<1.32E+00		LLD<1.32E+00		
SB-124	LLD<3.50E-01		LLD<3.50E-01		
CS-134	LLD<5.48E-01		LLD<5.48E-01		
BI-214	1.07E+00	+- 4.84E-01	1.07E+00	+-	4.84E-01
RU-106	LLD<3.07E+00		LLD<3.07E+00		
LA-142	LLD<5.24E-01		LLD<5.24E-01		
AG-110M	LLD<6.68E-01		LLD<6.68E-01		
NB-97	LLD<6.31E-01		LLD<6.31E-01		
CS-137	5.13E-01	+- 2.78E-01	5.13E-01	+-	2.78E-01
I-132	LLD<3.49E-01		LLD<3.49E-01		
W-187	LLD<1.06E+00		LLD<1.06E+00		
ZR-97	LLD<2.96E-01		LLD<2.96E-01		
ZR-95	LLD<6.14E-01		LLD<6.14E-01		
NB-95	LLD<4.17E-01		LLD<4.17E-01		
TL-210	LLD<1.82E+00		LLD<1.82E+00		
CO-58	LLD<4.33E-01		LLD<4.33E-01		
CS-136	LLD<3.45E-01		LLD<3.45E-01		
MN-54	LLD<3.74E-01		LLD<3.74E-01		
CO-56	LLD<3.30E-01		LLD<3.30E-01		
I-134	LLD<3.59E-01		LLD<3.59E-01		
TL-207	LLD<2.84E+02		LLD<2.84E+02		
Y-88	LLD<3.86E-01		LLD<3.86E-01		
AC-228	1.90E+00	+- 1.02E+00	1.90E+00	+-	1.02E+00
EU-152	LLD<4.27E+00		LLD<4.27E+00		
234M	LLD<4.61E+00		LLD<4.61E+00		
-91	LLD<1.19E+00		LLD<1.19E+00		
RB-89	LLD<7.66E-01		LLD<7.66E-01		
FE-59	LLD<1.02E+00		LLD<1.02E+00		
ZN-65	LLD<1.21E+00		LLD<1.21E+00		
SC-46	LLD<5.40E-01		LLD<5.40E-01		
TA-182	LLD<1.68E+00		LLD<1.68E+00		
I-135	LLD<1.81E+00		LLD<1.81E+00		
CL-39	LLD<1.27E+00		LLD<1.27E+00		
NA-22	LLD<4.43E-01		LLD<4.43E-01		
AR-41	LLD<4.95E-01		LLD<4.95E-01		
CO-60	LLD<4.14E-01		LLD<4.14E-01		
NA-24	LLD<3.96E-01		LLD<3.96E-01		
SR-92	LLD<3.99E-01		LLD<3.99E-01		
SCH-000	LLD<1.88E+00		LLD<1.88E+00		
CS-138	LLD<5.35E-01		LLD<5.35E-01		
K-40	2.23E+01	+- 5.52E+00	2.23E+01	+-	5.52E+00
KR-88	LLD<2.51E+00		LLD<2.51E+00		
TL-209	LLD<5.80E-01		LLD<5.80E-01		
LA-140	LLD<3.11E-01		LLD<3.11E-01		
AL-26	LLD<2.28E-01		LLD<2.28E-01		
MN-56	LLD<1.42E+00		LLD<1.42E+00		
RB-88	LLD<1.05E+00		LLD<1.05E+00		
	---		---		
Total	3.93E+01	+- 6.86E+00	3.93E+01	+-	6.86E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0097

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
186.70	92.99	141.	29.5	2.10E+01
541.43	270.23	27.	70.8	4.07E+00
591.27	295.14	32.	58.0	5.15E+00
656.58	327.78	20.	87.7	3.52E+00
677.30	338.14	37.	48.7	6.77E+00
1166.63	582.77	45.	38.2	1.42E+01
2189.41	1094.50	9.	106.5	5.21E+00

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GAMMA SPECTROSCOPY RESULTS FROM 12/15/95

FOR

CELLS PILE N(124),127,PIECE OF DU

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*                                                                     *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-DEC-95 09:53:04

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 15-DEC-95 at 09:19:12

COLLECT Live Time: 1200. sec.

hgtrw 15-DEC-95 09:53:04

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	78.64	39.01	1.7	31846.	5473.	13.9	
2C	90.16	44.77	1.7	26449.	2221.	19.8	
3?	169.67	84.48	2.8	73000.	2572.	43.5	
4?	176.28	87.79	2.8	78094.	2448.	44.1	PB-214,CD-109
5?	234.55	116.90	1.6	36968.	8854.	67.5	
6?	242.92	121.08	1.6	35741.	180162.	3.4	SE-75,SCL-000, CO-57
7?	480.06	239.56	1.6	14449.	1201.	78.9	PB-212
8?	488.91	243.98	1.6	14748.	33888.	3.5	
9	591.57	295.29	1.4	9435.	1517.	20.0	PB-214
10?	679.69	339.33	1.7	10044.	2930.	76.4	
11?	688.14	343.55	1.7	12220.	85986.	2.7	BA-141, SCM-000
12	735.06	367.01	1.8	7088.	2878.	10.0	
13	821.74	410.33	1.5	6888.	5411.	5.6	
14	887.47	443.19	1.7	6651.	7226.	4.3	
15	977.09	488.00	1.8	6314.	804.	32.9	TE-129
16C	1127.64	563.28	1.8	5086.	803.	28.1	CS-134,SB-122
17C	1132.25	565.58	1.8	5083.	445.	30.0	
18	1172.21	585.56	1.6	5788.	786.	31.5	
19	1356.95	677.95	1.2	4633.	450.	47.7	I-134,AG110M
20	1376.75	687.85	1.6	5024.	1429.	16.9	AG110M
21?	1549.36	774.20	2.1	4787.	682.	72.2	TE131M
22?	1557.59	778.32	2.1	5007.	19001.	3.4	MO-99
23$	1620.87	809.97	1.9	3548.	396.	58.3	I-132,CO-58
24	1734.46	866.80	2.0	4787.	5407.	5.0	
25	1838.44	918.84	2.2	2221.	562.	26.6	
26?	1919.50	959.40	2.2	2739.	760.	40.7	
27?	1927.96	963.63	2.2	2911.	18421.	2.6	EU-152
28	2009.87	1004.63	2.4	1970.	937.	16.7	
29?	2162.94	1081.25	2.4	1894.	601.	30.9	
30?	2171.54	1085.55	2.4	1887.	11976.	3.6	EU-152
31?	2178.85	1089.21	2.4	1881.	2572.	11.0	
32?	2216.02	1107.81	2.4	2102.	750.	45.5	
33?	2224.07	1111.84	2.4	2320.	15188.	3.1	TE-129,EU-152
34	2425.81	1212.85	2.0	1450.	1319.	11.2	
35C	2549.35	1274.71	2.6	771.	184.	52.1	NA-22
36	2598.17	1299.16	2.3	639.	1448.	7.8	I-133
37?	2807.80	1404.15	2.5	407.	794.	36.5	
38?	2816.26	1408.39	2.5	591.	18899.	2.2	EU-152,BI-214, SCH-000
39C	2915.29	1458.00	2.7	81.	440.	12.4	I-135
40C	2921.91	1461.31	2.7	80.	325.	14.6	K-40
41	3058.24	1529.61	3.7	74.	513.	10.5	KR-88
42	3287.98	1644.73	1.4	20.	36.	55.3	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

13 Multiplets processed.

C - Multiplet Analysis converged normally
[illegible] - Multiplet Analysis Terminated because of no CHI-SQ improvement
[illegible] - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.563665E-07*Ch^2 + 4.994648E-01*Ch +-2.679951E-01

New Calibration Coefficients:

Energy = 2.474590E-07*Ch^2 + 4.990658E-01*Ch + 7.192905E-01

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Daily Source check 12/15

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-DEC-95 10:33:26

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1215
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 15-DEC-95 at 09:56:02

COLLECT Live Time: 600. seconds
Real Time: 748. seconds
Dead Time: 19.79 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 15-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 15-DEC-95 10:33:26

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	78.70	40.00	1.7	15952.	2556.	20.3	
2C	90.36	45.82	1.7	13222.	1170.	25.9	
3$	168.45	84.80	3.2	39547.	1723.	37.5	
4$	174.48	87.80	3.2	42137.	2560.	27.2	PB-214,CD-109
5$	180.75	90.94	3.2	44836.	1280.	43.6	
6?	234.46	117.74	1.6	18339.	4229.	76.1	
7?	242.92	121.97	1.6	17920.	90172.	3.7	SE-75,SCL-000, CO-57
8?	480.40	240.53	1.6	6972.	598.	80.6	RA-224
9?	488.90	244.77	1.6	7084.	16719.	4.1	
10	591.61	296.06	1.7	4656.	876.	24.4	PB-214
11?	679.46	339.93	1.7	4885.	1422.	75.7	CS-136
12?	688.16	344.27	1.7	6045.	43214.	2.8	BA-141, SCM-000
13	734.87	367.60	1.4	3549.	1395.	14.5	
14	821.84	411.04	1.6	3445.	2716.	7.8	AU-198
15	887.52	443.85	1.5	3237.	3689.	5.9	
16	976.54	488.31	1.6	2209.	441.	32.7	
17	1127.75	563.85	1.9	2998.	556.	32.4	CS-134,SB-122
18	1171.98	585.95	1.4	2879.	364.	47.9	
19	1376.97	688.39	2.1	2095.	787.	19.3	
20?	1549.40	774.56	2.1	2338.	364.	66.4	TE131M
21?	1557.51	778.62	2.1	2395.	9508.	4.1	MO-99
22	1734.37	867.03	2.0	2282.	2749.	6.8	
23C	1838.02	918.85	2.7	1355.	217.	55.6	
24?	1919.02	959.35	2.3	1386.	361.	49.5	
25?	1927.86	963.77	2.3	1455.	9222.	3.4	EU-152
26	2010.03	1004.86	1.8	1080.	360.	32.0	
27C	2163.00	1081.36	2.3	944.	297.	36.9	
28C	2171.41	1085.56	2.3	940.	6031.	4.6	EU-152
29C	2178.73	1089.22	2.3	937.	1303.	13.0	
30	2223.85	1111.79	2.0	1468.	7583.	2.8	TE-129,EU-152
31	2425.34	1212.58	2.0	658.	632.	15.8	
32	2598.26	1299.09	2.4	296.	736.	10.6	I-133
33?	2807.38	1403.74	2.6	180.	362.	37.8	
34?	2816.12	1408.11	2.6	255.	9550.	2.6	EU-152,BI-214, SCH-000
35	2914.83	1457.52	3.0	103.	267.	18.0	I-135
36	3056.90	1528.62	3.2	43.	297.	13.8	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

9 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 15-DEC-95 10:33:26

Sample: Eu-152 Standard
Data collected on 15-DEC-95 at 09:56:02
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.86E+01		LLD<2.86E+01	
TH-234	LLD<2.34E+02		LLD<2.34E+02	
TH-230	LLD<1.81E+03		LLD<1.81E+03	
XE-133	LLD<1.30E+01		LLD<1.30E+01	
CD-109	3.53E+02	+- 9.68E+01	3.53E+02	+- 9.68E+01
SCL-000	9.50E+02	+- 3.72E+01	9.50E+02	+- 3.72E+01
CO-57	3.15E+02	+- 1.23E+01	3.15E+02	+- 1.23E+01
PA-234	LLD<9.34E+00		LLD<9.34E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.96E+00		LLD<1.96E+00	
U-235	LLD<1.57E+01		LLD<1.57E+01	
CE-141	LLD<3.59E+00		LLD<3.59E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.89E+01		LLD<8.89E+01	
BA-139	LLD<1.07E+01		LLD<1.07E+01	
[illegible]-139	LLD<2.16E+00		LLD<2.16E+00	
[illegible]-226	LLD<5.25E+01		LLD<5.25E+01	
BA-141	LLD<4.50E+00		LLD<4.50E+00	
KR-89	LLD<2.73E+01		LLD<2.73E+01	
TE-132	LLD<2.16E+00		LLD<2.16E+00	
XE-133M	LLD<1.88E+01		LLD<1.88E+01	
TH-227	LLD<1.37E+01		LLD<1.37E+01	
PB-212	LLD<4.81E+00		LLD<4.81E+00	
RA-224	6.12E+01	+- 4.94E+01	6.12E+01	+- 4.94E+01
XE-135	LLD<4.28E+00		LLD<4.28E+00	
XE-138	LLD<8.23E+00		LLD<8.23E+00	
SE-75	LLD<3.26E+00		LLD<3.26E+00	
NP-239	LLD<1.40E+01		LLD<1.40E+01	
HG-203	LLD<2.54E+00		LLD<2.54E+00	
IR-192	LLD<2.37E+00		LLD<2.37E+00	
CR-51	LLD<2.06E+01		LLD<2.06E+01	
SCM-000	9.10E+02	+- 2.91E+01	9.10E+02	+- 2.91E+01
BI-211	LLD<1.12E+02		LLD<1.12E+02	
PB-214	LLD<8.49E+00		LLD<8.49E+00	
BA-133	LLD<3.14E+00		LLD<3.14E+00	
I-131	LLD<2.72E+00		LLD<2.72E+00	
SN-113	LLD<3.01E+00		LLD<3.01E+00	
KR-87	LLD<4.31E+00		LLD<4.31E+00	
PB-211	LLD<8.15E+01		LLD<8.15E+01	
AU-198	1.90E+01	+- 1.53E+00	1.90E+01	+- 1.53E+00
[illegible]-125	LLD<6.88E+00		LLD<6.88E+00	
[illegible]-212	LLD<6.69E+02		LLD<6.69E+02	
[illegible]E-7	LLD<2.32E+01		LLD<2.32E+01	
HF-181	LLD<2.95E+00		LLD<2.95E+00	
RU-103	LLD<2.79E+00		LLD<2.79E+00	
KR-85	LLD<5.80E+02		LLD<5.80E+02	

SR-85	LLD<2.53E+00		LLD<2.53E+00		
I-133	LLD<2.93E+00		LLD<2.93E+00		
BA-140	LLD<1.02E+01		LLD<1.02E+01		
K-91M	LLD<3.09E+00		LLD<3.09E+00		
[illegible]-207	LLD<2.94E+00		LLD<2.94E+00		
TL-208	LLD<1.02E+01		LLD<1.02E+01		
SB-124	LLD<2.71E+00		LLD<2.71E+00		
CS-134	LLD<2.68E+00		LLD<2.68E+00		
BI-214	LLD<7.19E+00		LLD<7.19E+00		
RU-106	LLD<2.98E+01		LLD<2.98E+01		
LA-142	LLD<5.49E+00		LLD<5.49E+00		
AG-110M	LLD<3.03E+00		LLD<3.03E+00		
NB-97	LLD<3.26E+00		LLD<3.26E+00		
CS-137	LLD<3.28E+00		LLD<3.28E+00		
I-132	LLD<2.97E+00		LLD<2.97E+00		
W-187	LLD<1.13E+01		LLD<1.13E+01		
ZR-97	LLD<3.43E+00		LLD<3.43E+00		
ZR-95	LLD<6.23E+00		LLD<6.23E+00		
NB-95	LLD<3.34E+00		LLD<3.34E+00		
TL-210	LLD<2.20E+01		LLD<2.20E+01		
CO-58	LLD<3.37E+00		LLD<3.37E+00		
CS-136	LLD<3.33E+00		LLD<3.33E+00		
MN-54	LLD<3.40E+00		LLD<3.40E+00		
CO-56	LLD<3.60E+00		LLD<3.60E+00		
I-134	LLD<4.26E+00		LLD<4.26E+00		
TL-207	LLD<3.13E+03		LLD<3.13E+03		
Y-88	LLD<3.85E+00		LLD<3.85E+00		
AC-228	LLD<1.23E+01		LLD<1.23E+01		
EU-152	9.89E+02	+- 4.15E+01	9.89E+02	+-	4.15E+01
[illegible]-234M	LLD<4.44E+01		LLD<4.44E+01		
[illegible]-91	LLD<8.02E+00		LLD<8.02E+00		
RB-89	LLD<6.43E+00		LLD<6.43E+00		
FE-59	LLD<5.40E+00		LLD<5.40E+00		
ZN-65	LLD<1.55E+01		LLD<1.55E+01		
SC-46	LLD<3.58E+00		LLD<3.58E+00		
TA-182	LLD<1.00E+01		LLD<1.00E+01		
I-135	LLD<7.99E+00		LLD<7.99E+00		
CL-39	LLD<5.33E+00		LLD<5.33E+00		
NA-22	LLD<2.13E+00		LLD<2.13E+00		
AR-41	LLD<4.31E+00		LLD<4.31E+00		
CO-60	LLD<1.43E+00		LLD<1.43E+00		
NA-24	LLD<1.28E+00		LLD<1.28E+00		
SR-92	LLD<1.48E+00		LLD<1.48E+00		
SCH-000	9.33E+02	+- 3.76E+01	9.33E+02	+-	3.76E+01
CS-138	LLD<1.28E+00		LLD<1.28E+00		
K-40	LLD<1.06E+01		LLD<1.06E+01		
KR-88	LLD<8.69E+00		LLD<8.69E+00		
TL-209	LLD<2.23E+00		LLD<2.23E+00		
LA-140	LLD<5.09E-01		LLD<5.09E-01		
AL-26	LLD<4.43E-01		LLD<4.43E-01		
MN-56	LLD<1.91E+00		LLD<1.91E+00		
RB-88	LLD<3.01E+00		LLD<3.01E+00		
	---		---		
Total	4.53E+03	+- 1.32E+02	4.53E+03	+-	1.32E+02

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1215

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
78.70	40.00	2556.	20.3	9.80E+03
90.36	45.82	1170.	25.9	2.18E+03
168.45	84.80	1723.	37.5	3.17E+02
180.75	90.94	1280.	43.6	2.00E+02
234.46	117.74	4229.	76.1	4.32E+02
488.90	244.77	16719.	4.1	2.29E+03
591.61	296.06	876.	24.4	1.40E+02
679.46	339.93	1422.	75.7	2.59E+02
734.87	367.60	1395.	14.5	2.74E+02
887.52	443.85	3689.	5.9	8.75E+02
976.54	488.31	441.	32.7	1.15E+02
1127.75	563.85	556.	32.4	1.69E+02
1171.98	585.95	364.	47.9	1.15E+02
1376.97	688.39	787.	19.3	2.92E+02
1549.40	774.56	364.	66.4	1.52E+02
1557.51	778.62	9508.	4.1	3.98E+03
1734.37	867.03	2749.	6.8	1.27E+03
1838.02	918.85	217.	55.6	1.06E+02
1919.02	959.35	361.	49.5	1.82E+02
2010.03	1004.86	360.	32.0	1.89E+02
2163.00	1081.36	297.	36.9	1.66E+02
2178.73	1089.22	1303.	13.0	7.31E+02
2425.34	1212.58	632.	15.8	3.84E+02
2598.26	1299.09	736.	10.6	4.68E+02
2807.38	1403.74	362.	37.8	2.41E+02
2914.83	1457.52	267.	18.0	1.82E+02
3056.90	1528.62	297.	13.8	2.08E+02

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Pile N C-124

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-DEC-95 11:31:14

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0099
Measured by: dlv

Sample Description: N: 124
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.6400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 15-DEC-95 at 11:11:20

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 15-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 15-DEC-95 11:31:14

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	126.82	64.01	0.9	112.	54.	65.9	TH-234
2	186.16	93.63	1.1	141.	214.	21.8	TH-234
3	372.50	186.66	1.6	76.	127.	28.0	U-235,RA-226
4	478.23	239.44	1.4	73.	141.	25.4	PB-212
5	591.61	296.06	1.1	30.	37.	54.2	PB-214
6	676.81	338.61	1.7	19.	35.	50.6	AC-228
7	704.13	352.25	1.3	29.	56.	40.5	PB-214
8C	1166.86	583.40	2.3	9.	36.	44.0	TL-208
9	1219.80	609.85	1.4	19.	38.	49.4	BI-214
10	1324.24	662.03	1.8	5.	41.	34.6	CS-137
11	1822.40	911.04	1.2	5.	28.	44.6	AC-228
12	2921.15	1460.68	2.5	4.	67.	26.3	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 15-DEC-95 11:31:14

mple: N: 124
a collected on 15-DEC-95 at 11:11:20
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<5.70E+00		LLD<5.70E+00	
TH-234	LLD<3.47E+01		LLD<3.47E+01	
TH-230	LLD<3.16E+02		LLD<3.16E+02	
XE-133	LLD<2.13E+00		LLD<2.13E+00	
CD-109	LLD<1.71E+01		LLD<1.71E+01	
SCL-000	LLD<1.03E+00		LLD<1.03E+00	
CO-57	LLD<3.44E-01		LLD<3.44E-01	
PA-234	LLD<1.28E+00		LLD<1.28E+00	
CE-144	LLD<2.42E+00		LLD<2.42E+00	
TC-99M	LLD<3.14E-01		LLD<3.14E-01	
U-235	LLD<2.14E+00		LLD<2.14E+00	
CE-141	LLD<4.85E-01		LLD<4.85E-01	
KR-85M	LLD<3.42E-01		LLD<3.42E-01	
XE-131M	LLD<1.13E+01		LLD<1.13E+01	
BA-139	LLD<1.27E+00		LLD<1.27E+00	
[illegible]-139	LLD<2.59E-01		LLD<2.59E-01	
[illegible]-226	1.75E+01	+- 4.92E+00	1.75E+01	+- 4.92E+00
BA-141	LLD<8.00E-01		LLD<8.00E-01	
KR-89	LLD<2.72E+00		LLD<2.72E+00	
TE-132	LLD<2.37E-01		LLD<2.37E-01	
XE-133M	LLD<2.88E+00		LLD<2.88E+00	
TH-227	LLD<2.45E+00		LLD<2.45E+00	
PB-212	1.98E+00	+- 5.06E-01	1.98E+00	+- 5.06E-01
RA-224	LLD<7.28E+00		LLD<7.28E+00	
XE-135	LLD<2.76E-01		LLD<2.76E-01	
XE-138	LLD<1.03E+00		LLD<1.03E+00	
SE-75	LLD<4.94E-01		LLD<4.94E-01	
NP-239	LLD<1.67E+00		LLD<1.67E+00	
HG-203	LLD<3.14E-01		LLD<3.14E-01	
IR-192	LLD<3.20E-01		LLD<3.20E-01	
CR-51	LLD<2.54E+00		LLD<2.54E+00	
SCM-000	LLD<1.52E+00		LLD<1.52E+00	
BI-211	LLD<9.86E+00		LLD<9.86E+00	
PB-214	1.53E+00	+- 6.21E-01	1.53E+00	+- 6.21E-01
BA-133	LLD<7.26E-01		LLD<7.26E-01	
I-131	LLD<2.89E-01		LLD<2.89E-01	
SN-113	LLD<4.47E-01		LLD<4.47E-01	
KR-87	LLD<5.27E-01		LLD<5.27E-01	
PB-211	LLD<1.20E+01		LLD<1.20E+01	
AU-198	LLD<3.07E-01		LLD<3.07E-01	
[illegible]-125	LLD<9.04E-01		LLD<9.04E-01	
[illegible]-212	LLD<9.35E+01		LLD<9.35E+01	
BE-7	LLD<3.15E+00		LLD<3.15E+00	
HF-181	LLD<3.19E-01		LLD<3.19E-01	
RU-103	LLD<3.07E-01		LLD<3.07E-01	
KR-85	LLD<9.31E+01		LLD<9.31E+01	

SR-85	LLD<4.07E-01		LLD<4.07E-01		
I-133	LLD<4.00E-01		LLD<4.00E-01		
BA-140	LLD<1.48E+00		LLD<1.48E+00		
[illegible]-91M	LLD<3.67E-01		LLD<3.67E-01		
[illegible]-207	LLD<3.16E-01		LLD<3.16E-01		
TL-208	LLD<1.21E+00		LLD<1.21E+00		
SB-124	LLD<3.17E-01		LLD<3.17E-01		
CS-134	LLD<5.83E-01		LLD<5.83E-01		
BI-214	1.52E+00	+- 7.52E-01	1.52E+00	+-	7.52E-01
RU-106	LLD<2.92E+00		LLD<2.92E+00		
LA-142	LLD<6.18E-01		LLD<6.18E-01		
AG-110M	LLD<7.84E-01		LLD<7.84E-01		
NB-97	LLD<8.79E-01		LLD<8.79E-01		
CS-137	7.79E-01	+- 2.70E-01	7.79E-01	+-	2.70E-01
I-132	LLD<5.09E-01		LLD<5.09E-01		
W-187	LLD<1.30E+00		LLD<1.30E+00		
ZR-97	LLD<3.57E-01		LLD<3.57E-01		
ZR-95	LLD<7.35E-01		LLD<7.35E-01		
NB-95	LLD<4.35E-01		LLD<4.35E-01		
TL-210	LLD<2.22E+00		LLD<2.22E+00		
CO-58	LLD<3.15E-01		LLD<3.15E-01		
CS-136	LLD<3.61E-01		LLD<3.61E-01		
MN-54	LLD<4.26E-01		LLD<4.26E-01		
CO-56	LLD<3.62E-01		LLD<3.62E-01		
I-134	LLD<4.45E-01		LLD<4.45E-01		
TL-207	LLD<3.03E+02		LLD<3.03E+02		
Y-88	LLD<4.53E-01		LLD<4.53E-01		
AC-228	2.35E+00	+- 1.05E+00	2.35E+00	+-	1.05E+00
EU-152	LLD<4.82E+00		LLD<4.82E+00		
[illegible]-234M	LLD<5.94E+00		LLD<5.94E+00		
[illegible]R-91	LLD<1.19E+00		LLD<1.19E+00		
RB-89	LLD<9.30E-01		LLD<9.30E-01		
FE-59	LLD<9.80E-01		LLD<9.80E-01		
ZN-65	LLD<1.07E+00		LLD<1.07E+00		
SC-46	LLD<5.66E-01		LLD<5.66E-01		
TA-182	LLD<1.76E+00		LLD<1.76E+00		
I-135	LLD<2.00E+00		LLD<2.00E+00		
CL-39	LLD<1.27E+00		LLD<1.27E+00		
NA-22	LLD<5.46E-01		LLD<5.46E-01		
AR-41	LLD<5.02E-01		LLD<5.02E-01		
CO-60	LLD<4.65E-01		LLD<4.65E-01		
NA-24	LLD<4.59E-01		LLD<4.59E-01		
SR-92	LLD<5.24E-01		LLD<5.24E-01		
SCH-000	LLD<2.17E+00		LLD<2.17E+00		
CS-138	LLD<4.57E-01		LLD<4.57E-01		
K-40	2.04E+01	+- 5.42E+00	2.04E+01	+-	5.42E+00
KR-88	LLD<1.88E+00		LLD<1.88E+00		
TL-209	LLD<9.41E-01		LLD<9.41E-01		
LA-140	LLD<5.41E-01		LLD<5.41E-01		
AL-26	LLD<2.64E-01		LLD<2.64E-01		
MN-56	LLD<1.56E+00		LLD<1.56E+00		
RB-88	LLD<1.22E+00		LLD<1.22E+00		
	---		---		
Total	4.61E+01	+- 7.48E+00	4.61E+01	+-	7.48E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0099

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
126.82	64.01	54.	65.9	2.38E+01
186.16	93.63	214.	21.8	3.15E+01
591.61	296.06	37.	54.2	5.93E+00
676.81	338.61	35.	50.6	6.30E+00
1166.86	583.40	36.	44.0	1.13E+01

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C-127

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            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                    *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-DEC-95 11:52:16

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0098
Measured by: dlv

Sample Description: C-127 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.2100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 15-DEC-95 at 11:38:48

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 15-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 15-DEC-95 11:52:16

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.36	239.51	1.8	104.	160.	25.5	PB-212
2	656.53	328.48	1.2	18.	20.	79.0	LA-140
3	704.69	352.53	1.7	33.	65.	36.6	PB-214
4	1167.19	583.56	1.7	11.	63.	30.1	TL-208
5	1219.49	609.69	1.1	12.	47.	35.9	BI-214
6	1322.85	661.34	2.3	12.	35.	46.7	CS-137
7	1765.39	882.54	1.2	0.	11.	59.1	BR-84,PA-234
8	1822.64	911.16	1.2	3.	27.	43.4	AC-228
9	2240.51	1120.12	2.4	6.	26.	48.8	BI-214,SC-46
10C	2921.44	1460.82	2.2	13.	65.	30.8	K-40
11	3529.14	1765.07	2.7	0.	13.	54.4	BI-214

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 15-DEC-95 11:52:16

Sample: C-127 Soil
a collected on 15-DEC-95 at 11:38:48
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.93E+00		LLD<2.93E+00	
TH-234	LLD<2.83E+01		LLD<2.83E+01	
TH-230	LLD<2.16E+02		LLD<2.16E+02	
XE-133	LLD<1.71E+00		LLD<1.71E+00	
CD-109	LLD<1.10E+01		LLD<1.10E+01	
SCL-000	LLD<7.01E-01		LLD<7.01E-01	
CO-57	LLD<2.33E-01		LLD<2.33E-01	
PA-234	LLD<1.05E+00		LLD<1.05E+00	
CE-144	LLD<1.97E+00		LLD<1.97E+00	
TC-99M	LLD<2.18E-01		LLD<2.18E-01	
U-235	LLD<1.61E+00		LLD<1.61E+00	
CE-141	LLD<3.51E-01		LLD<3.51E-01	
KR-85M	LLD<2.55E-01		LLD<2.55E-01	
XE-131M	LLD<9.07E+00		LLD<9.07E+00	
BA-139	LLD<1.15E+00		LLD<1.15E+00	
[illegible]139	LLD<2.33E-01		LLD<2.33E-01	
[illegible]-226	LLD<5.54E+00		LLD<5.54E+00	
BA-141	LLD<5.20E-01		LLD<5.20E-01	
KR-89	LLD<2.40E+00		LLD<2.40E+00	
TE-132	LLD<2.56E-01		LLD<2.56E-01	
XE-133M	LLD<2.42E+00		LLD<2.42E+00	
TH-227	LLD<2.13E+00		LLD<2.13E+00	
PB-212	1.76E+00	+- 4.52E-01	1.76E+00	+- 4.52E-01
RA-224	LLD<6.03E+00		LLD<6.03E+00	
XE-135	LLD<2.45E-01		LLD<2.45E-01	
XE-138	LLD<9.34E-01		LLD<9.34E-01	
SE-75	LLD<3.91E-01		LLD<3.91E-01	
NP-239	LLD<1.52E+00		LLD<1.52E+00	
HG-203	LLD<2.71E-01		LLD<2.71E-01	
IR-192	LLD<2.68E-01		LLD<2.68E-01	
CR-51	LLD<2.11E+00		LLD<2.11E+00	
SCM-000	LLD<1.34E+00		LLD<1.34E+00	
BI-211	LLD<8.00E+00		LLD<8.00E+00	
PB-214	1.40E+00	+- 5.13E-01	1.40E+00	+- 5.13E-01
BA-133	LLD<5.98E-01		LLD<5.98E-01	
I-131	LLD<2.99E-01		LLD<2.99E-01	
SN-113	LLD<4.13E-01		LLD<4.13E-01	
KR-87	LLD<5.24E-01		LLD<5.24E-01	
PB-211	LLD<9.10E+00		LLD<9.10E+00	
AU-198	LLD<2.49E-01		LLD<2.49E-01	
[illegible]R-125	LLD<8.04E-01		LLD<8.04E-01	
[illegible]-212	LLD<7.27E+01		LLD<7.27E+01	
[illegible]E-7	LLD<2.70E+00		LLD<2.70E+00	
HF-181	LLD<3.45E-01		LLD<3.45E-01	
RU-103	LLD<2.77E-01		LLD<2.77E-01	
KR-85	LLD<7.32E+01		LLD<7.32E+01	

SR-85	LLD<3.20E-01		LLD<3.20E-01		
I-133	LLD<2.71E-01		LLD<2.71E-01		
BA-140	LLD<1.04E+00		LLD<1.04E+00		
[illegible]-91M	LLD<3.08E-01		LLD<3.08E-01		
[illegible]-207	LLD<2.64E-01		LLD<2.64E-01		
TL-208	LLD<1.24E+00		LLD<1.24E+00		
SB-124	LLD<3.45E-01		LLD<3.45E-01		
CS-134	LLD<5.26E-01		LLD<5.26E-01		
BI-214	1.47E+00	+- 5.28E-01	1.47E+00	+-	5.28E-01
RU-106	LLD<3.13E+00		LLD<3.13E+00		
LA-142	LLD<5.96E-01		LLD<5.96E-01		
AG-110M	LLD<5.36E-01		LLD<5.36E-01		
NB-97	LLD<5.41E-01		LLD<5.41E-01		
CS-137	5.16E-01	+- 2.41E-01	5.16E-01	+-	2.41E-01
I-132	LLD<3.56E-01		LLD<3.56E-01		
W-187	LLD<1.22E+00		LLD<1.22E+00		
ZR-97	LLD<3.00E-01		LLD<3.00E-01		
ZR-95	LLD<5.49E-01		LLD<5.49E-01		
NB-95	LLD<3.36E-01		LLD<3.36E-01		
TL-210	LLD<2.13E+00		LLD<2.13E+00		
CO-58	LLD<3.70E-01		LLD<3.70E-01		
CS-136	LLD<3.18E-01		LLD<3.18E-01		
MN-54	LLD<3.44E-01		LLD<3.44E-01		
CO-56	LLD<2.56E-01		LLD<2.56E-01		
I-134	LLD<3.24E-01		LLD<3.24E-01		
TL-207	LLD<3.20E+02		LLD<3.20E+02		
Y-88	LLD<4.58E-01		LLD<4.58E-01		
AC-228	1.80E+00	+- 7.82E-01	1.80E+00	+-	7.82E-01
EU-152	LLD<4.22E+00		LLD<4.22E+00		
[illegible]A-234M	LLD<4.03E+00		LLD<4.03E+00		
[illegible]R-91	LLD<1.23E+00		LLD<1.23E+00		
RB-89	LLD<8.05E-01		LLD<8.05E-01		
FE-59	LLD<7.49E-01		LLD<7.49E-01		
ZN-65	LLD<1.73E+00		LLD<1.73E+00		
SC-46	LLD<5.99E-01		LLD<5.99E-01		
TA-182	LLD<1.72E+00		LLD<1.72E+00		
I-135	LLD<1.90E+00		LLD<1.90E+00		
CL-39	LLD<1.00E+00		LLD<1.00E+00		
NA-22	LLD<3.64E-01		LLD<3.64E-01		
AR-41	LLD<5.17E-01		LLD<5.17E-01		
CO-60	LLD<4.04E-01		LLD<4.04E-01		
NA-24	LLD<3.10E-01		LLD<3.10E-01		
SR-92	LLD<5.01E-01		LLD<5.01E-01		
SCH-000	LLD<1.48E+00		LLD<1.48E+00		
CS-138	LLD<3.85E-01		LLD<3.85E-01		
K-40	1.56E+01	+- 4.85E+00	1.56E+01	+-	4.85E+00
KR-88	LLD<2.95E+00		LLD<2.95E+00		
TL-209	LLD<6.44E-01		LLD<6.44E-01		
LA-140	LLD<3.46E-01		LLD<3.46E-01		
AL-26	LLD<2.07E-01		LLD<2.07E-01		
MN-56	LLD<1.28E+00		LLD<1.28E+00		
RB-88	LLD<1.60E+00		LLD<1.60E+00		
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Total	2.26E+01	+- 4.99E+00	2.26E+01	+-	4.99E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0098

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
656.53	328.48	20.	79.0	3.53E+00
1167.19	583.56	63.	30.1	1.97E+01
1765.39	882.54	11.	59.1	5.17E+00
2240.51	1120.12	26.	48.8	1.52E+01
3529.14	1765.07	13.	54.4	9.65E+00

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0↕♥♠ Pile N C-124 20 min recount

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*                                                                     *
*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-DEC-95 12:22:27

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0099
Measured by: dlv

Sample Description: N: 124 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.6400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 15-DEC-95 at 11:53:11

COLLECT Live Time: 1200. seconds
Real Time: 1203. seconds
Dead Time: 0.25 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 15-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 15-DEC-95 12:22:27

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	186.55	93.83	1.6	269.	399.	15.8	
2C	372.89	186.85	1.4	139.	209.	21.4	RA-226
3	478.43	239.55	1.5	133.	290.	17.1	PB-212
4	591.79	296.15	1.9	37.	97.	27.5	PB-214
5C	704.95	352.66	1.5	60.	101.	30.7	PB-214
6	927.17	463.65	1.0	15.	26.	56.3	CS-138
7	1167.55	583.74	2.1	17.	54.	34.8	TL-208
8	1219.66	609.78	1.9	21.	63.	32.8	BI-214
9	1324.90	662.37	0.8	16.	58.	33.5	CS-137
10	1822.88	911.28	2.2	6.	52.	31.1	AC-228
11	2002.74	1001.21	1.2	11.	18.	78.2	PA234M
12	2921.83	1461.02	2.4	10.	136.	18.6	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 15-DEC-95 12:22:27

mple: N: 124 Soil
a collected on 15-DEC-95 at 11:53:11
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.50E+00		LLD<3.50E+00	
TH-234	LLD<2.37E+01		LLD<2.37E+01	
TH-230	LLD<2.24E+02		LLD<2.24E+02	
XE-133	LLD<1.57E+00		LLD<1.57E+00	
CD-109	LLD<1.21E+01		LLD<1.21E+01	
SCL-000	LLD<6.73E-01		LLD<6.73E-01	
CO-57	LLD<2.23E-01		LLD<2.23E-01	
PA-234	LLD<8.44E-01		LLD<8.44E-01	
CE-144	LLD<1.46E+00		LLD<1.46E+00	
TC-99M	LLD<2.16E-01		LLD<2.16E-01	
U-235	LLD<1.29E+00		LLD<1.29E+00	
CE-141	LLD<3.38E-01		LLD<3.38E-01	
KR-85M	LLD<2.19E-01		LLD<2.19E-01	
XE-131M	LLD<7.57E+00		LLD<7.57E+00	
BA-139	LLD<9.97E-01		LLD<9.97E-01	
[illegible]-139	LLD<1.94E-01		LLD<1.94E-01	
[illegible]-226	1.45E+01	+- 3.11E+00	1.45E+01	+- 3.11E+00
BA-141	LLD<6.40E-01		LLD<6.40E-01	
KR-89	LLD<3.39E+00		LLD<3.39E+00	
TE-132	LLD<1.88E-01		LLD<1.88E-01	
XE-133M	LLD<2.03E+00		LLD<2.03E+00	
TH-227	LLD<1.65E+00		LLD<1.65E+00	
PB-212	2.06E+00	+- 3.58E-01	2.06E+00	+- 3.58E-01
RA-224	LLD<4.97E+00		LLD<4.97E+00	
XE-135	LLD<1.92E-01		LLD<1.92E-01	
XE-138	LLD<8.81E-01		LLD<8.81E-01	
SE-75	LLD<3.04E-01		LLD<3.04E-01	
NP-239	LLD<1.18E+00		LLD<1.18E+00	
HG-203	LLD<2.16E-01		LLD<2.16E-01	
IR-192	LLD<2.25E-01		LLD<2.25E-01	
CR-51	LLD<2.21E+00		LLD<2.21E+00	
SCM-000	LLD<1.09E+00		LLD<1.09E+00	
BI-211	LLD<9.07E+00		LLD<9.07E+00	
PB-214	1.57E+00	+- 4.83E-01	1.57E+00	+- 4.83E-01
BA-133	LLD<4.68E-01		LLD<4.68E-01	
I-131	LLD<2.18E-01		LLD<2.18E-01	
SN-113	LLD<3.18E-01		LLD<3.18E-01	
KR-87	LLD<4.75E-01		LLD<4.75E-01	
PB-211	LLD<7.72E+00		LLD<7.72E+00	
AU-198	LLD<2.30E-01		LLD<2.30E-01	
[illegible]-125	LLD<7.90E-01		LLD<7.90E-01	
[illegible] 212	LLD<6.97E+01		LLD<6.97E+01	
[illegible]-7	LLD<1.98E+00		LLD<1.98E+00	
HF-181	LLD<2.73E-01		LLD<2.73E-01	
RU-103	LLD<2.48E-01		LLD<2.48E-01	
KR-85	LLD<5.56E+01		LLD<5.56E+01	

SR-85	LLD<2.43E-01		LLD<2.43E-01		
I-133	LLD<2.52E-01		LLD<2.52E-01		
BA-140	LLD<8.32E-01		LLD<8.32E-01		
K-91M	LLD<2.64E-01		LLD<2.64E-01		
PB-207	LLD<2.14E-01		LLD<2.14E-01		
TL-208	LLD<1.63E+00		LLD<1.63E+00		
SB-124	LLD<2.34E-01		LLD<2.34E-01		
CS-134	LLD<3.96E-01		LLD<3.96E-01		
BI-214	1.50E+00	+- 4.92E-01	1.50E+00	+-	4.92E-01
RU-106	LLD<2.34E+00		LLD<2.34E+00		
LA-142	LLD<4.03E-01		LLD<4.03E-01		
AG-110M	LLD<4.87E-01		LLD<4.87E-01		
NB-97	LLD<5.54E-01		LLD<5.54E-01		
CS-137	5.55E-01	+- 1.86E-01	5.55E-01	+-	1.86E-01
I-132	LLD<4.57E-01		LLD<4.57E-01		
W-187	LLD<8.34E-01		LLD<8.34E-01		
ZR-97	LLD<2.93E-01		LLD<2.93E-01		
ZR-95	LLD<4.89E-01		LLD<4.89E-01		
NB-95	LLD<3.08E-01		LLD<3.08E-01		
TL-210	LLD<2.95E+00		LLD<2.95E+00		
CO-58	LLD<2.66E-01		LLD<2.66E-01		
CS-136	LLD<2.26E-01		LLD<2.26E-01		
MN-54	LLD<2.50E-01		LLD<2.50E-01		
CO-56	LLD<2.86E-01		LLD<2.86E-01		
I-134	LLD<3.69E-01		LLD<3.69E-01		
TL-207	LLD<3.43E+02		LLD<3.43E+02		
Y-88	LLD<2.78E-01		LLD<2.78E-01		
AC-228	2.24E+00	+- 6.99E-01	2.24E+00	+-	6.99E-01
EU-152	LLD<3.45E+00		LLD<3.45E+00		
PA-234M	LLD<6.58E+00		LLD<6.58E+00		
ZR-91	LLD<8.54E-01		LLD<8.54E-01		
RB-89	LLD<6.72E-01		LLD<6.72E-01		
FE-59	LLD<6.55E-01		LLD<6.55E-01		
ZN-65	LLD<8.80E-01		LLD<8.80E-01		
SC-46	LLD<3.82E-01		LLD<3.82E-01		
TA-182	LLD<1.06E+00		LLD<1.06E+00		
I-135	LLD<1.46E+00		LLD<1.46E+00		
CL-39	LLD<7.41E-01		LLD<7.41E-01		
NA-22	LLD<3.73E-01		LLD<3.73E-01		
AR-41	LLD<3.60E-01		LLD<3.60E-01		
CO-60	LLD<3.64E-01		LLD<3.64E-01		
NA-24	LLD<2.80E-01		LLD<2.80E-01		
SR-92	LLD<3.40E-01		LLD<3.40E-01		
SCH-000	LLD<1.31E+00		LLD<1.31E+00		
CS-138	LLD<2.98E-01		LLD<2.98E-01		
K-40	2.08E+01	+- 3.94E+00	2.08E+01	+-	3.94E+00
KR-88	LLD<2.80E+00		LLD<2.80E+00		
TL-209	LLD<1.63E+00		LLD<1.63E+00		
LA-140	LLD<3.44E-01		LLD<3.44E-01		
AL-26	LLD<2.38E-01		LLD<2.38E-01		
MN-56	LLD<9.47E-01		LLD<9.47E-01		
RB-88	LLD<2.70E+00		LLD<2.70E+00		
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Total	4.32E+01	+- 5.13E+00	4.32E+01	+-	5.13E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0099

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
186.55	93.83	399.	15.8	2.93E+01
591.79	296.15	97.	27.5	7.77E+00
927.17	463.65	26.	56.3	3.27E+00
1167.55	583.74	54.	34.8	8.56E+00
2002.74	1001.21	18.	78.2	4.65E+00

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Pile N C-124

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-DEC-95 15:13:43

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0099
Measured by: dlv

Sample Description: N: 124 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.6400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 15-DEC-95 at 12:31:45

COLLECT Live Time: 3600. seconds
Real Time: 3608. seconds
Dead Time: 0.22 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 15-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 15-DEC-95 15:13:43

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	127.25	64.23	1.1	523.	243.	29.7	TH-234
2$	175.95	88.54	1.9	883.	222.	38.6	CD-109
3$	186.07	93.59	1.9	815.	1286.	17.0	TH-234
4	288.19	144.57	1.5	562.	204.	39.4	U-235,CE-141
5	372.51	186.66	1.8	415.	760.	10.9	U-235,RA-226
6C	478.36	239.51	1.6	299.	820.	11.4	PB-212
7C	484.43	242.54	1.6	263.	144.	31.0	PB-214
8	591.40	295.95	1.2	183.	175.	28.2	PB-214
9	677.55	338.98	1.6	157.	153.	29.3	AC-228
10	704.78	352.58	1.5	133.	346.	15.0	PB-214
11	1022.53	511.29	2.6	93.	115.	32.2	TL-208,NA-22, ANN-RD
12	1167.17	583.55	1.4	81.	198.	20.1	TL-208
13	1219.28	609.59	1.4	107.	183.	23.1	BI-214
14	1323.54	661.69	1.9	67.	161.	22.1	CS-137
15C	1823.19	911.43	2.0	36.	123.	29.7	AC-228
16	2003.31	1001.49	1.3	31.	56.	40.3	PA234M
17	2922.07	1461.14	2.0	16.	411.	10.2	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

4 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 15-DEC-95 15:13:43

Sample: N: 124 Soil
a collected on 15-DEC-95 at 12:31:45
cayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.11E+00		LLD<2.11E+00	
TH-234	LLD<1.47E+01		LLD<1.47E+01	
TH-230	LLD<1.28E+02		LLD<1.28E+02	
XE-133	LLD<9.15E-01		LLD<9.15E-01	
CD-109	8.04E+00	+- 3.12E+00	8.04E+00	+- 3.12E+00
SCL-000	LLD<3.78E-01		LLD<3.78E-01	
CO-57	LLD<1.26E-01		LLD<1.26E-01	
PA-234	LLD<4.93E-01		LLD<4.93E-01	
CE-144	LLD<9.38E-01		LLD<9.38E-01	
TC-99M	LLD<1.31E-01		LLD<1.31E-01	
U-235	1.31E+00	+- 5.18E-01	1.31E+00	+- 5.18E-01
CE-141	2.97E-01	+- 1.17E-01	2.97E-01	+- 1.17E-01
KR-85M	LLD<1.32E-01		LLD<1.32E-01	
XE-131M	LLD<4.41E+00		LLD<4.41E+00	
BA-139	LLD<6.43E-01		LLD<6.43E-01	
[illegible]-139	LLD<1.07E-01		LLD<1.07E-01	
[illegible]226	1.75E+01	+- 1.95E+00	1.75E+01	+- 1.95E+00
BA-141	LLD<7.07E-01		LLD<7.07E-01	
KR-89	LLD<6.13E+00		LLD<6.13E+00	
TE-132	LLD<1.04E-01		LLD<1.04E-01	
XE-133M	LLD<1.07E+00		LLD<1.07E+00	
TH-227	LLD<9.59E-01		LLD<9.59E-01	
PB-212	1.98E+00	+- 2.35E-01	1.98E+00	+- 2.35E-01
RA-224	LLD<2.89E+00		LLD<2.89E+00	
XE-135	LLD<1.11E-01		LLD<1.11E-01	
XE-138	LLD<9.19E-01		LLD<9.19E-01	
SE-75	LLD<1.65E-01		LLD<1.65E-01	
NP-239	LLD<7.11E-01		LLD<7.11E-01	
HG-203	LLD<1.28E-01		LLD<1.28E-01	
IR-192	LLD<1.22E-01		LLD<1.22E-01	
CR-51	LLD<9.34E-01		LLD<9.34E-01	
SCM-000	LLD<5.90E-01		LLD<5.90E-01	
BI-211	LLD<1.53E+01		LLD<1.53E+01	
PB-214	2.75E+00	+- 4.14E-01	2.75E+00	+- 4.14E-01
BA-133	LLD<2.64E-01		LLD<2.64E-01	
I-131	LLD<1.27E-01		LLD<1.27E-01	
SN-113	LLD<1.69E-01		LLD<1.69E-01	
KR-87	LLD<2.79E-01		LLD<2.79E-01	
PB-211	LLD<6.29E+00		LLD<6.29E+00	
AU-198	LLD<1.12E-01		LLD<1.12E-01	
SB-125	LLD<3.88E-01		LLD<3.88E-01	
[illegible] 212	LLD<4.38E+01		LLD<4.38E+01	
[illegible]7	LLD<1.18E+00		LLD<1.18E+00	
HF-181	LLD<1.50E-01		LLD<1.50E-01	
RU-103	LLD<1.34E-01		LLD<1.34E-01	
KR-85	LLD<3.24E+01		LLD<3.24E+01	

SR-85	LLD<1.42E-01		LLD<1.42E-01		
I-133	LLD<1.33E-01		LLD<1.33E-01		
BA-140	LLD<4.68E-01		LLD<4.68E-01		
Y-91M	LLD<1.92E-01		LLD<1.92E-01		
I-207	LLD<1.25E-01		LLD<1.25E-01		
TL-208	8.04E+00	+- 1.63E+00	8.04E+00	+-	1.63E+00
SB-124	LLD<1.39E-01		LLD<1.39E-01		
CS-134	LLD<2.34E-01		LLD<2.34E-01		
BI-214	2.47E+00	+- 5.74E-01	2.47E+00	+-	5.74E-01
RU-106	LLD<1.39E+00		LLD<1.39E+00		
LA-142	LLD<3.20E-01		LLD<3.20E-01		
AG-110M	LLD<2.71E-01		LLD<2.71E-01		
NB-97	LLD<3.46E-01		LLD<3.46E-01		
CS-137	5.11E-01	+- 1.13E-01	5.11E-01	+-	1.13E-01
I-132	LLD<2.22E-01		LLD<2.22E-01		
W-187	LLD<5.02E-01		LLD<5.02E-01		
ZR-97	LLD<1.47E-01		LLD<1.47E-01		
ZR-95	LLD<2.74E-01		LLD<2.74E-01		
NB-95	LLD<1.59E-01		LLD<1.59E-01		
TL-210	LLD<6.02E+00		LLD<6.02E+00		
CO-58	LLD<1.56E-01		LLD<1.56E-01		
CS-136	LLD<1.32E-01		LLD<1.32E-01		
MN-54	LLD<1.38E-01		LLD<1.38E-01		
CO-56	LLD<1.32E-01		LLD<1.32E-01		
I-134	LLD<2.20E-01		LLD<2.20E-01		
TL-207	LLD<5.95E+02		LLD<5.95E+02		
Y-88	LLD<1.98E-01		LLD<1.98E-01		
AC-228	1.81E+00	+- 5.40E-01	1.81E+00	+-	5.40E-01
EU-152	LLD<1.85E+00		LLD<1.85E+00		
PA-234M	LLD<9.75E+00		LLD<9.75E+00		
ZR-91	LLD<5.28E-01		LLD<5.28E-01		
RB-89	LLD<8.25E-01		LLD<8.25E-01		
FE-59	LLD<2.94E-01		LLD<2.94E-01		
ZN-65	LLD<5.65E-01		LLD<5.65E-01		
SC-46	LLD<2.01E-01		LLD<2.01E-01		
TA-182	LLD<4.95E-01		LLD<4.95E-01		
I-135	LLD<5.99E-01		LLD<5.99E-01		
CL-39	LLD<5.47E-01		LLD<5.47E-01		
NA-22	LLD<1.73E-01		LLD<1.73E-01		
AR-41	LLD<1.89E-01		LLD<1.89E-01		
CO-60	LLD<1.53E-01		LLD<1.53E-01		
NA-24	LLD<1.26E-01		LLD<1.26E-01		
SR-92	LLD<1.73E-01		LLD<1.73E-01		
SCH-000	LLD<7.18E-01		LLD<7.18E-01		
CS-138	LLD<2.87E-01		LLD<2.87E-01		
K-40	2.10E+01	+- 2.28E+00	2.10E+01	+-	2.28E+00
KR-88	LLD<1.16E+00		LLD<1.16E+00		
TL-209	LLD<2.41E+00		LLD<2.41E+00		
LA-140	LLD<1.94E-01		LLD<1.94E-01		
AL-26	LLD<1.10E-01		LLD<1.10E-01		
MN-56	LLD<3.82E-01		LLD<3.82E-01		
RB-88	LLD<1.77E+00		LLD<1.77E+00		
	---		---		
Total	6.57E+01	+- 4.75E+00	6.57E+01	+-	4.75E+00

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0099

PEAKS NOT USED IN ANALYSIS

Centroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
127.25	64.23	243.	29.7	1.74E+01
186.07	93.59	1286.	17.0	3.16E+01
484.43	242.54	144.	31.0	3.23E+00
591.40	295.95	175.	28.2	4.67E+00
677.55	338.98	153.	29.3	4.64E+00
2003.31	1001.49	56.	40.3	4.94E+00

0↕☺

0↕♥♠ DU. Piece 60 sec count

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* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-DEC-95 12:30:30

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD8888
Measured by: dlv

Sample Description: DU Piece
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 5.6500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 15-DEC-95 at 12:24:09

COLLECT Live Time: 60. seconds
Real Time: 249. seconds
Dead Time: 75.90 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 15-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 15-DEC-95 12:30:30

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	126.92	64.06	1.5	6231.	943.	25.4	TH-234
2?	179.16	90.14	2.1	13369.	1380.	37.3	
3?	185.56	93.33	2.1	13744.	11553.	8.4	TH-234,TH-234
4?	190.00	95.55	2.1	14004.	11786.	8.2	
5?	197.09	99.09	2.1	14419.	19145.	5.6	
6?	202.83	101.95	2.1	14756.	3179.	19.3	
7C	222.57	111.81	2.6	18655.	11213.	4.9	TH-234
8C	229.22	115.13	2.6	16627.	6469.	7.0	
9	288.17	144.56	2.0	6020.	1069.	22.2	U-235,CE-141
10	327.70	164.29	2.5	7958.	612.	46.9	U-235,XE131M
11C	371.87	186.34	1.7	7016.	8371.	6.2	U-235,RA-226
12C	376.01	188.41	1.7	6838.	1566.	20.2	
13C	379.40	190.10	1.7	6693.	743.	41.4	BA-141
14	410.90	205.83	1.5	7556.	869.	32.5	
15	1485.77	742.77	2.4	1871.	1041.	14.8	PA234M,ZR-97
16	1532.77	766.26	2.0	2205.	2942.	6.3	NB-95,PA234M, I-134
17	1572.48	786.10	1.6	1524.	471.	27.2	BI-212,PB-214, PA234M
18C	1761.25	880.47	1.9	712.	170.	43.9	PA-234
19C	1766.21	882.95	1.9	679.	190.	42.5	PA-234
20	1892.69	946.18	2.0	711.	260.	36.1	PA-234,PA-234
21C	1993.46	996.57	2.4	535.	420.	20.1	
22C	2002.25	1000.97	2.4	509.	7723.	3.3	PA234M
23C	2008.42	1004.05	2.4	491.	1415.	11.3	
24	2387.27	1193.53	2.9	192.	110.	44.0	
25	3020.40	1510.35	2.8	153.	88.	53.9	
26	3475.33	1738.13	1.9	32.	160.	20.2	
27	3617.67	1809.41	2.6	11.	22.	65.3	AL-26
28	3662.86	1832.05	2.7	9.	157.	17.1	
29	3821.97	1911.75	3.2	10.	53.	35.1	
30$	3874.17	1937.90	2.0	5.	26.	50.8	

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

6 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 15-DEC-95 12:30:30

ᴄ ᴍple: DU Piece
.a collected on 15-DEC-95 at 12:24:09
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<3.86E+02		LLD<3.86E+02	
TH-234	5.40E+03	+- 1.45E+03	5.40E+03	+- 1.45E+03
TH-230	LLD<2.34E+04		LLD<2.34E+04	
XE-133	LLD<1.55E+02		LLD<1.55E+02	
CD-109	LLD<1.51E+03		LLD<1.51E+03	
SCL-000	LLD<8.87E+01		LLD<8.87E+01	
CO-57	LLD<2.94E+01		LLD<2.94E+01	
PA-234	LLD<1.01E+02		LLD<1.01E+02	
CE-144	LLD<1.89E+02		LLD<1.89E+02	
TC-99M	LLD<2.42E+01		LLD<2.42E+01	
U-235	4.13E+02	+- 9.16E+01	4.13E+02	+- 9.16E+01
CE-141	9.35E+01	+- 2.08E+01	9.35E+01	+- 2.08E+01
KR-85M	LLD<2.67E+01		LLD<2.67E+01	
XE-131M	1.32E+03	+- 6.22E+02	1.32E+03	+- 6.22E+02
BA-139	LLD<1.20E+02		LLD<1.20E+02	
[illegible]139	LLD<2.50E+01		LLD<2.50E+01	
[illegible]-226	1.16E+04	+- 7.62E+02	1.16E+04	+- 7.62E+02
BA-141	LLD<7.09E+01		LLD<7.09E+01	
KR-89	LLD<1.87E+02		LLD<1.87E+02	
TE-132	LLD<2.85E+01		LLD<2.85E+01	
XE-133M	LLD<2.56E+02		LLD<2.56E+02	
TH-227	LLD<1.77E+02		LLD<1.77E+02	
PB-212	LLD<6.11E+01		LLD<6.11E+01	
RA-224	LLD<6.89E+02		LLD<6.89E+02	
XE-135	LLD<3.13E+01		LLD<3.13E+01	
XE-138	LLD<1.02E+02		LLD<1.02E+02	
SE-75	LLD<4.91E+01		LLD<4.91E+01	
NP-239	LLD<2.08E+02		LLD<2.08E+02	
HG-203	LLD<3.79E+01		LLD<3.79E+01	
IR-192	LLD<3.75E+01		LLD<3.75E+01	
CR-51	LLD<3.16E+02		LLD<3.16E+02	
SCM-000	LLD<1.20E+02		LLD<1.20E+02	
BI-211	LLD<4.59E+02		LLD<4.59E+02	
PB-214	LLD<9.18E+01		LLD<9.18E+01	
BA-133	LLD<5.47E+01		LLD<5.47E+01	
I-131	LLD<4.07E+01		LLD<4.07E+01	
SN-113	LLD<5.26E+01		LLD<5.26E+01	
KR-87	LLD<7.01E+01		LLD<7.01E+01	
PB-211	LLD<1.22E+03		LLD<1.22E+03	
AU-198	LLD<3.61E+01		LLD<3.61E+01	
[illegible]-125	LLD<1.17E+02		LLD<1.17E+02	
[illegible]-212	LLD<1.07E+04		LLD<1.07E+04	
[illegible]E-7	LLD<3.80E+02		LLD<3.80E+02	
HF-181	LLD<4.72E+01		LLD<4.72E+01	
RU-103	LLD<4.52E+01		LLD<4.52E+01	
KR-85	LLD<9.41E+03		LLD<9.41E+03	

SR-85	LLD<4.11E+01		LLD<4.11E+01		
I-133	LLD<4.53E+01		LLD<4.53E+01		
BA-140	LLD<1.58E+02		LLD<1.58E+02		
Y-91M	LLD<4.35E+01		LLD<4.35E+01		
I-207	LLD<4.12E+01		LLD<4.12E+01		
TL-208	LLD<7.43E+01		LLD<7.43E+01		
SB-124	LLD<3.96E+01		LLD<3.96E+01		
CS-134	LLD<4.09E+01		LLD<4.09E+01		
BI-214	LLD<8.97E+01		LLD<8.97E+01		
RU-106	LLD<4.15E+02		LLD<4.15E+02		
LA-142	LLD<7.73E+01		LLD<7.73E+01		
AG-110M	LLD<4.23E+01		LLD<4.23E+01		
NB-97	LLD<4.40E+01		LLD<4.40E+01		
CS-137	LLD<4.50E+01		LLD<4.50E+01		
I-132	LLD<4.03E+01		LLD<4.03E+01		
W-187	LLD<1.48E+02		LLD<1.48E+02		
ZR-97	2.03E+02	+- 3.06E+01	2.03E+02	+-	3.06E+01
ZR-95	LLD<8.36E+01		LLD<8.36E+01		
NB-95	5.80E+02	+- 3.97E+01	5.80E+02	+-	3.97E+01
TL-210	LLD<1.11E+02		LLD<1.11E+02		
CO-58	LLD<4.20E+01		LLD<4.20E+01		
CS-136	LLD<3.97E+01		LLD<3.97E+01		
MN-54	LLD<3.93E+01		LLD<3.93E+01		
CO-56	LLD<3.81E+01		LLD<3.81E+01		
I-134	LLD<4.37E+01		LLD<4.37E+01		
TL-207	LLD<1.86E+04		LLD<1.86E+04		
Y-88	LLD<3.76E+01		LLD<3.76E+01		
AC-228	LLD<1.25E+02		LLD<1.25E+02		
EU-152	LLD<2.36E+02		LLD<2.36E+02		
PA-234M	8.83E+03	+- 3.56E+02	8.83E+03	+-	3.56E+02
SR-91	LLD<8.21E+01		LLD<8.21E+01		
RB-89	LLD<5.44E+01		LLD<5.44E+01		
FE-59	LLD<4.72E+01		LLD<4.72E+01		
ZN-65	LLD<4.92E+01		LLD<4.92E+01		
SC-46	LLD<2.70E+01		LLD<2.70E+01		
TA-182	LLD<7.89E+01		LLD<7.89E+01		
I-135	LLD<8.39E+01		LLD<8.39E+01		
CL-39	LLD<4.91E+01		LLD<4.91E+01		
NA-22	LLD<2.45E+01		LLD<2.45E+01		
AR-41	LLD<2.48E+01		LLD<2.48E+01		
CO-60	LLD<2.30E+01		LLD<2.30E+01		
NA-24	LLD<1.96E+01		LLD<1.96E+01		
SR-92	LLD<2.30E+01		LLD<2.30E+01		
SCH-000	LLD<1.12E+02		LLD<1.12E+02		
CS-138	LLD<3.03E+01		LLD<3.03E+01		
K-40	LLD<1.78E+02		LLD<1.78E+02		
KR-88	LLD<1.74E+02		LLD<1.74E+02		
TL-209	LLD<3.74E+01		LLD<3.74E+01		
LA-140	LLD<2.17E+01		LLD<2.17E+01		
AL-26	8.03E+00	+- 5.28E+00	8.03E+00	+-	5.28E+00
MN-56	LLD<4.04E+01		LLD<4.04E+01		
RB-88	LLD<6.89E+01		LLD<6.89E+01		
	---		---		
Total	2.84E+04	+- 1.79E+03	2.84E+04	+-	1.79E+03

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD8888

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
179.16	90.14	1380.	37.3	2.20E+03
190.00	95.55	11786.	8.2	1.66E+04
197.09	99.09	19145.	5.6	2.52E+04
202.83	101.95	3179.	19.3	3.98E+03
222.57	111.81	11213.	4.9	1.22E+04
229.22	115.13	6469.	7.0	6.78E+03
376.01	188.41	1566.	20.2	1.50E+03
379.40	190.10	743.	41.4	7.15E+02
410.90	205.83	869.	32.5	9.08E+02
1572.48	786.10	471.	27.2	1.99E+03
1761.25	880.47	170.	43.9	7.96E+02
1766.21	882.95	190.	42.5	8.93E+02
1892.69	946.18	260.	36.1	1.30E+03
1993.46	996.57	420.	20.1	2.19E+03
2008.42	1004.05	1415.	11.3	7.43E+03
2387.27	1193.53	110.	44.0	6.62E+02
3020.40	1510.35	88.	53.9	6.11E+02
3475.33	1738.13	160.	20.2	1.18E+03
3662.86	1832.05	157.	17.1	1.18E+03
3821.97	1911.75	53.	35.1	4.07E+02
3874.17	1937.90	26.	50.8	2.02E+02

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GAMMA SPECTROSCOPY RESULTS FROM 12/19/95

FOR

ICE MELT

0↕♥♠ Autocal 12/19

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*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 19-DEC-95 10:18:07

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 19-DEC-95 at 08:36:07

COLLECT Live Time: 1200. sec.

hgtrw 19-DEC-95 10:18:07

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.02	39.70	1.6	29106.	5283.	14.7	
2C	91.40	45.39	1.6	24055.	2166.	20.4	
3	171.51	85.41	1.7	35632.	3111.	18.7	
4?	236.64	117.95	1.5	36429.	9239.	60.2	
5?	244.14	121.70	1.5	33939.	183103.	3.1	SE-75,SCL-000, CO-57
6?	482.55	240.83	1.6	13833.	1869.	46.2	RA-224
7?	489.96	244.53	1.6	13244.	35486.	4.5	
8?	496.10	247.60	1.6	12755.	1206.	66.7	
9	592.41	295.74	1.7	10941.	2051.	16.8	PB-214
10?	681.31	340.18	1.7	7789.	4498.	40.8	CS-136
11?	689.01	344.03	1.7	7329.	92209.	2.8	BA-141, SCM-000
12?	694.83	346.94	1.7	6982.	2525.	66.5	
13	735.89	367.46	1.5	7296.	2675.	10.8	
14	822.61	410.82	1.5	7018.	5589.	5.4	AU-198
15	888.37	443.69	1.6	6573.	7644.	4.0	
16C	1128.24	563.64	1.8	5213.	999.	24.3	CS-134,SB-122
17C	1132.56	565.80	1.8	5248.	351.	31.2	
18	1172.75	585.90	1.9	5655.	800.	30.6	
19$	1357.53	678.32	1.9	4205.	580.	34.7	I-134,AG110M
20	1377.41	688.26	1.8	4763.	1294.	17.8	
21	1438.61	718.88	2.4	4459.	601.	35.3	
22?	1550.79	775.00	1.9	3960.	935.	30.3	
23?	1557.79	778.51	1.9	3879.	19419.	3.0	MO-99
24?	1564.03	781.63	1.9	3807.	575.	47.5	
25$	1620.93	810.10	1.7	3104.	497.	56.9	I-132,CO-58
26	1734.65	867.00	2.0	4739.	5251.	5.0	
27C	1838.46	918.95	2.1	2773.	619.	37.7	
28?	1920.35	959.94	2.1	2315.	967.	26.1	
29?	1927.87	963.70	2.1	2250.	18576.	2.7	EU-152
30?	1934.47	967.01	2.1	2192.	531.	44.9	
31	2009.96	1004.79	2.2	1801.	1071.	14.2	
32?	2163.58	1081.69	2.2	1807.	663.	25.6	
33?	2171.32	1085.57	2.2	1757.	12280.	3.3	EU-152
34?	2179.01	1089.42	2.2	1707.	2339.	10.3	
35?	2216.75	1108.31	2.2	1982.	874.	26.5	
36?	2223.75	1111.82	2.2	2189.	15055.	2.6	TE-129,EU-152
37	2425.42	1212.80	2.2	1316.	1337.	10.5	
38$	2548.33	1274.35	2.1	596.	262.	46.6	NA-22
39	2597.85	1299.16	2.3	686.	1431.	8.1	I-133
40?	2807.71	1404.28	2.4	302.	1025.	18.5	
41?	2815.48	1408.17	2.4	424.	18927.	1.8	EU-152,BI-214, SCH-000
42C	2914.81	1457.93	2.3	65.	492.	13.2	I-135
43C	2921.18	1461.12	2.3	58.	248.	21.3	K-40
44	3057.60	1529.48	3.3	65.	503.	10.4	KR-88

Error Quotation at 1.96 sigma

Peak Confidence Level at 95.0%

14 Multiplets processed.

- Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.560226E-07*Ch^2 + 4.995286E-01*Ch +-2.746044E-01

New Calibration Coefficients:

Energy = 2.515461E-07*Ch^2 + 4.994451E-01*Ch + 1.287185E-02

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            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 19-DEC-95 10:37:38

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD1219
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 19-DEC-95 at 10:20:37

COLLECT Live Time: 600. seconds
Real Time: 762. seconds
Dead Time: 21.26 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 19-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 19-DEC-95 10:37:38

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.68	40.31	1.6	14183.	2341.	20.2	
2C	92.16	46.04	1.6	11603.	1123.	26.2	
3	150.90	75.38	2.0	15624.	834.	48.1	PB-214
4$	171.66	85.76	2.8	33385.	1808.	33.9	
5$	176.37	88.11	2.8	35019.	1875.	32.5	PB-214,CD-109
6$	181.26	90.55	2.8	36713.	1517.	34.6	
7?	235.40	117.60	1.6	18667.	4548.	46.5	
8?	244.81	122.30	1.6	15964.	95564.	3.0	SCL-000,CO-57
9?	250.45	125.11	1.6	14345.	2281.	81.1	
10$	480.08	239.84	1.6	7245.	681.	39.2	
11$	490.49	245.05	1.6	6819.	18000.	4.4	
12$	496.38	247.99	1.6	6578.	641.	39.7	
13	592.79	296.17	1.6	4775.	752.	28.7	PB-214
14?	679.39	339.45	1.8	4129.	1800.	39.3	
15?	689.47	344.48	1.8	3829.	46915.	2.4	BA-141, SCM-000
16?	695.50	347.50	1.8	3649.	1257.	53.4	
17	736.35	367.91	2.3	3356.	1632.	12.3	
18	823.05	411.25	1.5	2549.	2751.	6.6	AU-198
19	888.64	444.04	1.7	2949.	3959.	5.3	
20	1128.40	563.91	1.8	3107.	528.	34.6	CS-134,SB-122
21	1172.86	586.14	1.8	2538.	554.	29.4	
22	1377.58	688.52	1.8	2223.	766.	20.3	
23	1557.88	778.70	1.9	2644.	9399.	2.7	MO-99
24	1734.54	867.08	2.1	2166.	2766.	6.5	
25	1838.40	919.04	2.1	1201.	294.	38.2	
26C	1918.78	959.26	2.1	1150.	493.	24.4	
27C	1927.70	963.73	2.1	1152.	9561.	3.4	EU-152
28C	1934.20	966.98	2.1	1153.	235.	51.9	
29	2009.89	1004.86	1.3	1073.	322.	34.8	
30N	2171.02	1085.50	1.9	2245.	4657.	5.9	EU-152
31?	2215.53	1107.78	2.2	987.	387.	37.5	
32?	2223.46	1111.75	2.2	1109.	7816.	3.4	TE-129,EU-152
33	2425.07	1212.68	2.0	710.	631.	15.8	
34	2597.44	1298.99	2.1	319.	792.	10.5	I-133
35C	2804.96	1402.92	2.4	209.	351.	23.2	
36C	2814.89	1407.89	2.4	331.	9485.	2.3	EU-152,BI-214, SCH-000
37	2914.03	1457.55	2.5	108.	334.	15.2	I-135
38	3056.61	1528.97	1.9	56.	233.	17.2	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

9 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

? - Multiplet Analysis converged but GFIT > 4

hgtrw 19-DEC-95 10:37:38

Sample: Eu-152 Standard
Data collected on 19-DEC-95 at 10:20:37
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.91E+01		LLD<2.91E+01	
TH-234	LLD<2.21E+02		LLD<2.21E+02	
TH-230	LLD<1.84E+03		LLD<1.84E+03	
XE-133	LLD<1.30E+01		LLD<1.30E+01	
CD-109	2.58E+02	+- 8.43E+01	2.58E+02	+- 8.43E+01
SCL-000	1.01E+03	+- 3.31E+01	1.01E+03	+- 3.31E+01
CO-57	3.34E+02	+- 1.10E+01	3.34E+02	+- 1.10E+01
PA-234	LLD<9.53E+00		LLD<9.53E+00	
CE-144	LLD<1.66E+01		LLD<1.66E+01	
TC-99M	LLD<1.86E+00		LLD<1.86E+00	
U-235	LLD<1.58E+01		LLD<1.58E+01	
CE-141	LLD<3.62E+00		LLD<3.62E+00	
KR-85M	LLD<2.35E+00		LLD<2.35E+00	
XE-131M	LLD<8.94E+01		LLD<8.94E+01	
BA-139	LLD<1.08E+01		LLD<1.08E+01	
[illegible]E-139	LLD<2.17E+00		LLD<2.17E+00	
[illegible]A-226	LLD<5.27E+01		LLD<5.27E+01	
BA-141	LLD<4.56E+00		LLD<4.56E+00	
KR-89	LLD<2.60E+01		LLD<2.60E+01	
TE-132	LLD<2.20E+00		LLD<2.20E+00	
XE-133M	LLD<1.93E+01		LLD<1.93E+01	
TH-227	LLD<1.38E+01		LLD<1.38E+01	
PB-212	LLD<4.83E+00		LLD<4.83E+00	
RA-224	LLD<9.92E+01		LLD<9.92E+01	
XE-135	LLD<4.49E+00		LLD<4.49E+00	
XE-138	LLD<8.36E+00		LLD<8.36E+00	
SE-75	LLD<3.25E+00		LLD<3.25E+00	
NP-239	LLD<1.38E+01		LLD<1.38E+01	
HG-203	LLD<2.52E+00		LLD<2.52E+00	
IR-192	LLD<2.36E+00		LLD<2.36E+00	
CR-51	LLD<2.07E+01		LLD<2.07E+01	
SCM-000	9.88E+02	+- 2.82E+01	9.88E+02	+- 2.82E+01
BI-211	LLD<1.02E+02		LLD<1.02E+02	
PB-214	LLD<7.31E+00		LLD<7.31E+00	
BA-133	LLD<3.13E+00		LLD<3.13E+00	
I-131	LLD<2.75E+00		LLD<2.75E+00	
SN-113	LLD<3.03E+00		LLD<3.03E+00	
KR-87	LLD<4.23E+00		LLD<4.23E+00	
PB-211	LLD<7.93E+01		LLD<7.93E+01	
AU-198	1.93E+01	+- 1.32E+00	1.93E+01	+- 1.32E+00
SB-125	LLD<6.90E+00		LLD<6.90E+00	
[illegible]I-212	LLD<6.54E+02		LLD<6.54E+02	
BE-7	LLD<2.19E+01		LLD<2.19E+01	
HF-181	LLD<2.80E+00		LLD<2.80E+00	
RU-103	LLD<2.62E+00		LLD<2.62E+00	
KR-85	LLD<5.51E+02		LLD<5.51E+02	

SR-85	LLD<2.41E+00	LLD<2.41E+00
I-133	LLD<2.88E+00	LLD<2.88E+00
BA-140	LLD<1.00E+01	LLD<1.00E+01
[illegible]-91M	LLD<3.07E+00	LLD<3.07E+00
[illegible]-207	LLD<3.18E+00	LLD<3.18E+00
[illegible]-208	LLD<1.11E+01	LLD<1.11E+01
SB-124	LLD<2.94E+00	LLD<2.94E+00
CS-134	LLD<2.89E+00	LLD<2.89E+00
BI-214	LLD<7.24E+00	LLD<7.24E+00
RU-106	LLD<2.77E+01	LLD<2.77E+01
LA-142	LLD<5.85E+00	LLD<5.85E+00
AG-110M	LLD<3.22E+00	LLD<3.22E+00
NB-97	LLD<3.11E+00	LLD<3.11E+00
CS-137	LLD<3.43E+00	LLD<3.43E+00
I-132	LLD<3.20E+00	LLD<3.20E+00
W-187	LLD<1.16E+01	LLD<1.16E+01
ZR-97	LLD<3.39E+00	LLD<3.39E+00
ZR-95	LLD<6.24E+00	LLD<6.24E+00
NB-95	LLD<3.43E+00	LLD<3.43E+00
TL-210	LLD<2.27E+01	LLD<2.27E+01
CO-58	LLD<3.42E+00	LLD<3.42E+00
CS-136	LLD<3.52E+00	LLD<3.52E+00
MN-54	LLD<3.51E+00	LLD<3.51E+00
CO-56	LLD<3.55E+00	LLD<3.55E+00
I-134	LLD<4.32E+00	LLD<4.32E+00
TL-207	LLD<3.16E+03	LLD<3.16E+03
Y-88	LLD<3.96E+00	LLD<3.96E+00
AC-228	LLD<1.21E+01	LLD<1.21E+01
EU-152	1.03E+03 +- 4.23E+01	1.03E+03 +- 4.23E+01
[illegible]-234M	LLD<4.54E+01	LLD<4.54E+01
[illegible]-91	LLD<8.51E+00	LLD<8.51E+00
RB-89	LLD<6.37E+00	LLD<6.37E+00
FE-59	LLD<5.37E+00	LLD<5.37E+00
ZN-65	LLD<1.47E+01	LLD<1.47E+01
SC-46	LLD<3.81E+00	LLD<3.81E+00
TA-182	LLD<9.54E+00	LLD<9.54E+00
I-135	LLD<9.08E+00	LLD<9.08E+00
CL-39	LLD<5.10E+00	LLD<5.10E+00
NA-22	LLD<2.15E+00	LLD<2.15E+00
AR-41	LLD<4.20E+00	LLD<4.20E+00
CO-60	LLD<1.40E+00	LLD<1.40E+00
NA-24	LLD<1.31E+00	LLD<1.31E+00
SR-92	LLD<1.29E+00	LLD<1.29E+00
SCH-000	9.27E+02 +- 3.61E+01	9.27E+02 +- 3.61E+01
CS-138	LLD<1.49E+00	LLD<1.49E+00
K-40	LLD<1.17E+01	LLD<1.17E+01
KR-88	LLD<1.01E+01	LLD<1.01E+01
TL-209	LLD<1.95E+00	LLD<1.95E+00
LA-140	LLD<5.37E-01	LLD<5.37E-01
AL-26	LLD<4.73E-01	LLD<4.73E-01
MN-56	LLD<1.22E+00	LLD<1.22E+00
RB-88	LLD<2.28E+00	LLD<2.28E+00
	---	---
Total	4.56E+03 +- 1.11E+02	4.56E+03 +- 1.11E+02

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD1219

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
80.68	40.31	2341.	20.2	8.60E+03
92.16	46.04	1123.	26.2	2.04E+03
150.90	75.38	834.	48.1	2.12E+02
171.66	85.76	1808.	33.9	3.24E+02
181.26	90.55	1517.	34.6	2.40E+02
235.40	117.60	4548.	46.5	4.65E+02
250.45	125.11	2281.	81.1	2.19E+02
480.08	239.84	681.	39.2	8.98E+01
490.49	245.05	18000.	4.4	2.46E+03
496.38	247.99	641.	39.7	8.85E+01
592.79	296.17	752.	28.7	1.21E+02
679.39	339.45	1800.	39.3	3.27E+02
695.50	347.50	1257.	53.4	2.34E+02
736.35	367.91	1632.	12.3	3.21E+02
888.64	444.04	3959.	5.3	9.39E+02
1128.40	563.91	528.	34.6	1.60E+02
1172.86	586.14	554.	29.4	1.75E+02
1377.58	688.52	766.	20.3	2.84E+02
1557.88	778.70	9399.	2.7	3.93E+03
1734.54	867.08	2766.	6.5	1.28E+03
1838.40	919.04	294.	38.2	1.43E+02
1918.78	959.26	493.	24.4	2.49E+02
1934.20	966.98	235.	51.9	1.20E+02
2009.89	1004.86	322.	34.8	1.69E+02
2215.53	1107.78	387.	37.5	2.20E+02
2425.07	1212.68	631.	15.8	3.83E+02
2597.44	1298.99	792.	10.5	5.04E+02
2804.96	1402.92	351.	23.2	2.34E+02
2914.03	1457.55	334.	15.2	2.27E+02
3056.61	1528.97	233.	17.2	1.63E+02

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Ice Melter Salt

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*            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 19-DEC-95 11:00:27

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0100
Measured by: dlv

Sample Description: Icemelter
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.8600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 19-DEC-95 at 10:38:51

COLLECT Live Time: 600. seconds
Real Time: 603. seconds
Dead Time: 0.50 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 19-DEC-95
Efficiency Calibration performed 21-NOV-95

hgtrw 19-DEC-95 11:00:27

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	2920.34	1460.71	2.4	4.	1000.	6.4	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

1 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 19-DEC-95 11:00:27

Sample: Icemelter
Data collected on 19-DEC-95 at 10:38:51
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.72E+00		LLD<4.72E+00	
TH-234	LLD<3.41E+01		LLD<3.41E+01	
TH-230	LLD<2.97E+02		LLD<2.97E+02	
XE-133	LLD<1.90E+00		LLD<1.90E+00	
CD-109	LLD<1.45E+01		LLD<1.45E+01	
SCL-000	LLD<1.15E+00		LLD<1.15E+00	
CO-57	LLD<3.70E-01		LLD<3.70E-01	
PA-234	LLD<1.43E+00		LLD<1.43E+00	
CE-144	LLD<2.57E+00		LLD<2.57E+00	
TC-99M	LLD<2.68E-01		LLD<2.68E-01	
U-235	LLD<2.41E+00		LLD<2.41E+00	
CE-141	LLD<5.42E-01		LLD<5.42E-01	
KR-85M	LLD<3.46E-01		LLD<3.46E-01	
XE-131M	LLD<1.26E+01		LLD<1.26E+01	
BA-139	LLD<1.55E+00		LLD<1.55E+00	
[illegible]E-139	LLD<3.14E-01		LLD<3.14E-01	
[illegible]A-226	LLD<7.39E+00		LLD<7.39E+00	
BA-141	LLD<5.43E-01		LLD<5.43E-01	
KR-89	LLD<3.25E+00		LLD<3.25E+00	
TE-132	LLD<3.71E-01		LLD<3.71E-01	
XE-133M	LLD<2.99E+00		LLD<2.99E+00	
TH-227	LLD<2.21E+00		LLD<2.21E+00	
PB-212	LLD<7.15E-01		LLD<7.15E-01	
RA-224	LLD<7.90E+00		LLD<7.90E+00	
XE-135	LLD<3.29E-01		LLD<3.29E-01	
XE-138	LLD<1.14E+00		LLD<1.14E+00	
SE-75	LLD<5.00E-01		LLD<5.00E-01	
NP-239	LLD<2.21E+00		LLD<2.21E+00	
HG-203	LLD<4.43E-01		LLD<4.43E-01	
IR-192	LLD<3.13E-01		LLD<3.13E-01	
CR-51	LLD<3.04E+00		LLD<3.04E+00	
SCM-000	LLD<1.36E+00		LLD<1.36E+00	
BI-211	LLD<8.88E+00		LLD<8.88E+00	
PB-214	LLD<1.03E+00		LLD<1.03E+00	
BA-133	LLD<5.84E-01		LLD<5.84E-01	
I-131	LLD<4.42E-01		LLD<4.42E-01	
SN-113	LLD<5.22E-01		LLD<5.22E-01	
KR-87	LLD<8.08E-01		LLD<8.08E-01	
PB-211	LLD<1.37E+01		LLD<1.37E+01	
AU-198	LLD<4.09E-01		LLD<4.09E-01	
[illegible]B-125	LLD<1.32E+00		LLD<1.32E+00	
[illegible]I-212	LLD<1.04E+02		LLD<1.04E+02	
BE-7	LLD<3.54E+00		LLD<3.54E+00	
HF-181	LLD<4.89E-01		LLD<4.89E-01	
RU-103	LLD<3.88E-01		LLD<3.88E-01	
KR-85	LLD<9.67E+01		LLD<9.67E+01	

SR-85	LLD<4.23E-01	LLD<4.23E-01
I-133	LLD<4.67E-01	LLD<4.67E-01
BA-140	LLD<1.62E+00	LLD<1.62E+00
[illegible] 91M	LLD<5.06E-01	LLD<5.06E-01
[illegible]-207	LLD<4.42E-01	LLD<4.42E-01
[illegible]L-208	LLD<1.36E+00	LLD<1.36E+00
SB-124	LLD<5.93E-01	LLD<5.93E-01
CS-134	LLD<4.88E-01	LLD<4.88E-01
BI-214	LLD<1.21E+00	LLD<1.21E+00
RU-106	LLD<5.11E+00	LLD<5.11E+00
LA-142	LLD<8.78E-01	LLD<8.78E-01
AG-110M	LLD<6.06E-01	LLD<6.06E-01
NB-97	LLD<5.87E-01	LLD<5.87E-01
CS-137	LLD<5.10E-01	LLD<5.10E-01
I-132	LLD<5.27E-01	LLD<5.27E-01
W-187	LLD<2.07E+00	LLD<2.07E+00
ZR-97	LLD<5.76E-01	LLD<5.76E-01
ZR-95	LLD<1.10E+00	LLD<1.10E+00
NB-95	LLD<6.30E-01	LLD<6.30E-01
TL-210	LLD<3.76E+00	LLD<3.76E+00
CO-58	LLD<6.92E-01	LLD<6.92E-01
CS-136	LLD<6.00E-01	LLD<6.00E-01
MN-54	LLD<7.43E-01	LLD<7.43E-01
CO-56	LLD<6.38E-01	LLD<6.38E-01
I-134	LLD<7.69E-01	LLD<7.69E-01
TL-207	LLD<5.67E+02	LLD<5.67E+02
Y-88	LLD<7.34E-01	LLD<7.34E-01
AC-228	LLD<2.53E+00	LLD<2.53E+00
EU-152	LLD<5.99E+00	LLD<5.99E+00
[illegible]-234M	LLD<7.42E+00	LLD<7.42E+00
[illegible]-91	LLD<2.55E+00	LLD<2.55E+00
RB-89	LLD<1.75E+00	LLD<1.75E+00
FE-59	LLD<2.17E+00	LLD<2.17E+00
ZN-65	LLD<2.38E+00	LLD<2.38E+00
SC-46	LLD<1.17E+00	LLD<1.17E+00
TA-182	LLD<3.25E+00	LLD<3.25E+00
I-135	LLD<4.02E+00	LLD<4.02E+00
CL-39	LLD<2.17E+00	LLD<2.17E+00
NA-22	LLD<1.04E+00	LLD<1.04E+00
AR-41	LLD<9.34E-01	LLD<9.34E-01
CO-60	LLD<9.85E-01	LLD<9.85E-01
NA-24	LLD<5.67E-01	LLD<5.67E-01
SR-92	LLD<5.10E-01	LLD<5.10E-01
SCH-000	LLD<2.06E+00	LLD<2.06E+00
CS-138	LLD<7.75E-01	LLD<7.75E-01
K-40	2.52E+02 +- 1.84E+01	2.52E+02 +- 1.84E+01
KR-88	LLD<6.97E-01	LLD<6.97E-01
TL-209	LLD<2.50E-01	LLD<2.50E-01
LA-140	LLD<2.16E-01	LLD<2.16E-01
AL-26	LLD<8.00E-02	LLD<8.00E-02
MN-56	LLD<3.00E-01	LLD<3.00E-01
RB-88	LLD<1.23E+00	LLD<1.23E+00
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Total	2.52E+02 +- 1.84E+01	2.52E+02 +- 1.84E+01

Error Quotation at 1.96 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0100

ALL PEAKS USED IN ANALYSIS

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GAMMA SPECTROSCOPY RESULTS FROM 12/20/95

FOR

CELL 45(SOIL UNDER SORTING TABLE)

0:♥♠ Autocal 12/20

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*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 20-DEC-95 12:55:39

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 20-DEC-95 at 12:29:52

COLLECT Live Time: 1200. sec.

hgtrw 20-DEC-95 12:55:39

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.21	40.07	1.7	30974.	5408.	14.6	
2C	91.67	45.80	1.7	25381.	2384.	20.4	
3$	170.85	85.35	2.9	74542.	3508.	33.2	
4$	177.51	88.68	2.9	79651.	3349.	33.6	CD-109
5?	234.11	116.95	1.6	36135.	8249.	56.0	
6?	244.45	122.12	1.6	33382.	187997.	2.6	SCL-000,CO-57
7?	479.66	239.63	1.6	14339.	1582.	36.4	
8?	490.30	244.95	1.6	13536.	35883.	3.6	
9?	496.30	247.95	1.6	13083.	1356.	40.2	
10	592.72	296.13	1.5	9237.	1893.	16.0	PB-214
11?	679.12	339.31	1.7	7702.	3708.	38.3	
12?	689.36	344.43	1.7	7212.	93201.	2.2	BA-141, SCM-000
13?	695.33	347.41	1.7	6927.	2745.	49.7	
14	736.31	367.89	1.8	6462.	2873.	9.4	
15C	823.05	411.25	1.6	5308.	5837.	7.4	AU-198
16	888.66	444.05	1.6	5353.	7682.	3.6	
17	978.16	488.79	1.7	4911.	952.	23.1	
18C	1128.74	564.08	1.5	4170.	715.	30.9	CS-134,SB-122
19	1173.25	586.33	1.7	5236.	878.	26.4	
20	1358.11	678.78	1.8	3826.	609.	30.9	
21	1377.84	688.65	1.6	5161.	1354.	18.0	
22?	1548.00	773.76	2.0	4430.	534.	41.9	W-187,TE131M
23?	1558.22	778.87	2.0	4526.	19236.	2.6	MO-99
24	1621.44	810.49	2.0	3697.	680.	29.4	I-132,CO-58
25	1735.16	867.39	2.0	4783.	5155.	5.1	
26	1838.76	919.22	2.0	2917.	505.	35.9	
27?	1918.55	959.15	2.1	2473.	778.	26.6	
28?	1928.34	964.05	2.1	2637.	18509.	2.3	EU-152
29	2010.43	1005.13	2.0	1818.	909.	16.3	
30C	2171.74	1085.86	1.9	4527.	9639.	2.9	EU-152
31?	2214.87	1107.45	2.2	1974.	644.	31.3	
32?	2224.23	1112.14	2.2	2169.	15311.	2.5	TE-129,EU-152
33	2426.09	1213.19	2.3	1442.	1384.	10.7	
34C	2549.10	1274.78	1.8	642.	332.	27.1	NA-22
35	2598.29	1299.41	2.2	576.	1469.	7.5	
36?	2805.84	1403.35	2.4	444.	759.	19.3	
37?	2816.02	1408.45	2.4	757.	18656.	1.7	EU-152,BI-214, SCH-000
38C	2915.25	1458.16	2.2	104.	420.	13.1	I-135
39C	2921.50	1461.29	2.2	87.	269.	16.7	K-40
40	3058.68	1530.01	3.1	56.	550.	9.6	KR-88

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

12 Multiplets processed.

C - Multiplet Analysis converged normally

? [illegible] Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged [illegible]

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.515461E-07*Ch^2 + 4.994451E-01*Ch + 1.287185E-02

New Calibration Coefficients:

Energy = 2.592328E-07*Ch^2 + 4.993793E-01*Ch +-1.243149E-01

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*              G A M M A   S P E C T R U M   A N A L Y S I S          *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 20-DEC-95 13:41:25

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD1220
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 20-DEC-95 at 12:58:03

COLLECT Live Time: 600. seconds
Real Time: 756. seconds
Dead Time: 20.63 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 20-DEC-95
Efficiency Calibration performed 21 NOV 95

hgtrw 20-DEC-95 13:41:25

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.03	39.84	1.6	14773.	2516.	20.7	
2C	91.57	45.61	1.6	12328.	997.	30.2	
3C	169.07	84.31	2.3	26777.	1020.	39.5	
4C	174.44	87.00	2.3	29176.	1149.	38.2	PB-214
5?	233.60	116.55	1.6	18635.	4112.	53.3	
6?	244.11	121.79	1.6	16083.	92373.	4.2	SE-75,SCL-000, CO-57
7?	248.12	123.80	1.6	15107.	4103.	80.1	
8?	479.11	239.19	1.6	7366.	631.	50.5	PB-212
9?	489.94	244.60	1.6	7417.	17606.	3.4	
10	592.54	295.87	1.6	5406.	990.	24.4	PB-214
11?	678.01	338.58	1.8	3999.	1915.	41.4	AC-228
12?	688.99	344.07	1.8	3758.	45953.	3.1	BA-141. SCM-000
13?	693.73	346.44	1.8	3655.	1785.	59.8	
14	735.90	367.51	1.9	3500.	1456.	13.9	
15	822.58	410.83	1.8	3190.	2832.	7.2	AU-198
16	888.39	443.72	1.8	2787.	3929.	5.2	
17	977.55	488.29	1.9	2697.	410.	40.4	
18$	1128.09	563.55	1.7	2511.	466.	43.3	CS-134.SB 122
19	1172.77	585.89	2.0	2689.	490.	34.8	
20	1357.83	678.43	1.2	2595.	269.	62.8	AG110M
21	1377.58	688.30	1.9	2097.	732.	20.7	
22C	1547.07	773.07	2.0	2267.	266.	44.2	I-132,W-187, TE131M
23C	1557.78	778.43	2.0	2287.	9529.	3.6	MO-99
24	1620.65	809.87	1.9	2046.	372.	40.8	I-132,CO-58
25	1734.55	866.85	1.9	2095.	2723.	6.5	
26C	1916.74	958.01	2.2	1357.	352.	26.0	
27C	1927.84	963.56	2.2	1501.	9127.	3.1	EU-152
28	2009.77	1004.56	2.2	969.	494.	22.3	
29C	2160.38	1079.93	2.3	907.	312.	32.2	
30C	2171.24	1085.37	2.3	895.	6324.	4.3	EU-152
31C	2179.05	1089.28	2.3	887.	1155.	13.0	
32?	2214.42	1106.98	2.3	1025.	344.	38.3	
33?	2223.71	1111.63	2.3	1169.	7736.	3.5	TE-129,EU-152
34	2425.37	1212.58	2.3	499.	663.	12.9	
35	2597.90	1298.97	2.2	280.	740.	10.3	I-133
36C	2804.71	1402.53	2.5	98.	402.	20.3	
37C	2815.39	1407.88	2.5	79.	9368.	2.4	EU-152,BI-214, SCH-000
38C	2822.63	1411.50	2.5	66.	266.	34.3	
39	2914.34	1457.44	1.6	108.	277.	17.6	I-135
40	3058.53	1529.67	4.3	42.	245.	15.5	KR-88
41	3285.17	1643.22	1.6	11.	11.	117.4	CL-38

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

11 Multiplets processed.

C - Multiplet Analysis converged normally
[illegible] Terminated because of no CHI-SQ improvement
- Multiplet Analysis converged but CHI [illegible]

hgtrw 20-DEC-95 13:41:25

Sample: Eu-152 Standard
Data collected on 20-DEC-95 at 12:58:03
Decayed to 0. days, 0.0000 hours BEFORE [illegible]

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /cm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<2.86E+01		LLD<2.86E+01	
TH-234	LLD<2.20E+02		LLD<2.20E+02	
TH-230	LLD<1.83E+03		LLD<1.83E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	LLD<1.11E+02		LLD<1.11E+02	
SCL-000	9.74E+02	+- 4.32E+01	9.74E+02	+- 4.32E+01
[illegible]	[illegible]E+02	+- 1.43E+01	3.23E+02	+- 1.43E+01
PA-234	LLD<9.45E+00		LLD<9.45E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.94E+00		LLD<1.94E+00	
U-235	LLD<1.58E+01		LLD<1.58E+01	
CE-141	LLD<3.60E+00		LLD<3.60E+00	
[illegible]5M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.87E+01		LLD<8.87E+01	
LA-139	LLD<1.07E+01		LLD<1.07E+01	
[illegible]-139	LLD<2.15E+00		LLD<2.15E+00	
RA-226	LLD<5.34E+01		LLD<5.34E+01	
BA-141	LLD<4.54E+00		LLD<4.54E+00	
SR-89	LLD<2.74E+01		LLD<2.74E+01	
TE-132	LLD<2.18E+00		LLD<2.18E+00	
[illegible]M	LLD<1.79E+01		LLD<1.79E+01	
TH-227	LLD<1.36E+01		LLD<1.36E+01	
PB-212	5.63E+00	+- 2.85E+00	5.63E+00	+- 2.85E+00
RA-224	LLD<9.70E+01		LLD<9.70E+01	
XE-135	LLD<4.00E+00		LLD<4.00E+00	
XE-138	LLD<8.39E+00		LLD<8.39E+00	
SE-75	LLD<3.24E+00		LLD<3.24E+00	
NP-239	LLD<1.37E+01		LLD<1.37E+01	
HG-203	LLD<2.36E+00		LLD<2.36E+00	
IR-192	LLD<2.37E+00		LLD<2.37E+00	
CR-51	LLD<2.07E+01		LLD<2.07E+01	
SCM-000	9.68E+02	+- 3.33E+01	9.68E+02	+- 3.33E+01
BI-211	LLD<9.65E+01		LLD<9.65E+01	
PB-214	LLD<7.21E+00		LLD<7.21E+00	
BA-133	LLD<3.16E+00		LLD<3.16E+00	
I-131	LLD<2.74E+00		LLD<2.74E+00	
SN-113	LLD<3.01E+00		LLD<3.01E+00	
KR-87	LLD<4.57E+00		LLD<4.57E+00	
PB-211	LLD<8.15E+01		LLD<8.15E+01	
AU-198	1.98E+01	+- 1.48E+00	1.98E+01	+- 1.48E+00
[illegible]-125	LLD<6.91E+00		LLD<6.91E+00	
[illegible]-212	LLD<6.62E+02		LLD<6.62E+02	
BE-7	LLD<2.22E+01		LLD<2.22E+01	
HF-181	LLD<2.91E+00		LLD<2.91E+00	
HG-203	LLD<2.66E+00		LLD<2.66E+00	
KR-85	LLD<5.87E+02		LLD<5.87E+02	

SR-85	LLD<2.57E+00		LLD<2.57E+00		
I-133	LLD<2.93E+00		LLD<2.93E+00		
BA-140	LLD<1.03E+01		LLD<1.03E+01		
[illegible] 91M	LLD<3.33E+00		LLD<3.33E+00		
[illegible]-207	LLD<2.92E+00		LLD<2.92E+00		
[illegible]-208	LLD<1.02E+01		LLD<1.02E+01		
[illegible]-124	LLD<2.70E+00		LLD<2.70E+00		
CS-134	LLD<2.71E+00		LLD<2.71E+00		
[illegible]-214	LLD<7.24E+00		LLD<7.24E+00		
RU-106	LLD<2.77E+01		LLD<2.77E+01		
[illegible]	LLD<5.44E+00		LLD<5.44E+00		
AG-110M	LLD<2.99E+00		LLD<2.99E+00		
NB-97	LLD<3.23E+00		LLD<3.23E+00		
CS-137	LLD<3.20E+00		LLD<3.20E-00		
[illegible]	LLD<2.99E+00		LLD<2.99E+00		
W-187	LLD<1.06E+01		LLD<1.06E+01		
[illegible]	LLD<3.44E+00		LLD<3.44E+00		
ZR-95	LLD<5.86E+00		LLD<5.86E+00		
NB-95	LLD<3.37E+00		LLD<3.37E+00		
TL-210	LLD<2.23E+01		LLD<2.23E+01		
CO-58	4.95E+00	+- 2.02E+00	4.95E+00	+-	2.02E+00
CS-136	LLD<3.29E+00		LLD<3.29E+00		
MN-54	LLD<3.43E+00		LLD<3.43E+00		
CO-56	LLD<3.73E+00		LLD<3.73E+00		
I-134	LLD<3.97E+00		LLD<3.97E+00		
TL-207	LLD<3.28E+03		LLD<3.28E+03		
I-[illegible]	LLD<3.68E+00		LLD<3.68E+00		
AC-228	LLD<1.15E+01		LLD<1.15E+01		
EU-152	9.79E+02	+- 3.87E+01	9.79E+02	+-	3.87E+01
[illegible]-234M	LLD<4.58E+01		LLD<4.58E+01		
[illegible]	LLD<9.02E+00		LLD<9.02E+00		
RB-89	LLD<6.42E+00		LLD<6.42E+00		
FE-59	LLD<5.72E+00		LLD<5.72E+00		
ZN-65	LLD<1.63E+01		LLD<1.63E+01		
[illegible]	LLD<3.45E+00		LLD<3.45E+00		
TA-182	LLD<1.02E+01		LLD<1.02E+01		
[illegible]	LLD<8.57E+00		LLD<8.57E+00		
CL-39	LLD<5.42E+00		LLD<5.42E+00		
[illegible]	LLD<2.03E+00		LLD<2.03E+00		
AR-41	LLD<3.99E+00		LLD<3.99E+00		
[illegible]	LLD<1.45E+00		LLD<1.45E+00		
NA-24	LLD<1.26E+00		LLD<1.26E+00		
[illegible]	LLD<1.41E+00		LLD<1.41E+00		
SCH-000	9.15E+02	+- 3.61E+01	9.15E+02	+-	3.61E+01
[illegible]	LLD<1.19E+00		LLD<1.19E+00		
K-40	LLD<1.08E+01		LLD<1.08E+01		
[illegible]	LLD<8.30E+00		LLD<8.30E+00		
TL-209	LLD<1.49E+00		LLD<1.49E+00		
[illegible]	LLD<6.38E-01		LLD<6.38E-01		
AL-26	LLD<2.12E-01		LLD<2.12E-01		
[illegible]	LLD<1.31E+00		LLD<1.31E+00		
RB-88	LLD<1.72E+00		LLD<1.72E+00		
	---		---		
Total	4.19E+03	+- 7.74E+01	4.19E+03	+-	7.74E+01

Error Quotation at 1.96 Sigma
[illegible] Confidence Level at 95.0%

Results saved in File SD1220

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gamma [illegible]
80.03	39.84	2516.	20.7	9.87E+03
91.57	45.61	997.	30.2	1.90E+03
169.07	84.31	1020.	39.5	1.91E+02
174.44	87.00	1149.	38.2	1.99E+02
233.60	116.55	4112.	53.3	4.25E+02
248.12	123.80	4103.	80.1	3.98E+02
489.94	244.60	17606.	3.4	2.41E+03
592.54	295.87	990.	24.4	1.59E+02
678.01	338.58	1915.	41.4	3.47E+02
693.73	346.44	1785.	59.8	3.31E+02
735.90	367.51	1456.	13.9	2.86E+02
888.39	443.72	3929.	5.2	9.31E+02
977.55	488.29	410.	40.4	1.07E+02
1128.09	563.55	466.	43.3	1.41E+02
1172.77	585.89	490.	34.8	1.54E+02
1357.83	678.43	269.	62.8	9.83E+01
1377.58	688.30	732.	20.7	2.72E+02
1547.07	773.07	266.	44.2	1.11E+02
1557.78	778.43	9529.	3.6	3.98E+03
1734.55	866.85	2723.	6.5	1.26E+03
1916.74	958.01	352.	26.0	1.78E+02
2009.77	1004.56	494.	22.3	2.60E+02
2160.38	1079.93	312.	32.2	1.74E+02
2179.05	1089.28	1155.	13.0	6.48E+02
2214.42	1106.98	344.	38.3	1.96E+02
2425.37	1212.58	663.	12.9	4.03E+02
2597.90	1298.97	740.	10.3	4.71E+02
2804.71	1402.53	402.	20.3	2.68E+02
2822.63	1411.50	266.	34.3	1.78E+02
2914.34	1457.44	277.	17.6	1.88E+02
3058.53	1529.67	245.	15.5	1.71E+02
3285.17	1643.22	11.	117.4	7.67E+00

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C-45 soil from under screen

0↕♥♠

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 20-DEC-95 14:05:02

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.00
Multiplet Sensitivity: 3
Identification Energy Window: ± 1.00 keV.
Error Quotation: 1.96 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0101
Measured by: dlv

Sample Description: C-45 screened soil
Container Description: Capsule Type Marinelli Beaker
Sample Size: 6.1900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 20-DEC-95 at 13:50:14

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 20-DEC-95
Efficiency Calibration performed 21 NOV 95

hgtrw 20-DEC-95 14:05:02

P E A K A N A L Y S I S

[illegible]	[illegible] channel	[illegible] keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.77	238.52	1.8	55.	103.	30.0	PB-212
2C	591.21	295.21	1.6	32.	27.	75.7	PB-214
3	704.64	351.88	1.5	19.	51.	37.0	BI-211,PB-214
4	1219.25	609.13	2.3	6.	29.	45.3	BI-214
5	1323.80	661.41	1.0	10.	15.	81.7	CS-137
6	2920.92	1460.73	1.1	2.	73.	23.9	K-40

Error Quotation at 1.96 sigma
Peak Confidence Level at 95.0%

C Multiplet Analysis converged normally

hgtrw 20-DEC-95 14:05:02

Sample: C-45 screened soil
Data collected on 20-DEC-95 at 13:50:14
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.58E+00		LLD<3.58E+00	
TH-234	LLD<2.70E+01		LLD<2.70E+01	
TH-230	LLD<2.50E+02		LLD<2.50E+02	
AG-108	LLD<1.70E+00		LLD<1.70E+00	
CD-109	LLD<1.19E+01		LLD<1.19E+01	
SOL-000	LLD<6.83E-01		LLD<6.83E-01	
CO-57	LLD<2.27E-01		LLD<2.27E-01	
[illegible]	LLD<9.48E-01		LLD<9.48E-01	
CE-144	LLD<1.75E+00		LLD<1.75E+00	
TC-99M	LLD<2.18E-01		LLD<2.18E-01	
U-235	LLD<1.72E+00		LLD<1.72E+00	
CE-141	LLD<3.77E-01		LLD<3.77E-01	
KR-85M	LLD<2.52E-01		LLD<2.52E-01	
AG-110M	LLD<8.80E+00		LLD<8.80E+00	
BA-139	LLD<9.04E-01		LLD<9.04E-01	
[illegible]	LLD<1.84E-01		LLD<1.84E-01	
RA-226	LLD<5.62E+00		LLD<5.62E+00	
BA-140	LLD<5.48E-01		LLD<5.48E-01	
KR-89	LLD<2.19E+00		LLD<2.19E+00	
I-132	LLD<2.16E-01		LLD<2.16E-01	
XE-133M	LLD<2.15E+00		LLD<2.15E+00	
TH-228	LLD<1.98E+00		LLD<1.98E+00	
PB-212	1.31E+00	+- 3.97E-01	1.31E+00	+- 3.97E-01
RA-224	LLD<7.46E+00		LLD<7.46E+00	
XE-135	LLD<2.01E-01		LLD<2.01E-01	
AG-108	LLD<6.73E-01		LLD<6.73E-01	
SE-75	LLD<3.37E-01		LLD<3.37E-01	
[illegible]	LLD<1.69E+00		LLD<1.69E+00	
HG-203	LLD<2.92E-01		LLD<2.92E-01	
IR-192	LLD<2.85E-01		LLD<2.85E-01	
CR-51	LLD<2.53E+00		LLD<2.53E+00	
SOM-000	LLD<1.11E+00		LLD<1.11E+00	
BI-211	1.10E+01	+- 4.07E+00	1.10E+01	+- 4.07E+00
[illegible]	[illegible]E+00	+- 4.76E-01	1.29E+00	+- 4.76E-01
BA-133	LLD<7.54E-01		LLD<7.54E-01	
[illegible]	LLD<2.92E-01		LLD<2.92E-01	
SN-113	LLD<3.49E-01		LLD<3.49E-01	
[illegible]	LLD<5.95E-01		LLD<5.95E-01	
PB-211	LLD<9.24E+00		LLD<9.24E+00	
[illegible]	LLD<2.88E-01		LLD<2.88E-01	
SB-125	LLD<8.54E-01		LLD<8.54E-01	
[illegible]	LLD<7.22E+01		LLD<7.22E+01	
BE-7	LLD<2.57E+00		LLD<2.57E+00	
HF-181	LLD<3.73E-01		LLD<3.73E-01	
RU-103	LLD<2.96E-01		LLD<2.96E-01	
KR-85	LLD<8.20E+01		LLD<8.20E+01	

SR-85	LLD<3.59E-01		LLD<3.59E-01		
I-133	LLD<3.35E-01		LLD<3.35E-01		
[illegible] 140	LLD<1.32E+00		LLD<1.32E+00		
[illegible]91M	LLD<2.88E-01		LLD<2.88E-01		
[illegible] 207	LLD<3.09E-01		LLD<3.09E-01		
TL-208	LLD<1.32E+00		LLD<1.32E+00		
[illegible]-124	LLD<3.05E-01		LLD<3.05E-01		
CS-134	LLD<4.45E-01		LLD<4.45E-01		
[illegible]	[illegible]E+00	+- 4.91E-01	1.08E+00	+-	4.91E-01
RU-106	LLD<3.44E+00		LLD<3.44E+00		
[illegible]	LLD<4.67E-01		LLD<4.67E-01		
AG-110M	LLD<4.88E [illegible]		LLD<[illegible]		
NB-97	LLD<4.87E-01		LLD<4.87E-01		
CS-137	2.68E-01	+- 2.19E-01	2.68E-01	+-	2.19E-01
I-132	LLD<2.97E-01		LLD<2.97E-01		
W-187	LLD<1.04E+00		LLD<1.04E+00		
ZR-97	LLD<3.72E-01		LLD<3.72E-01		
ZR-95	LLD<5.62E-01		LLD<5.62E-01		
NB-95	LLD<3.15E-01		LLD<3.15E-01		
TL-210	LLD<1.53E+00		LLD<1.53E+00		
[illegible]	LLD<2.51E-01		LLD<2.51E-01		
CS-136	LLD<4.17E-01		LLD<4.17E-01		
MN-54	LLD<3.70E-01		LLD<3.70E-01		
CO-56	LLD<3.26E-01		LLD<3.26E-01		
I-131	LLD<3.52E-01		LLD<3.52E-01		
TL-207	LLD<3.32E+02		LLD<3.32E+02		
[illegible]	LLD<4.73E-01		LLD<4.73E-01		
AC-228	LLD<1.73E+00		LLD<1.73E+00		
[illegible]	LLD<3.91E+00		LLD<3.91E+00		
[illegible]234M	LLD<5.03E+00		LLD<5.03E+00		
[illegible]	LLD<1.09E+00		LLD<1.09E+00		
RB-89	LLD<6.71E-01		LLD<6.71E-01		
[illegible]	LLD<7.76E-01		LLD<7.76E-01		
ZN-65	LLD<1.17E+00		LLD<1.17E+00		
SC-46	LLD<4.12E-01		LLD<4.12E-01		
TA-182	LLD<1.37E+00		LLD<1.37E+00		
I-135	LLD<1.47E+00		LLD<1.47E+00		
CL-39	LLD<7.15E-01		LLD<7.15E-01		
NA-22	LLD<3.60E-01		LLD<3.60E-01		
AR-41	LLD<4.06E-01		LLD<4.06E-01		
CO-60	LLD<4.81E-01		LLD<4.81E-01		
NA-24	LLD<4.05E-01		LLD<4.05E-01		
SR-92	LLD<5.83E-01		LLD<5.83E-01		
SCH-000	LLD<1.56E+00		LLD<1.56E+00		
CS-138	LLD<4.17E-01		LLD<4.17E-01		
K-40	2.04E+01	+- 4.92E+00	2.04E+01	+-	4.92E+00
FR-88	LLD<3.60E+00		LLD<3.60E+00		
TL-209	LLD<2.76E-01		LLD<2.76E-01		
LA-140	LLD<3.03E-01		LLD<3.03E-01		
AL-26	LLD<2.41E-01		LLD<2.41E-01		
MN-56	LLD<9.04E-01		LLD<9.04E-01		
RB-88	LLD<2.55E+00		LLD<2.55E+00		
	---		---		
Total	3.53E+01	+- 6.44E+00	3.53E+01	+-	6.44E+00

Error Quotation at 1.96 Sigma
[illegible] Confidence Level at 95.0%

Results saved in File SD0101

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gamma/sec
591.21	295.21	27.	75.7	4.40E+00

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GAMMA SPECTROSCOPY RESULTS FROM 1/22/96

FOR

IT CORP VAN AND BREAK TRAILER

0↕♥♠ Daily Autocal 1/22

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*                                                                     *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 22-JAN-96 09:59:58

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 22-JAN-96 at 08:59:44

COLLECT Live Time: 1059. sec.

hgtrw 22-JAN-96 09:59:58

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.76	39.71	1.6	26176.	4188.	8.6	
2C	91.26	45.45	1.6	21208.	2050.	11.8	
3$	150.15	74.87	1.2	23159.	1046.	22.6	PB-214
4C	169.22	84.39	2.8	59585.	3480.	10.3	
5C	174.55	87.05	2.8	63661.	3459.	10.4	PB-214,CD-109
6C	180.93	90.24	2.8	68535.	2332.	12.1	
7?	236.38	117.93	1.6	31938.	8881.	25.5	
8?	243.90	121.69	1.6	27841.	161970.	1.9	SE-75,SCL-000, CO-57
9?	248.82	124.15	1.6	25163.	4716.	45.6	
10?	483.15	241.21	1.6	12240.	1421.	28.4	RA-224,PB-214
11?	489.71	244.49	1.6	11777.	31055.	2.1	
12?	495.17	247.22	1.6	11391.	1240.	32.2	
13	592.10	295.65	1.5	7480.	1532.	8.8	PB-214
14	659.05	329.11	1.9	6331.	596.	20.4	LA-140
15?	680.45	339.80	1.7	7905.	3466.	20.1	CS-136
16?	688.75	343.95	1.7	8761.	79461.	1.0	BA-141, SCM-000
17	735.63	367.38	1.6	5727.	2617.	5.0	
18	822.39	410.74	1.6	6133.	4966.	2.9	
[illegible]	888.05	443.55	1.7	6009.	6833.	2.2	
[illegible]	977.34	488.19	1.8	4260.	918.	11.4	TE-129
21	1127.85	563.43	1.9	5700.	1123.	11.5	CS-134,SB-122
22	1172.61	585.81	1.6	4114.	873.	11.8	
23	1357.31	678.17	1.3	4474.	310.	35.4	I-134,AG110M
24	1377.37	688.20	2.0	3885.	1050.	9.9	
25C	1438.34	718.69	2.0	4171.	569.	20.0	
26C	1446.19	722.62	2.0	4115.	402.	21.4	SB-124,I-131
27?	1549.37	774.22	2.0	3915.	692.	19.4	TE131M
28?	1557.45	778.26	2.0	3926.	17250.	1.4	MO-99
29	1620.58	809.84	2.0	3601.	475.	21.4	I-132,CO-58
30	1734.34	866.75	1.9	4104.	4812.	2.6	
31C	1838.00	918.61	1.8	2014.	440.	16.4	
32	1851.90	925.56	1.3	1786.	231.	28.3	
33?	1920.11	959.70	2.1	2296.	719.	14.0	
34?	1927.54	963.41	2.1	2405.	16266.	1.2	EU-152
35	2009.70	1004.53	2.2	1723.	973.	7.9	
36?	2170.91	1085.20	1.9	4204.	8530.	1.6	EU-152
37?	2216.12	1107.83	2.2	1681.	816.	12.6	
38?	2223.42	1111.49	2.2	1914.	13373.	1.3	TE-129,EU-152
39	2425.07	1212.43	2.3	1164.	1293.	5.3	
40	2548.20	1274.08	1.9	658.	267.	17.7	NA-22
41	2597.44	1298.73	2.0	566.	1238.	4.4	I-133
42C	2807.26	1403.80	2.4	318.	820.	8.0	
43C	2815.16	1407.76	2.4	440.	16635.	0.9	EU-152,BI-214, SCH-000
[illegible]C	2914.10	1457.32	2.7	69.	426.	6.6	I-135
[illegible]5C	2920.90	1460.73	2.7	55.	243.	9.3	K-40
46	3058.00	1529.40	3.8	63.	458.	5.6	KR-88

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

11 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.592328E-07*Ch^2 + 4.993793E-01*Ch +-1.243149E-01

New Calibration Coefficients:

Energy = 2.406774E-07*Ch^2 + 4.994960E-01*Ch + 1.196646E-01

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Daily Source Check

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 22-JAN-96 10:59:11

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD2122
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 22-JAN-96 at 10:15:47

COLLECT Live Time: 600. seconds
Real Time: 761. seconds
Dead Time: 21.16 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 22-JAN-96
Efficiency Calibration performed 21-NOV-95

hgtrw 22-JAN-96 10:59:11

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.44	40.30	1.6	14401.	2564.	10.3	
2C	91.80	45.97	1.6	11758.	1170.	13.7	
3C	170.89	85.48	3.0	39198.	1022.	24.6	
4C	176.16	88.12	3.0	41724.	1136.	23.7	PB-214,CD-109
5?	234.00	117.01	1.6	17762.	4221.	29.5	
6?	244.42	122.22	1.6	15462.	92314.	2.5	SCL-000,CO-57
7?	248.26	124.14	1.6	14616.	3972.	50.3	
8?	490.11	244.99	1.5	8030.	16753.	1.1	
9	592.33	296.07	1.4	5645.	811.	15.4	PB-214
10?	678.03	338.90	1.8	4147.	1691.	22.2	AC-228
11?	689.04	344.41	1.8	3833.	45820.	1.4	BA-141, SCM-000
12?	693.90	346.84	1.8	3695.	1549.	30.6	
13	735.97	367.86	2.1	3240.	1281.	7.6	
14	822.53	411.13	1.7	3094.	2848.	3.6	AU-198
15	888.20	443.96	1.7	3305.	3790.	2.9	
16	977.37	488.54	1.2	2380.	470.	16.7	
17C	1127.73	563.72	2.1	3055.	442.	20.2	CS-134,SB-122
18C	1132.92	566.32	2.1	3044.	212.	22.7	
19	1356.45	678.10	1.6	2480.	365.	22.7	I-134,AG110M
20	1377.19	688.48	1.9	2466.	765.	11.4	
21	1557.25	778.54	1.9	2935.	9308.	1.4	MO-99
22	1619.81	809.84	2.4	1831.	373.	19.3	I-132,CO-58
23	1733.97	866.95	2.0	2326.	2602.	3.6	
24	1837.86	918.93	1.7	1151.	215.	25.2	
25$	1915.96	958.02	2.2	1232.	356.	17.0	
26$	1927.10	963.59	2.2	1164.	9344.	2.0	EU-152
27$	1933.97	967.03	2.2	1121.	336.	18.8	
28	2009.28	1004.72	2.2	682.	511.	9.0	
29$	2159.87	1080.09	2.3	933.	309.	11.9	
30$	2170.36	1085.34	2.3	918.	6134.	2.1	EU-152
31$	2178.01	1089.17	2.3	907.	1205.	4.8	
32C	2212.77	1106.57	2.2	1017.	286.	19.2	
33C	2222.73	1111.55	2.2	1168.	7745.	1.7	TE-129,EU-152
34	2424.39	1212.51	2.6	564.	674.	6.9	
35	2546.74	1273.77	3.5	285.	200.	16.0	NA-22
36	2596.32	1298.59	2.4	242.	791.	4.9	I-133
37C	2803.27	1402.23	2.4	173.	380.	9.3	
38C	2814.07	1407.64	2.4	277.	9372.	1.2	EU-152,BI-214, SCH-000
39	2913.01	1457.20	2.6	115.	259.	9.7	I-135
40	3055.85	1528.75	2.4	47.	252.	8.0	KR-88

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

9 Multiplets processed.

C - Multiplet Analysis converged normally

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 22-JAN-96 10:59:11

Sample: Eu-152 Standard
Data collected on 22-JAN-96 at 10:15:47
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.87E+01		LLD<2.87E+01	
TH-234	LLD<2.21E+02		LLD<2.21E+02	
TH-230	LLD<1.81E+03		LLD<1.81E+03	
XE-133	LLD<1.30E+01		LLD<1.30E+01	
CD-109	1.56E+02	+- 3.72E+01	1.56E+02	+- 3.72E+01
SCL-000	9.73E+02	+- 2.52E+01	9.73E+02	+- 2.52E+01
CO-57	3.23E+02	+- 8.37E+00	3.23E+02	+- 8.37E+00
PA-234	LLD<9.52E+00		LLD<9.52E+00	
CE-144	LLD<1.66E+01		LLD<1.66E+01	
TC-99M	LLD<1.97E+00		LLD<1.97E+00	
U-235	LLD<1.58E+01		LLD<1.58E+01	
CE-141	LLD<3.60E+00		LLD<3.60E+00	
KR-85M	LLD<2.35E+00		LLD<2.35E+00	
XE-131M	LLD<8.87E+01		LLD<8.87E+01	
BA-139	LLD<1.08E+01		LLD<1.08E+01	
[illegible]-139	LLD<2.17E+00		LLD<2.17E+00	
RA-226	LLD<5.28E+01		LLD<5.28E+01	
BA-141	LLD<4.50E+00		LLD<4.50E+00	
KR-89	LLD<2.79E+01		LLD<2.79E+01	
TE-132	LLD<2.17E+00		LLD<2.17E+00	
XE-133M	LLD<1.90E+01		LLD<1.90E+01	
TH-227	LLD<1.37E+01		LLD<1.37E+01	
PB-212	LLD<4.79E+00		LLD<4.79E+00	
RA-224	LLD<9.71E+01		LLD<9.71E+01	
XE-135	LLD<4.43E+00		LLD<4.43E+00	
XE-138	LLD<8.31E+00		LLD<8.31E+00	
SE-75	LLD<3.22E+00		LLD<3.22E+00	
NP-239	LLD<1.37E+01		LLD<1.37E+01	
HG-203	LLD<2.49E+00		LLD<2.49E+00	
IR-192	LLD<2.40E+00		LLD<2.40E+00	
CR-51	LLD<2.05E+01		LLD<2.05E+01	
SCM-000	9.65E+02	+- 1.58E+01	9.65E+02	+- 1.58E+01
BI-211	LLD<9.58E+01		LLD<9.58E+01	
PB-214	LLD<7.82E+00		LLD<7.82E+00	
BA-133	LLD<3.12E+00		LLD<3.12E+00	
I-131	LLD<2.65E+00		LLD<2.65E+00	
SN-113	LLD<3.02E+00		LLD<3.02E+00	
KR-87	LLD<4.23E+00		LLD<4.23E+00	
PB-211	LLD<7.86E+01		LLD<7.86E+01	
AU-198	1.99E+01	+- 7.47E-01	1.99E+01	+- 7.47E-01
SB-125	LLD<7.43E+00		LLD<7.43E+00	
[illegible]-212	LLD<6.74E+02		LLD<6.74E+02	
BE-7	LLD<2.14E+01		LLD<2.14E+01	
HF-181	LLD<2.74E+00		LLD<2.74E+00	
RU-103	LLD<2.62E+00		LLD<2.62E+00	
KR-85	LLD<5.58E+02		LLD<5.58E+02	

SR-85	LLD<2.44E+00		LLD<2.44E+00		
I-133	LLD<3.07E+00		LLD<3.07E+00		
BA-140	LLD<1.04E+01		LLD<1.04E+01		
[illegible] 91M	LLD<3.09E+00		LLD<3.09E+00		
[illegible] 207	LLD<2.92E+00		LLD<2.92E+00		
[illegible]-208	LLD<1.05E+01		LLD<1.05E+01		
SB-124	LLD<2.81E+00		LLD<2.81E+00		
CS-134	LLD<2.76E+00		LLD<2.76E+00		
BI-214	LLD<7.46E+00		LLD<7.46E+00		
RU-106	LLD<2.91E+01		LLD<2.91E+01		
LA-142	LLD<5.52E+00		LLD<5.52E+00		
AG-110M	LLD<3.26E+00		LLD<3.26E+00		
NB-97	LLD<3.33E+00		LLD<3.33E+00		
CS-137	LLD<3.22E+00		LLD<3.22E+00		
I-132	LLD<3.03E+00		LLD<3.03E+00		
W-187	LLD<1.14E+01		LLD<1.14E+01		
ZR-97	LLD<3.41E+00		LLD<3.41E+00		
ZR-95	LLD<6.15E+00		LLD<6.15E+00		
NB-95	LLD<3.36E+00		LLD<3.36E+00		
TL-210	LLD<2.29E+01		LLD<2.29E+01		
CO-58	4.96E+00	+- 9.59E-01	4.96E+00	+-	9.59E-01
CS-136	LLD<3.29E+00		LLD<3.29E+00		
MN-54	LLD<3.46E+00		LLD<3.46E+00		
CO-56	LLD<3.64E+00		LLD<3.64E+00		
I-134	LLD<4.14E+00		LLD<4.14E+00		
TL-207	LLD<3.07E+03		LLD<3.07E+03		
Y-88	LLD<3.60E+00		LLD<3.60E+00		
AC-228	LLD<1.14E+01		LLD<1.14E+01		
EU-152	1.00E+03	+- 2.37E+01	1.00E+03	+-	2.37E+01
[illegible]234M	LLD<4.37E+01		LLD<4.37E+01		
[illegible]-91	LLD<8.79E+00		LLD<8.79E+00		
RB-89	LLD<6.62E+00		LLD<6.62E+00		
FE-59	LLD<5.50E+00		LLD<5.50E+00		
ZN-65	LLD<1.63E+01		LLD<1.63E+01		
SC-46	LLD<3.49E+00		LLD<3.49E+00		
TA-182	LLD<9.46E+00		LLD<9.46E+00		
I-135	LLD<8.38E+00		LLD<8.38E+00		
CL-39	LLD<5.45E+00		LLD<5.45E+00		
NA-22	LLD<1.94E+00		LLD<1.94E+00		
AR-41	LLD<4.49E+00		LLD<4.49E+00		
CO-60	LLD<1.24E+00		LLD<1.24E+00		
NA-24	LLD<1.32E+00		LLD<1.32E+00		
SR-92	LLD<1.28E+00		LLD<1.28E+00		
SCH-000	9.16E+02	+- 1.81E+01	9.16E+02	+-	1.81E+01
CS-138	LLD<1.16E+00		LLD<1.16E+00		
K-40	LLD<1.35E+01		LLD<1.35E+01		
KR-88	LLD<8.50E+00		LLD<8.50E+00		
TL-209	LLD<2.18E+00		LLD<2.18E+00		
LA-140	LLD<6.85E-01		LLD<6.85E-01		
AL-26	LLD<2.90E-01		LLD<2.90E-01		
MN-56	LLD<1.49E+00		LLD<1.49E+00		
RB-88	LLD<2.49E+00		LLD<2.49E+00		
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Total	4.36E+03	+- 5.68E+01	4.36E+03	+-	5.68E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD2122

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
80.44	40.30	2564.	10.3	9.43E+03
91.80	45.97	1170.	13.7	2.14E+03
170.89	85.48	1022.	24.6	1.85E+02
234.00	117.01	4221.	29.5	4.34E+02
248.26	124.14	3972.	50.3	3.85E+02
490.11	244.99	16753.	1.1	2.30E+03
592.33	296.07	811.	15.4	1.30E+02
678.03	338.90	1691.	22.2	3.07E+02
693.90	346.84	1549.	30.6	2.87E+02
735.97	367.86	1281.	7.6	2.52E+02
888.20	443.96	3790.	2.9	8.99E+02
977.37	488.54	470.	16.7	1.23E+02
1127.73	563.72	442.	20.2	1.34E+02
1132.92	566.32	212.	22.7	6.46E+01
1356.45	678.10	365.	22.7	1.33E+02
1377.19	688.48	765.	11.4	2.84E+02
1557.25	778.54	9308.	1.4	3.89E+03
1733.97	866.95	2602.	3.6	1.20E+03
1837.86	918.93	215.	25.2	1.05E+02
1915.96	958.02	356.	17.0	1.80E+02
1933.97	967.03	336.	18.8	1.71E+02
2009.28	1004.72	511.	9.0	2.69E+02
2159.87	1080.09	309.	11.9	1.72E+02
2178.01	1089.17	1205.	4.8	6.76E+02
2212.77	1106.57	286.	19.2	1.62E+02
2424.39	1212.51	674.	6.9	4.09E+02
2546.74	1273.77	200.	16.0	1.26E+02
2596.32	1298.59	791.	4.9	5.03E+02
2803.27	1402.23	380.	9.3	2.53E+02
2913.01	1457.20	259.	9.7	1.77E+02
3055.85	1528.75	252.	8.0	1.76E+02

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IT Van Soil

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*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 22-JAN-96 11:42:12

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD5000
Measured by: dlv

Sample Description: IT Van Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 1.0500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 22-JAN-96 at 11:04:39

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 22-JAN-96
Efficiency Calibration performed 21-NOV-95

hgtrw 22-JAN-96 11:42:12

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	1021.81	510.76	1.1	10.	11.	54.0	TL-208,NA-22, ANN-RD
2	2919.50	1460.45	3.1	2.	32.	19.5	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 22-JAN-96 11:42:12

mple: IT Van Soil
ta collected on 22-JAN-96 at 11:04:39
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<1.31E+01		LLD<1.31E+01	
TH-234	LLD<9.10E+01		LLD<9.10E+01	
TH-230	LLD<7.42E+02		LLD<7.42E+02	
XE-133	LLD<5.36E+00		LLD<5.36E+00	
CD-109	LLD<3.58E+01		LLD<3.58E+01	
SCL-000	LLD<2.44E+00		LLD<2.44E+00	
CO-57	LLD<8.11E-01		LLD<8.11E-01	
PA-234	LLD<3.58E+00		LLD<3.58E+00	
CE-144	LLD<6.85E+00		LLD<6.85E+00	
TC-99M	LLD<8.23E-01		LLD<8.23E-01	
U-235	LLD<5.77E+00		LLD<5.77E+00	
CE-141	LLD<1.37E+00		LLD<1.37E+00	
KR-85M	LLD<9.35E-01		LLD<9.35E-01	
XE-131M	LLD<3.11E+01		LLD<3.11E+01	
BA-139	LLD<3.90E+00		LLD<3.90E+00	
-139	LLD<7.92E-01		LLD<7.92E-01	
RA-226	LLD<2.24E+01		LLD<2.24E+01	
BA-141	LLD<2.19E+00		LLD<2.19E+00	
KR-89	LLD<8.19E+00		LLD<8.19E+00	
TE-132	LLD<8.53E-01		LLD<8.53E-01	
XE-133M	LLD<8.61E+00		LLD<8.61E+00	
TH-227	LLD<8.27E+00		LLD<8.27E+00	
PB-212	LLD<2.67E+00		LLD<2.67E+00	
RA-224	LLD<2.85E+01		LLD<2.85E+01	
XE-135	LLD<8.83E-01		LLD<8.83E-01	
XE-138	LLD<3.52E+00		LLD<3.52E+00	
SE-75	LLD<1.19E+00		LLD<1.19E+00	
NP-239	LLD<5.32E+00		LLD<5.32E+00	
HG-203	LLD<1.11E+00		LLD<1.11E+00	
IR-192	LLD<9.82E-01		LLD<9.82E-01	
CR-51	LLD<7.08E+00		LLD<7.08E+00	
SCM-000	LLD<3.84E+00		LLD<3.84E+00	
BI-211	LLD<2.34E+01		LLD<2.34E+01	
PB-214	LLD<3.06E+00		LLD<3.06E+00	
BA-133	LLD<1.85E+00		LLD<1.85E+00	
I-131	LLD<9.25E-01		LLD<9.25E-01	
SN-113	LLD<1.47E+00		LLD<1.47E+00	
KR-87	LLD<1.49E+00		LLD<1.49E+00	
PB-211	LLD<3.71E+01		LLD<3.71E+01	
AU-198	LLD<1.15E+00		LLD<1.15E+00	
B-125	LLD<3.44E+00		LLD<3.44E+00	
I-212	LLD<3.02E+02		LLD<3.02E+02	
BE-7	LLD<1.04E+01		LLD<1.04E+01	
HF-181	LLD<1.26E+00		LLD<1.26E+00	
RU-103	LLD<8.92E-01		LLD<8.92E-01	
KR-85	LLD<3.88E+02		LLD<3.88E+02	

SR-85	LLD<1.69E+00	LLD<1.69E+00
I-133	LLD<1.42E+00	LLD<1.42E+00
BA-140	LLD<4.61E+00	LLD<4.61E+00
Y-91M	LLD<1.22E+00	LLD<1.22E+00
[illegible] 207	LLD<1.20E+00	LLD<1.20E+00
[illegible]-208	LLD<4.25E+00	LLD<4.25E+00
SB-124	LLD<1.39E+00	LLD<1.39E+00
CS-134	LLD<1.96E+00	LLD<1.96E+00
BI-214	LLD<4.75E+00	LLD<4.75E+00
RU-106	LLD<1.61E+01	LLD<1.61E+01
LA-142	LLD<2.90E+00	LLD<2.90E+00
AG-110M	LLD<1.59E+00	LLD<1.59E+00
NB-97	LLD<1.60E+00	LLD<1.60E+00
CS-137	LLD<1.51E+00	LLD<1.51E+00
I-132	LLD<1.24E+00	LLD<1.24E+00
W-187	LLD<4.47E+00	LLD<4.47E+00
ZR-97	LLD<1.33E+00	LLD<1.33E+00
ZR-95	LLD<2.85E+00	LLD<2.85E+00
NB-95	LLD<1.78E+00	LLD<1.78E+00
TL-210	LLD<8.21E+00	LLD<8.21E+00
CO-58	LLD<1.29E+00	LLD<1.29E+00
CS-136	LLD<9.51E-01	LLD<9.51E-01
MN-54	LLD<1.45E+00	LLD<1.45E+00
CO-56	LLD<6.98E-01	LLD<6.98E-01
I-134	LLD<7.81E-01	LLD<7.81E-01
TL-207	LLD<1.05E+03	LLD<1.05E+03
Y-88	LLD<1.42E+00	LLD<1.42E+00
AC-228	LLD<7.15E+00	LLD<7.15E+00
EU-152	LLD<1.72E+01	LLD<1.72E+01
[illegible]234M	LLD<1.56E+01	LLD<1.56E+01
[illegible]-91	LLD<6.07E+00	LLD<6.07E+00
RB-89	LLD<3.96E+00	LLD<3.96E+00
FE-59	LLD<3.02E+00	LLD<3.02E+00
ZN-65	LLD<3.80E+00	LLD<3.80E+00
SC-46	LLD<1.64E+00	LLD<1.64E+00
TA-182	LLD<4.68E+00	LLD<4.68E+00
I-135	LLD<6.40E+00	LLD<6.40E+00
CL-39	LLD<3.91E+00	LLD<3.91E+00
NA-22	LLD<2.12E+00	LLD<2.12E+00
AR-41	LLD<2.96E+00	LLD<2.96E+00
CO-60	LLD<1.22E+00	LLD<1.22E+00
NA-24	LLD<4.58E-01	LLD<4.58E-01
SR-92	LLD<1.42E+00	LLD<1.42E+00
SCH-000	LLD<8.02E+00	LLD<8.02E+00
CS-138	LLD<1.86E+00	LLD<1.86E+00
K-40	5.24E+01 +- 1.03E+01	5.24E+01 +- 1.03E+01
KR-88	LLD<4.55E+00	LLD<4.55E+00
TL-209	LLD<1.63E+00	LLD<1.63E+00
LA-140	LLD<2.98E+00	LLD<2.98E+00
AL-26	LLD<1.16E+00	LLD<1.16E+00
MN-56	LLD<4.34E+00	LLD<4.34E+00
RB-88	LLD<6.55E+00	LLD<6.55E+00
	---	---
Total	5.24E+01 +- 1.03E+01	5.24E+01 +- 1.03E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD5000

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1021.81	510.76	11.	54.0	3.08E+00

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0↕♥♠ Crew Trailer Soil

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*          G A M M A   S P E C T R U M   A N A L Y S I S        *
*                                                               *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 22-JAN-96 12:03:34

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD5001
Measured by: dlv

Sample Description: Crew Trailer soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 1.8200E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 22-JAN-96 at 11:44:14

COLLECT Live Time: 600. seconds
Real Time: 603. seconds
Dead Time: 0.50 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 22-JAN-96
Efficiency Calibration performed 21-NOV-95

hgtrw 22-JAN-96 12:03:34

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	91.88	46.02	2.6	18.	14.	53.3	
2	478.47	239.17	0.8	31.	41.	26.9	PB-212
3	1937.41	968.75	0.8	2.	10.	36.9	AC-228,RU-105
4	2919.71	1460.55	2.4	0.	37.	16.4	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 22-JAN-96 12:03:34

Sample: Crew Trailer soil
Data collected on 22-JAN-96 at 11:44:14
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<9.48E+00		LLD<9.48E+00	
TH-234	LLD<5.82E+01		LLD<5.82E+01	
TH-230	LLD<6.20E+02		LLD<6.20E+02	
XE-133	LLD<3.76E+00		LLD<3.76E+00	
CD-109	LLD<2.42E+01		LLD<2.42E+01	
SCL-000	LLD<1.47E+00		LLD<1.47E+00	
CO-57	LLD<4.89E-01		LLD<4.89E-01	
PA-234	LLD<2.08E+00		LLD<2.08E+00	
CE-144	LLD<4.03E+00		LLD<4.03E+00	
TC-99M	LLD<4.26E-01		LLD<4.26E-01	
U-235	LLD<3.56E+00		LLD<3.56E+00	
CE-141	LLD<8.75E-01		LLD<8.75E-01	
KR-85M	LLD<5.77E-01		LLD<5.77E-01	
XE-131M	LLD<1.91E+01		LLD<1.91E+01	
BA-139	LLD<2.31E+00		LLD<2.31E+00	
[illegible]-139	LLD<4.70E-01		LLD<4.70E-01	
[illegible]A-226	LLD<1.36E+01		LLD<1.36E+01	
BA-141	LLD<1.09E+00		LLD<1.09E+00	
KR-89	LLD<5.02E+00		LLD<5.02E+00	
TE-132	LLD<4.51E-01		LLD<4.51E-01	
XE-133M	LLD<5.11E+00		LLD<5.11E+00	
TH-227	LLD<5.33E+00		LLD<5.33E+00	
PB-212	1.79E+00	+- 4.82E-01	1.79E+00	+- 4.82E-01
RA-224	LLD<1.86E+01		LLD<1.86E+01	
XE-135	LLD<5.76E-01		LLD<5.76E-01	
XE-138	LLD<2.32E+00		LLD<2.32E+00	
SE-75	LLD<8.72E-01		LLD<8.72E-01	
NP-239	LLD<3.93E+00		LLD<3.93E+00	
HG-203	LLD<7.59E-01		LLD<7.59E-01	
IR-192	LLD<6.37E-01		LLD<6.37E-01	
CR-51	LLD<4.82E+00		LLD<4.82E+00	
SCM-000	LLD<2.30E+00		LLD<2.30E+00	
BI-211	LLD<1.54E+01		LLD<1.54E+01	
PB-214	LLD<1.69E+00		LLD<1.69E+00	
BA-133	LLD<1.23E+00		LLD<1.23E+00	
I-131	LLD<7.03E-01		LLD<7.03E-01	
SN-113	LLD<8.25E-01		LLD<8.25E-01	
KR-87	LLD<1.32E+00		LLD<1.32E+00	
PB-211	LLD<2.24E+01		LLD<2.24E+01	
AU-198	LLD<6.82E-01		LLD<6.82E-01	
[illegible]B-125	LLD<2.30E+00		LLD<2.30E+00	
[illegible]-212	LLD<2.05E+02		LLD<2.05E+02	
BE-7	LLD<7.07E+00		LLD<7.07E+00	
HF-181	LLD<6.57E-01		LLD<6.57E-01	
RU-103	LLD<7.71E-01		LLD<7.71E-01	
KR-85	LLD<2.41E+02		LLD<2.41E+02	

SR-85	LLD<1.05E+00	LLD<1.05E+00
I-133	LLD<6.17E-01	LLD<6.17E-01
BA-140	LLD<3.36E+00	LLD<3.36E+00
[illegible]1M	LLD<8.78E-01	LLD<8.78E-01
[illegible]207	LLD<6.90E-01	LLD<6.90E-01
[illegible]L-208	LLD<2.84E+00	LLD<2.84E+00
SB-124	LLD<8.43E-01	LLD<8.43E-01
CS-134	LLD<9.08E-01	LLD<9.08E-01
BI-214	LLD<2.48E+00	LLD<2.48E+00
RU-106	LLD<8.29E+00	LLD<8.29E+00
LA-142	LLD<1.23E+00	LLD<1.23E+00
AG-110M	LLD<1.10E+00	LLD<1.10E+00
NB-97	LLD<1.10E+00	LLD<1.10E+00
CS-137	LLD<1.07E+00	LLD<1.07E+00
I-132	LLD<1.09E+00	LLD<1.09E+00
W-187	LLD<2.66E+00	LLD<2.66E+00
ZR-97	LLD<7.67E-01	LLD<7.67E-01
ZR-95	LLD<1.44E+00	LLD<1.44E+00
NB-95	LLD<7.74E-01	LLD<7.74E-01
TL-210	LLD<6.56E+00	LLD<6.56E+00
CO-58	LLD<7.80E-01	LLD<7.80E-01
CS-136	LLD<7.48E-01	LLD<7.48E-01
MN-54	LLD<1.14E+00	LLD<1.14E+00
CO-56	LLD<7.26E-01	LLD<7.26E-01
I-134	LLD<8.13E-01	LLD<8.13E-01
TL-207	LLD<5.21E+02	LLD<5.21E+02
Y-88	LLD<7.04E-01	LLD<7.04E-01
AC-228	LLD<4.54E+00	LLD<4.54E+00
EU-152	LLD<1.03E+01	LLD<1.03E+01
[illegible]234M	LLD<9.03E+00	LLD<9.03E+00
[illegible]-91	LLD<3.26E+00	LLD<3.26E+00
RB-89	LLD<2.33E+00	LLD<2.33E+00
FE-59	LLD<1.49E+00	LLD<1.49E+00
ZN-65	LLD<3.52E+00	LLD<3.52E+00
SC-46	LLD<1.20E+00	LLD<1.20E+00
TA-182	LLD<3.13E+00	LLD<3.13E+00
I-135	LLD<5.39E+00	LLD<5.39E+00
CL-39	LLD<1.66E+00	LLD<1.66E+00
NA-22	LLD<1.12E+00	LLD<1.12E+00
AR-41	LLD<1.38E+00	LLD<1.38E+00
CO-60	LLD<1.31E+00	LLD<1.31E+00
NA-24	LLD<8.20E-01	LLD<8.20E-01
SR-92	LLD<1.16E+00	LLD<1.16E+00
SCH-000	LLD<5.87E+00	LLD<5.87E+00
CS-138	LLD<8.77E-01	LLD<8.77E-01
K-40	3.51E+01 +- 5.81E+00	3.51E+01 +- 5.81E+00
KR-88	LLD<1.05E+01	LLD<1.05E+01
TL-209	LLD<2.09E+00	LLD<2.09E+00
LA-140	LLD<1.34E+00	LLD<1.34E+00
AL-26	LLD<3.01E-01	LLD<3.01E-01
MN-56	LLD<1.13E+00	LLD<1.13E+00
RB-88	LLD<3.78E+00	LLD<3.78E+00
	---	---
Total	3.69E+01 +- 5.83E+00	3.69E+01 +- 5.83E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD5001

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
91.88	46.02	14.	53.3	2.57E+01
1937.41	968.75	10.	36.9	5.29E+00

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GAMMA SPECTROSCOPY RESULTS FROM 2/12/96

Daily Autocal 2/12

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*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 12-FEB-96 12:27:15

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

Multiplet Analysis Performed.

gular Output.
pectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 12-FEB-96 at 11:59:16

COLLECT Live Time: 1200. sec.

hgtrw 12-FEB-96 12:27:15

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.83	40.50	1.7	31688.	4906.	7.6	
2C	92.36	46.25	1.7	26011.	2263.	10.0	
3N	151.69	75.89	1.7	40143.	1883.	19.0	
4?	233.17	116.60	1.7	37664.	8003.	28.8	
5?	244.94	122.48	1.7	32176.	183917.	2.6	SCL-000,CO-57
6?	248.73	124.38	1.7	30409.	7983.	53.3	
7?	478.10	238.98	1.7	15495.	1142.	23.9	PB-212
8?	490.75	245.31	1.7	15284.	34422.	1.4	
9	593.21	296.51	1.5	9373.	1621.	9.5	GA-73
10?	677.86	338.82	1.8	8491.	3271.	20.9	AC-228
11?	689.78	344.77	1.8	8116.	90739.	1.5	SCM-000
12?	694.18	346.98	1.8	7977.	3065.	37.9	
13	736.60	368.18	2.0	7117.	2703.	5.4	
14C	823.38	411.56	1.8	5887.	5855.	3.6	AU-198
15C	832.42	416.08	1.8	5531.	482.	17.7	
16	889.08	444.40	1.8	6209.	7331.	2.1	
17	978.50	489.11	1.7	4779.	1015.	11.0	
18	1128.77	564.24	2.0	6035.	977.	13.3	CS-134,SB-122
19	1173.65	586.68	1.4	5196.	634.	18.4	
20	1358.01	678.88	1.8	4821.	680.	17.0	
[illegible]	1377.96	688.86	1.8	5050.	1210.	10.2	
[illegible]	1439.40	719.59	1.4	4183.	233.	43.2	
23C	1546.15	772.99	2.0	4661.	460.	22.4	I-132,W-187, TE131M
24C	1558.45	779.14	2.0	4791.	19107.	1.4	
25	1621.25	810.56	1.7	4056.	554.	19.5	I-132,CO-58
26	1735.29	867.61	2.0	3892.	5081.	2.4	
27	1838.89	919.45	2.4	2629.	538.	16.0	
28$	1916.79	958.43	2.2	2669.	602.	15.1	
29$	1928.45	964.27	2.2	2991.	17762.	1.2	EU-152
30	2010.43	1005.29	2.5	2029.	1049.	7.9	
31C	2161.40	1080.85	2.3	1969.	489.	15.1	
32C	2171.82	1086.07	2.3	1899.	12256.	1.7	EU-152
33C	2179.63	1089.98	2.3	1847.	2313.	4.9	
34?	2212.67	1106.52	2.4	1853.	650.	17.4	
35?	2224.28	1112.33	2.4	1900.	15971.	1.5	TE-129,EU-152
36?	2232.03	1116.21	2.4	1932.	372.	30.4	ZN-65
37	2426.16	1213.39	2.0	1227.	1260.	5.4	
38	2548.84	1274.82	2.1	692.	288.	16.6	NA-22
39	2598.16	1299.51	2.2	548.	1410.	3.8	
40?	2804.42	1402.81	2.5	160.	774.	10.8	
41?	2815.88	1408.55	2.5	130.	19224.	0.9	EU-152,BI-214, SCH-000
42?	2823.72	1412.48	2.5	109.	370.	21.1	
43C	2915.19	1458.29	2.4	75.	442.	6.2	I-135
44C	2921.74	1461.57	2.4	69.	255.	8.0	K-40
[illegible]	3057.08	1529.37	3.1	79.	471.	5.7	KR-88

Error Quotation at 1.00 sigma

Peak Confidence Level at 95.0%

11 Multiplets processed.

- Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.406774E-07*Ch^2 + 4.994960E-01*Ch + 1.196646E-01

New Calibration Coefficients:

Energy = 2.698774E-07*Ch^2 + 4.994677E-01*Ch +-3.945615E-01

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*          G A M M A   S P E C T R U M   A N A L Y S I S              *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 12-FEB-96 12:45:48

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD2212
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 12-FEB-96 at 12:29:38

COLLECT Live Time: 600. seconds
Real Time: 761. seconds
Dead Time: 21.16 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 12-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 12-FEB-96 12:45:48

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.96	40.04	1.6	14596.	2905.	9.9	
2C	92.64	45.88	1.6	12103.	1013.	14.9	
3N	170.89	84.97	3.6	46508.	2051.	9.6	
4N	176.92	87.98	3.6	49709.	1581.	10.3	PB-214,CD-109
5N	183.44	91.23	3.6	53170.	1234.	11.5	
6?	233.72	116.36	1.7	18713.	4225.	27.5	
7?	244.94	121.96	1.7	16109.	93330.	2.3	SE-75,SCL-000, CO-57
8?	248.97	123.97	1.7	15173.	3855.	46.9	
9?	478.78	238.80	1.7	7570.	666.	25.7	PB-212
10?	490.72	244.77	1.7	7612.	17781.	1.8	
11	593.23	296.00	1.7	4636.	831.	13.1	PB-214
12?	678.22	338.48	1.8	4254.	1651.	20.7	AC-228
13?	689.73	344.23	1.8	3941.	46149.	1.3	BA-141, SCM-000
14?	694.94	346.83	1.8	3799.	1315.	30.8	
15	736.66	367.69	2.1	3411.	1616.	6.4	
16$	823.35	411.03	1.7	2752.	2998.	5.3	AU-198
17	888.96	443.83	1.7	2571.	3843.	2.6	
18	978.32	488.50	1.6	2733.	491.	17.4	
19$	1128.81	563.75	2.0	2817.	513.	17.9	CS-134,SB-122
20$	1132.98	565.84	2.0	2839.	184.	27.9	
21	1173.18	585.94	1.6	2853.	372.	23.8	
22	1358.12	678.44	1.5	2639.	250.	34.7	AG110M
23	1377.90	688.34	1.6	2254.	844.	9.7	
24	1438.35	718.57	1.0	1746.	107.	57.7	
25	1558.27	778.57	2.0	2379.	9204.	1.3	MO-99
26	1735.11	867.05	2.0	2284.	2711.	3.5	
27C	1838.71	918.89	1.7	1145.	208.	26.1	
28?	1916.82	957.99	2.2	1282.	351.	19.1	
29?	1928.27	963.72	2.2	1426.	9246.	1.7	EU-152
30	2010.54	1004.89	1.9	864.	501.	10.5	
31C	2161.22	1080.33	2.3	1008.	248.	14.0	
32C	2171.58	1085.51	2.3	997.	5885.	2.1	EU-152
33C	2179.27	1089.36	2.3	988.	1171.	4.8	
34	2224.13	1111.82	2.1	1466.	7408.	1.5	TE-129,EU-152
35	2425.69	1212.75	2.1	641.	684.	7.4	
36	2548.20	1274.10	2.6	267.	140.	20.3	NA-22
37	2597.97	1299.03	2.4	240.	746.	5.0	I-133
38C	2804.70	1402.58	2.5	111.	365.	9.3	
39C	2815.63	1408.06	2.5	96.	9563.	1.2	EU-152,BI-214, SCH-000
40C	2823.52	1412.01	2.5	85.	178.	17.6	
41	2914.59	1457.64	2.0	138.	232.	11.1	I-135
42	3057.59	1529.30	3.3	40.	258.	7.6	KR-88
43	3211.56	1606.46	1.3	6.	9.	57.7	

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

10 Multiplets processed.

C - Multiplet Analysis converged normally
. Multiplet Analysis did NOT converge
- Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 12-FEB-96 12:45:48

Sample: Eu-152 Standard
Data collected on 12-FEB-96 at 12:29:38
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.87E+01		LLD<2.87E+01	
TH-234	LLD<2.19E+02		LLD<2.19E+02	
TH-230	LLD<1.80E+03		LLD<1.80E+03	
XE-133	LLD<1.30E+01		LLD<1.30E+01	
CD-109	2.18E+02	+- 2.29E+01	2.18E+02	+- 2.29E+01
SCL-000	9.84E+02	+- 2.33E+01	9.84E+02	+- 2.33E+01
CO-57	3.27E+02	+- 7.74E+00	3.27E+02	+- 7.74E+00
PA-234	LLD<9.29E+00		LLD<9.29E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.95E+00		LLD<1.95E+00	
U-235	LLD<1.57E+01		LLD<1.57E+01	
CE-141	LLD<3.59E+00		LLD<3.59E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.83E+01		LLD<8.83E+01	
BA-139	LLD<1.06E+01		LLD<1.06E+01	
[illegible]-139	LLD<2.12E+00		LLD<2.12E+00	
RA-226	LLD<5.29E+01		LLD<5.29E+01	
BA-141	LLD<4.52E+00		LLD<4.52E+00	
KR-89	LLD<2.76E+01		LLD<2.76E+01	
TE-132	LLD<2.18E+00		LLD<2.18E+00	
XE-133M	LLD<1.91E+01		LLD<1.91E+01	
TH-227	LLD<1.28E+01		LLD<1.28E+01	
PB-212	5.93E+00	+- 1.53E+00	5.93E+00	+- 1.53E+00
RA-224	LLD<9.15E+01		LLD<9.15E+01	
XE-135	LLD<4.31E+00		LLD<4.31E+00	
XE-138	LLD<8.23E+00		LLD<8.23E+00	
SE-75	LLD<3.22E+00		LLD<3.22E+00	
NP-239	LLD<1.38E+01		LLD<1.38E+01	
HG-203	LLD<2.51E+00		LLD<2.51E+00	
IR-192	LLD<2.40E+00		LLD<2.40E+00	
CR-51	LLD<2.05E+01		LLD<2.05E+01	
SCM-000	9.72E+02	+- 1.48E+01	9.72E+02	+- 1.48E+01
BI-211	LLD<8.87E+01		LLD<8.87E+01	
PB-214	LLD<6.87E+00		LLD<6.87E+00	
BA-133	LLD<3.11E+00		LLD<3.11E+00	
I-131	LLD<2.69E+00		LLD<2.69E+00	
SN-113	LLD<3.07E+00		LLD<3.07E+00	
KR-87	LLD<4.24E+00		LLD<4.24E+00	
PB-211	LLD<7.97E+01		LLD<7.97E+01	
AU-198	2.10E+01	+- 1.12E+00	2.10E+01	+- 1.12E+00
[illegible]B-125	LLD<6.88E+00		LLD<6.88E+00	
[illegible]-212	LLD<6.49E+02		LLD<6.49E+02	
BE-7	LLD<2.12E+01		LLD<2.12E+01	
HF-181	LLD<2.75E+00		LLD<2.75E+00	
RU-103	LLD<2.61E+00		LLD<2.61E+00	
KR-85	LLD<5.56E+02		LLD<5.56E+02	

SR-85	LLD<2.43E+00		LLD<2.43E+00		
I-133	LLD<3.09E+00		LLD<3.09E+00		
BA-140	LLD<1.05E+01		LLD<1.05E+01		
[illegible]1M	LLD<3.03E+00		LLD<3.03E+00		
[illegible]207	LLD<2.95E+00		LLD<2.95E+00		
[illegible]L-208	LLD<1.04E+01		LLD<1.04E+01		
SB-124	LLD<2.66E+00		LLD<2.66E+00		
CS-134	LLD<2.73E+00		LLD<2.73E+00		
BI-214	LLD<7.65E+00		LLD<7.65E+00		
RU-106	LLD<2.99E+01		LLD<2.99E+01		
LA-142	LLD<5.55E+00		LLD<5.55E+00		
AG-110M	LLD<3.22E+00		LLD<3.22E+00		
NB-97	LLD<3.29E+00		LLD<3.29E+00		
CS-137	LLD<3.27E+00		LLD<3.27E+00		
I-132	LLD<3.06E+00		LLD<3.06E+00		
W-187	LLD<1.11E+01		LLD<1.11E+01		
ZR-97	LLD<3.33E+00		LLD<3.33E+00		
ZR-95	LLD<6.09E+00		LLD<6.09E+00		
NB-95	LLD<3.48E+00		LLD<3.48E+00		
TL-210	LLD<2.28E+01		LLD<2.28E+01		
CO-58	LLD<3.26E+00		LLD<3.26E+00		
CS-136	LLD<3.37E+00		LLD<3.37E+00		
MN-54	LLD<3.45E+00		LLD<3.45E+00		
CO-56	LLD<3.58E+00		LLD<3.58E+00		
I-134	LLD<4.07E+00		LLD<4.07E+00		
TL-207	LLD<3.03E+03		LLD<3.03E+03		
Y-88	LLD<3.55E+00		LLD<3.55E+00		
AC-228	LLD<1.13E+01		LLD<1.13E+01		
[illegible]U-152	9.91E+02	+- 2.05E+01	9.91E+02	+-	2.05E+01
[illegible]234M	LLD<4.69E+01		LLD<4.69E+01		
[illegible]R-91	LLD<8.89E+00		LLD<8.89E+00		
RB-89	LLD<6.43E+00		LLD<6.43E+00		
FE-59	LLD<5.77E+00		LLD<5.77E+00		
ZN-65	LLD<1.52E+01		LLD<1.52E+01		
SC-46	LLD<3.44E+00		LLD<3.44E+00		
TA-182	LLD<1.01E+01		LLD<1.01E+01		
I-135	LLD<8.14E+00		LLD<8.14E+00		
CL-39	LLD<5.19E+00		LLD<5.19E+00		
NA-22	LLD<2.12E+00		LLD<2.12E+00		
AR-41	LLD<3.92E+00		LLD<3.92E+00		
CO-60	LLD<1.34E+00		LLD<1.34E+00		
NA-24	LLD<1.42E+00		LLD<1.42E+00		
SR-92	LLD<1.29E+00		LLD<1.29E+00		
SCH-000	9.34E+02	+- 1.84E+01	9.34E+02	+-	1.84E+01
CS-138	LLD<1.48E+00		LLD<1.48E+00		
K-40	LLD<1.00E+01		LLD<1.00E+01		
KR-88	LLD<7.93E+00		LLD<7.93E+00		
TL-209	LLD<2.27E+00		LLD<2.27E+00		
LA-140	LLD<3.63E-01		LLD<3.63E-01		
AL-26	LLD<3.48E-01		LLD<3.48E-01		
MN-56	LLD<1.14E+00		LLD<1.14E+00		
RB-88	LLD<2.06E+00		LLD<2.06E+00		
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Total	4.45E+03	+- 4.59E+01	4.45E+03	+-	4.59E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD2212

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
80.96	40.04	2905.	9.9	1.11E+04
92.64	45.88	1013.	14.9	1.87E+03
170.89	84.97	2051.	9.6	3.76E+02
183.44	91.23	1234.	11.5	1.92E+02
233.72	116.36	4225.	27.5	4.37E+02
248.97	123.97	3855.	46.9	3.74E+02
490.72	244.77	17781.	1.8	2.44E+03
593.23	296.00	831.	13.1	1.33E+02
678.22	338.48	1651.	20.7	2.99E+02
694.94	346.83	1315.	30.8	2.44E+02
736.66	367.69	1616.	6.4	3.17E+02
888.96	443.83	3843.	2.6	9.11E+02
978.32	488.50	491.	17.4	1.28E+02
1128.81	563.75	513.	17.9	1.56E+02
1132.98	565.84	184.	27.9	5.61E+01
1173.18	585.94	372.	23.8	1.17E+02
1358.12	678.44	250.	34.7	9.14E+01
1377.90	688.34	844.	9.7	3.13E+02
1438.35	718.57	107.	57.7	4.14E+01
1558.27	778.57	9204.	1.3	3.85E+03
1735.11	867.05	2711.	3.5	1.25E+03
1838.71	918.89	208.	26.1	1.01E+02
1916.82	957.99	351.	19.1	1.77E+02
2010.54	1004.89	501.	10.5	2.64E+02
2161.22	1080.33	248.	14.0	1.38E+02
2179.27	1089.36	1171.	4.8	6.57E+02
2425.69	1212.75	684.	7.4	4.15E+02
2548.20	1274.10	140.	20.3	8.79E+01
2597.97	1299.03	746.	5.0	4.75E+02
2804.70	1402.58	365.	9.3	2.43E+02
2823.52	1412.01	178.	17.6	1.19E+02
2914.59	1457.64	232.	11.1	1.58E+02
3057.59	1529.30	258.	7.6	1.80E+02
3211.56	1606.46	9.	57.7	6.43E+00

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GAMMA SPECTROSCOPY RESULTS FROM 2/13/96

FOR

CELLS PILE L(108,109)

0:♥♠ Autocal 2/13/96

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*                                                                   *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 13-FEB-96 08:56:24

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

Multiplet Analysis Performed.

gular Output.
pectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 13-FEB-96 at 08:15:15

COLLECT Live Time: 1200. sec.

hgtrw 13-FEB-96 08:56:24

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.93	39.53	1.7	29995.	3899.	9.4	
2C	91.72	45.42	1.7	24855.	2070.	11.7	
3$	169.17	84.11	2.7	63018.	3142.	16.5	
4$	174.45	86.75	2.7	65954.	3518.	16.5	PB-214
5$	179.31	89.18	2.7	68653.	2674.	20.7	
6$	184.44	91.74	2.7	71500.	1953.	23.0	TH-234
7?	235.49	117.24	1.6	38223.	8767.	30.3	
8?	244.28	121.63	1.6	36061.	181666.	1.5	SE-75,SCL-000, CO-57
9?	481.18	240.00	1.7	14429.	1562.	21.5	RA-224
10?	490.14	244.48	1.7	13718.	35381.	2.0	
11?	495.27	247.04	1.7	13311.	1707.	20.5	
12	592.53	295.65	2.1	10785.	1878.	9.3	PB-214
13?	680.40	339.57	1.8	8410.	4106.	19.7	
14?	689.24	343.99	1.8	7733.	91564.	1.3	BA-141, SCM-000
15?	694.74	346.73	1.8	7312.	2696.	30.4	
16	736.01	367.36	1.7	6987.	3065.	4.8	
17	822.89	410.80	1.6	5154.	5675.	2.3	AU-198
18	888.57	443.63	1.8	6459.	7270.	2.1	
19	977.97	488.33	1.7	4434.	893.	11.7	
20	1007.63	503.16	1.7	5605.	261.	46.8	
21C	1128.65	563.67	1.6	4647.	941.	15.4	CS-134,SB-122
22	1173.23	585.97	1.7	4569.	923.	11.8	
23	1358.10	678.43	1.3	4199.	469.	21.8	AG110M
24	1377.75	688.26	1.8	3862.	1377.	7.5	
25C	1439.28	719.04	1.7	3844.	457.	26.2	
26?	1549.04	773.95	2.0	4479.	536.	24.9	TE131M
27?	1558.16	778.51	2.0	4515.	18966.	1.4	MO-99
28$	1621.25	810.08	1.6	2895.	383.	22.0	I-132,CO-58
29	1734.99	866.99	1.9	4772.	5100.	2.6	
30C	1839.00	919.04	1.9	2540.	507.	20.7	
31C	1852.83	925.96	1.9	2487.	272.	22.8	PA-234
32?	1919.57	959.36	2.2	2368.	884.	11.0	
33?	1928.28	963.72	2.2	2359.	18421.	1.3	EU-152
34?	1934.72	966.95	2.2	2353.	526.	19.3	
35	2010.61	1004.93	1.8	2156.	721.	11.5	
36C	2163.34	1081.39	2.2	1854.	619.	11.3	
37C	2171.82	1085.63	2.2	1841.	11822.	1.6	EU-152
38C	2179.34	1089.40	2.2	1830.	2273.	4.5	
39?	2216.70	1108.10	2.2	1972.	877.	14.2	
40?	2224.25	1111.88	2.2	2144.	15206.	1.3	TE-129,EU-152
41	2426.12	1212.96	2.1	1422.	1325.	5.6	
42C	2549.25	1274.63	2.0	480.	301.	12.6	NA-22
43	2598.28	1299.18	2.3	572.	1410.	3.9	I-133
44?	2807.14	1403.81	2.5	408.	860.	10.2	
45?	2816.04	1408.27	2.5	626.	18725.	0.9	EU-152,BI-214, SCH-000
46C	2915.38	1458.04	2.2	88.	448.	6.1	I-135
47C	2921.67	1461.19	2.2	73.	287.	7.7	K-40
48	3058.63	1529.82	3.0	88.	463.	5.9	KR-88

49	3287.35	1644.45	2.2	10.	28.	27.2

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

15 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.698774E-07*Ch^2 + 4.994677E-01*Ch +-3.945615E-01

New Calibration Coefficients:

Energy = 2.611118E-07*Ch^2 + 4.993353E-01*Ch +-2.994596E-02

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Daily source check 2/13/96

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*                                                                     *
*                G A M M A   S P E C T R U M   A N A L Y S I S        *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 13-FEB-96 09:15:21

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD2213
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 13-FEB-96 at 09:00:10

COLLECT Live Time: 600. seconds
Real Time: 758. seconds
Dead Time: 20.84 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 13-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 13-FEB-96 09:15:21

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.13	39.98	1.9	17398.	2446.	10.8	
2C	92.00	45.91	1.9	14403.	1238.	14.0	
3C	169.86	84.79	2.6	31577.	1218.	21.5	
4C	175.35	87.53	2.6	33312.	1757.	18.4	PB-214,CD-109
5C	180.89	90.30	2.6	35063.	1104.	21.9	
6?	235.76	117.71	1.7	18788.	5078.	24.9	
7?	244.54	122.09	1.7	16242.	92984.	1.9	SE-75,SCL-000, CO-57
8?	250.01	124.83	1.7	14654.	2531.	44.9	
9?	481.05	240.23	1.7	7525.	790.	24.0	RA-224
10?	490.35	244.88	1.7	7168.	17764.	2.2	
11?	495.83	247.62	1.7	6958.	618.	30.9	
12N	592.59	295.96	1.6	4369.	787.	20.7	PB-214
13?	681.00	340.14	1.8	4115.	2004.	19.1	CS-136
14?	689.40	344.34	1.8	3762.	45229.	1.3	BA-141, SCM-000
15?	695.31	347.29	1.8	3513.	1451.	25.3	
16	736.42	367.83	1.9	2942.	1411.	6.5	
17	823.07	411.13	1.6	3039.	3096.	3.3	AU-198
18	888.66	443.92	1.7	3278.	3740.	3.0	
19	977.92	488.53	1.9	2979.	411.	22.1	
20	1128.87	563.99	1.6	3099.	649.	14.8	CS-134,SB-122
21	1173.33	586.21	2.0	2858.	407.	21.9	
22	1377.75	688.42	2.0	2530.	867.	10.2	
23$	1550.12	774.63	2.0	2156.	361.	15.8	TE131M
24$	1558.05	778.59	2.0	2082.	9388.	2.2	MO-99
25$	1564.03	781.59	2.0	2027.	297.	20.0	
26	1734.91	867.06	2.0	2077.	2797.	3.2	
27	1838.74	919.00	2.4	1120.	412.	13.7	
28?	1918.99	959.15	2.2	1187.	475.	14.4	
29?	1928.14	963.73	2.2	1186.	9399.	1.8	EU-152
30	2010.73	1005.05	2.2	903.	458.	11.6	
31C	2171.61	1085.56	2.2	1256.	5766.	1.9	EU-152
32C	2179.19	1089.36	2.2	1075.	1010.	4.5	
33?	2215.40	1107.48	2.3	1010.	368.	17.4	
34?	2224.02	1111.79	2.3	1127.	7624.	1.7	TE-129,EU-152
35	2425.93	1212.86	2.2	640.	738.	7.0	
36	2548.96	1274.45	1.4	281.	201.	15.8	NA-22
37	2598.05	1299.03	2.0	239.	747.	5.0	I-133
38?	2807.03	1403.68	2.5	191.	423.	12.4	
39?	2815.64	1407.99	2.5	291.	9321.	1.2	EU-152,BI-214, SCH-000
40	2914.26	1457.38	2.7	100.	298.	8.3	I-135
41	3057.74	1529.25	3.6	27.	294.	6.6	KR-88
42N	4025.08	2014.07	0.5	0.	7.	37.8	

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

11 Multiplets processed.

C - Multiplet Analysis converged normally
- Multiplet Analysis did NOT converge
· Multiplet Analysis Terminated because of no CHI-SQ improvement
- Multiplet Analysis converged but GFIT > 4

hgtrw 13-FEB-96 09:15:21

Sample: Eu-152 Standard
Data collected on 13-FEB-96 at 09:00:10
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.87E+01		LLD<2.87E+01	
TH-234	LLD<2.20E+02		LLD<2.20E+02	
TH-230	LLD<1.81E+03		LLD<1.81E+03	
XE-133	LLD<1.29E+01		LLD<1.29E+01	
CD-109	2.42E+02	+- 4.46E+01	2.42E+02	+- 4.46E+01
SCL-000	9.80E+02	+- 1.92E+01	9.80E+02	+- 1.92E+01
CO-57	3.25E+02	+- 6.37E+00	3.25E+02	+- 6.37E+00
PA-234	LLD<9.44E+00		LLD<9.44E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.95E+00		LLD<1.95E+00	
U-235	LLD<1.58E+01		LLD<1.58E+01	
CE-141	LLD<3.58E+00		LLD<3.58E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.73E+01		LLD<8.73E+01	
BA-139	LLD<1.07E+01		LLD<1.07E+01	
[illegible]-139	LLD<2.15E+00		LLD<2.15E+00	
RA-226	LLD<5.30E+01		LLD<5.30E+01	
BA-141	LLD<4.54E+00		LLD<4.54E+00	
KR-89	LLD<2.74E+01		LLD<2.74E+01	
TE-132	LLD<2.17E+00		LLD<2.17E+00	
XE-133M	LLD<1.90E+01		LLD<1.90E+01	
TH-227	LLD<1.37E+01		LLD<1.37E+01	
PB-212	LLD<4.83E+00		LLD<4.83E+00	
RA-224	8.09E+01	+- 1.95E+01	8.09E+01	+- 1.95E+01
XE-135	LLD<3.93E+00		LLD<3.93E+00	
XE-138	LLD<8.30E+00		LLD<8.30E+00	
SE-75	LLD<3.22E+00		LLD<3.22E+00	
NP-239	LLD<1.40E+01		LLD<1.40E+01	
HG-203	LLD<2.51E+00		LLD<2.51E+00	
IR-192	LLD<2.35E+00		LLD<2.35E+00	
CR-51	LLD<2.04E+01		LLD<2.04E+01	
SCM-000	9.53E+02	+- 1.46E+01	9.53E+02	+- 1.46E+01
BI-211	LLD<1.01E+02		LLD<1.01E+02	
PB-214	LLD<7.28E+00		LLD<7.28E+00	
BA-133	LLD<3.04E+00		LLD<3.04E+00	
I-131	LLD<2.72E+00		LLD<2.72E+00	
SN-113	LLD<3.01E+00		LLD<3.01E+00	
KR-87	LLD<4.30E+00		LLD<4.30E+00	
PB-211	LLD<8.10E+01		LLD<8.10E+01	
AU-198	2.17E+01	+- 7.56E-01	2.17E+01	+- 7.56E-01
[illegible]-125	LLD<6.98E+00		LLD<6.98E+00	
[illegible]-212	LLD<6.62E+02		LLD<6.62E+02	
BE-7	LLD<2.29E+01		LLD<2.29E+01	
HF-181	LLD<2.72E+00		LLD<2.72E+00	
RU-103	LLD<2.83E+00		LLD<2.83E+00	
KR-85	LLD<5.51E+02		LLD<5.51E+02	

SR-85	LLD<2.41E+00	LLD<2.41E+00
I-133	LLD<2.83E+00	LLD<2.83E+00
BA-140	LLD<9.95E+00	LLD<9.95E+00
[illegible]91M	LLD<3.25E+00	LLD<3.25E+00
[illegible]-207	LLD<2.95E+00	LLD<2.95E+00
[illegible]L-208	LLD<1.04E+01	LLD<1.04E+01
SB-124	LLD<2.70E+00	LLD<2.70E+00
CS-134	LLD<2.72E+00	LLD<2.72E+00
BI-214	LLD<7.18E+00	LLD<7.18E+00
RU-106	LLD<2.76E+01	LLD<2.76E+01
LA-142	LLD<5.45E+00	LLD<5.45E+00
AG-110M	LLD<3.07E+00	LLD<3.07E+00
NB-97	LLD<3.30E+00	LLD<3.30E+00
CS-137	LLD<3.44E+00	LLD<3.44E+00
I-132	LLD<3.00E+00	LLD<3.00E+00
W-187	LLD<1.09E+01	LLD<1.09E+01
ZR-97	LLD<3.35E+00	LLD<3.35E+00
ZR-95	LLD<6.07E+00	LLD<6.07E+00
NB-95	LLD<3.19E+00	LLD<3.19E+00
TL-210	LLD<2.23E+01	LLD<2.23E+01
CO-58	LLD<3.42E+00	LLD<3.42E+00
CS-136	LLD<3.30E+00	LLD<3.30E+00
MN-54	LLD<3.60E+00	LLD<3.60E+00
CO-56	LLD<3.62E+00	LLD<3.62E+00
I-134	LLD<4.00E+00	LLD<4.00E+00
TL-207	LLD<3.27E+03	LLD<3.27E+03
Y-88	LLD<3.63E+00	LLD<3.63E+00
AC-228	LLD<1.13E+01	LLD<1.13E+01
EU-152	1.01E+03 +- 2.20E+01	1.01E+03 +- 2.20E+01
[illegible]-234M	LLD<4.68E+01	LLD<4.68E+01
[illegible]-91	LLD<8.58E+00	LLD<8.58E+00
RB-89	LLD<6.39E+00	LLD<6.39E+00
FE-59	LLD<5.65E+00	LLD<5.65E+00
ZN-65	LLD<1.53E+01	LLD<1.53E+01
SC-46	LLD<3.56E+00	LLD<3.56E+00
TA-182	LLD<1.03E+01	LLD<1.03E+01
I-135	LLD<8.01E+00	LLD<8.01E+00
CL-39	LLD<5.40E+00	LLD<5.40E+00
NA-22	LLD<1.99E+00	LLD<1.99E+00
AR-41	LLD<4.57E+00	LLD<4.57E+00
CO-60	LLD<1.51E+00	LLD<1.51E+00
NA-24	LLD<1.18E+00	LLD<1.18E+00
SR-92	LLD<1.42E+00	LLD<1.42E+00
SCH-000	9.11E+02 +- 1.83E+01	9.11E+02 +- 1.83E+01
CS-138	LLD<1.46E+00	LLD<1.46E+00
K-40	LLD<1.12E+01	LLD<1.12E+01
KR-88	LLD<8.09E+00	LLD<8.09E+00
TL-209	LLD<1.85E+00	LLD<1.85E+00
LA-140	LLD<4.13E-01	LLD<4.13E-01
AL-26	LLD<3.24E-01	LLD<3.24E-01
MN-56	LLD<1.81E+00	LLD<1.81E+00
RB-88	LLD<2.49E+00	LLD<2.49E+00
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Total	4.52E+03 +- 6.18E+01	4.52E+03 +- 6.18E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD2213

PEAKS NOT USED IN ANALYSIS

Centroid nnel	Energy keV	Net Area counts	Error %	Gammas/sec
80.13	39.98	2446.	10.8	9.40E+03
92.00	45.91	1238.	14.0	2.28E+03
169.86	84.79	1218.	21.5	2.24E+02
180.89	90.30	1104.	21.9	1.75E+02
235.76	117.71	5078.	24.9	5.19E+02
250.01	124.83	2531.	44.9	2.44E+02
490.35	244.88	17764.	2.2	2.44E+03
495.83	247.62	618.	30.9	8.52E+01
592.59	295.96	787.	20.7	1.26E+02
681.00	340.14	2004.	19.1	3.65E+02
695.31	347.29	1451.	25.3	2.70E+02
736.42	367.83	1411.	6.5	2.77E+02
888.66	443.92	3740.	3.0	8.87E+02
977.92	488.53	411.	22.1	1.08E+02
1128.87	563.99	649.	14.8	1.97E+02
1173.33	586.21	407.	21.9	1.28E+02
1377.75	688.42	867.	10.2	3.22E+02
1550.12	774.63	361.	15.8	1.50E+02
1558.05	778.59	9388.	2.2	3.93E+03
1564.03	781.59	297.	20.0	1.25E+02
1734.91	867.06	2797.	3.2	1.29E+03
1838.74	919.00	412.	13.7	2.01E+02
1918.99	959.15	475.	14.4	2.40E+02
2010.73	1005.05	458.	11.6	2.41E+02
2179.19	1089.36	1010.	4.5	5.66E+02
2215.40	1107.48	368.	17.4	2.09E+02
2425.93	1212.86	738.	7.0	4.48E+02
2548.96	1274.45	201.	15.8	1.26E+02
2598.05	1299.03	747.	5.0	4.75E+02
2807.03	1403.68	423.	12.4	2.82E+02
2914.26	1457.38	298.	8.3	2.03E+02
3057.74	1529.25	294.	6.6	2.05E+02
4025.08	2014.07	7.	37.8	5.38E+00

0↕☺

0↕♥♠ Pile L : cells 108,109

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 13-FEB-96 11:57:52

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0102
Measured by: DLV

Sample Description: L:108,109
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.3500E+02 GM / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 12-FEB-96 at 12:47:03

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 13-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 13-FEB-96 11:57:52

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.14	238.78	1.1	99.	112.	16.6	PB-212
2	591.72	295.53	2.1	36.	59.	20.7	PB-214
3	704.53	351.90	1.7	36.	87.	15.4	BI-211,PB-214
4	1166.42	582.76	1.2	10.	39.	20.0	TL-208
5	1218.82	608.96	1.0	19.	46.	21.7	XE-135,BI-214
6	1323.90	661.50	2.1	18.	39.	23.5	CS-137
7	1821.92	910.58	3.2	6.	25.	25.6	AC-228
8	2921.14	1460.83	2.6	4.	105.	10.3	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 13-FEB-96 11:57:52

mple: L:108,109
ta collected on 12-FEB-96 at 12:47:03
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /GM Measured	Error	Decay corrected	Error
AM-241	LLD<2.70E+00		LLD<2.70E+00	
TH-234	LLD<2.56E+01		LLD<2.56E+01	
TH-230	LLD<1.75E+02		LLD<1.75E+02	
XE-133	LLD<1.50E+00		LLD<1.50E+00	
CD-109	LLD<1.09E+01		LLD<1.09E+01	
SCL-000	LLD<6.99E-01		LLD<6.99E-01	
CO-57	LLD<2.32E-01		LLD<2.32E-01	
PA-234	LLD<8.20E-01		LLD<8.20E-01	
CE-144	LLD<1.67E+00		LLD<1.67E+00	
TC-99M	LLD<1.90E-01		LLD<1.90E-01	
U-235	LLD<1.37E+00		LLD<1.37E+00	
CE-141	LLD<3.47E-01		LLD<3.47E-01	
KR-85M	LLD<2.31E-01		LLD<2.31E-01	
XE-131M	LLD<7.76E+00		LLD<7.76E+00	
BA-139	LLD<9.60E-01		LLD<9.60E-01	
-139	LLD<1.95E-01		LLD<1.95E-01	
RA-226	LLD<4.65E+00		LLD<4.65E+00	
BA-141	LLD<5.05E-01		LLD<5.05E-01	
KR-89	LLD<1.95E+00		LLD<1.95E+00	
TE-132	LLD<1.66E-01		LLD<1.66E-01	
XE-133M	LLD<2.23E+00		LLD<2.23E+00	
TH-227	LLD<1.55E+00		LLD<1.55E+00	
PB-212	1.06E+00	+- 1.78E-01	1.06E+00	+- 1.78E-01
RA-224	LLD<5.26E+00		LLD<5.26E+00	
XE-135	LLD<1.91E-01		LLD<1.91E-01	
XE-138	LLD<7.52E-01		LLD<7.52E-01	
SE-75	LLD<3.76E-01		LLD<3.76E-01	
NP-239	LLD<1.45E+00		LLD<1.45E+00	
HG-203	LLD<2.77E-01		LLD<2.77E-01	
IR-192	LLD<2.05E-01		LLD<2.05E-01	
CR-51	LLD<1.89E+00		LLD<1.89E+00	
SCM-000	LLD<9.74E-01		LLD<9.74E-01	
BI-211	1.39E+01	+- 2.15E+00	1.39E+01	+- 2.15E+00
PB-214	1.62E+00	+- 2.51E-01	1.62E+00	+- 2.51E-01
BA-133	LLD<6.71E-01		LLD<6.71E-01	
I-131	LLD<2.43E-01		LLD<2.43E-01	
SN-113	LLD<3.18E-01		LLD<3.18E-01	
KR-87	LLD<5.16E-01		LLD<5.16E-01	
PB-211	LLD<1.01E+01		LLD<1.01E+01	
AU-198	LLD<2.14E-01		LLD<2.14E-01	
-125	LLD<7.11E-01		LLD<7.11E-01	
-212	LLD<6.35E+01		LLD<6.35E+01	
BE-7	LLD<2.40E+00		LLD<2.40E+00	
HF-181	LLD<2.56E-01		LLD<2.56E-01	
RU-103	LLD<2.51E-01		LLD<2.51E-01	
KR-85	LLD<6.55E+01		LLD<6.55E+01	

SR-85	LLD<2.86E-01		LLD<2.86E-01		
I-133	LLD<2.88E-01		LLD<2.88E-01		
BA-140	LLD<7.61E-01		LLD<7.61E-01		
[illegible]91M	LLD<2.98E-01		LLD<2.98E-01		
[illegible] 207	LLD<2.52E-01		LLD<2.52E-01		
[illegible]-208	LLD<9.37E-01		LLD<9.37E-01		
SB-124	LLD<2.95E-01		LLD<2.95E-01		
CS-134	LLD<4.84E-01		LLD<4.84E-01		
BI-214	1.24E+00	+- 2.70E-01	1.24E+00	+-	2.70E-01
RU-106	LLD<2.15E+00		LLD<2.15E+00		
LA-142	LLD<4.72E-01		LLD<4.72E-01		
AG-110M	LLD<5.43E-01		LLD<5.43E-01		
NB-97	LLD<5.10E-01		LLD<5.10E-01		
CS-137	5.00E-01	+- 1.18E-01	5.00E-01	+-	1.18E-01
I-132	LLD<3.51E-01		LLD<3.51E-01		
W-187	LLD<5.64E-01		LLD<5.64E-01		
ZR-97	LLD<2.67E-01		LLD<2.67E-01		
ZR-95	LLD<4.82E-01		LLD<4.82E-01		
NB-95	LLD<2.86E-01		LLD<2.86E-01		
TL-210	LLD<1.84E+00		LLD<1.84E+00		
CO-58	LLD<2.48E-01		LLD<2.48E-01		
CS-136	LLD<2.74E-01		LLD<2.74E-01		
MN-54	LLD<2.82E-01		LLD<2.82E-01		
CO-56	LLD<2.91E-01		LLD<2.91E-01		
I-134	LLD<3.83E-01		LLD<3.83E-01		
TL-207	LLD<2.48E+02		LLD<2.48E+02		
Y-88	LLD<3.24E-01		LLD<3.24E-01		
AC-228	1.44E+00	+- 3.69E-01	1.44E+00	+-	3.69E-01
EU-152	LLD<3.22E+00		LLD<3.22E+00		
[illegible]234M	LLD<3.83E+00		LLD<3.83E+00		
[illegible]-91	LLD<1.22E+00		LLD<1.22E+00		
RB-89	LLD<6.06E-01		LLD<6.06E-01		
FE-59	LLD<4.71E-01		LLD<4.71E-01		
ZN-65	LLD<9.52E-01		LLD<9.52E-01		
SC-46	LLD<4.09E-01		LLD<4.09E-01		
TA-182	LLD<1.08E+00		LLD<1.08E+00		
I-135	LLD<1.44E+00		LLD<1.44E+00		
CL-39	LLD<1.09E+00		LLD<1.09E+00		
NA-22	LLD<3.96E-01		LLD<3.96E-01		
AR-41	LLD<3.12E-01		LLD<3.12E-01		
CO-60	LLD<2.95E-01		LLD<2.95E-01		
NA-24	LLD<2.95E-01		LLD<2.95E-01		
SR-92	LLD<4.62E-01		LLD<4.62E-01		
SCH-000	LLD<1.22E+00		LLD<1.22E+00		
CS-138	LLD<4.34E-01		LLD<4.34E-01		
K-40	2.17E+01	+- 2.27E+00	2.17E+01	+-	2.27E+00
KR-88	LLD<2.55E+00		LLD<2.55E+00		
TL-209	LLD<1.11E+00		LLD<1.11E+00		
LA-140	LLD<3.64E-01		LLD<3.64E-01		
AL-26	LLD<2.95E-01		LLD<2.95E-01		
MN-56	LLD<7.65E-01		LLD<7.65E-01		
RB-88	LLD<1.15E+00		LLD<1.15E+00		
	---		---		
Total	4.15E+01	+- 3.18E+00	4.15E+01	+-	3.18E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0102

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.72	295.53	59.	20.7	9.44E+00
1166.42	582.76	39.	20.0	1.23E+01

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GAMMA SPECTROSCOPY RESULTS FROM 2/14/96

FOR

B-25 BOX #2046598 AND #2046587

Auto cal

2/14/96

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*                                                                     *
*        G A M M A   S P E C T R U M   R E C A L I B R A T I O N      *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 14-FEB-96 07:53:46

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 14-FEB-96 at 07:27:00

COLLECT Live Time: 1200. sec.

hgtrw 14-FEB-96 07:53:46

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.15	39.99	1.8	31870.	4286.	8.4	
2C	91.78	45.80	1.8	26716.	2023.	10.2	
3$	149.84	74.80	1.6	37940.	932.	36.3	PB-214
4N	169.83	84.78	3.6	89969.	3831.	6.9	
5N	176.49	88.11	3.6	101466.	3307.	7.0	PB-214,CD-109
6?	234.29	116.98	1.7	36993.	8997.	26.6	
7?	244.57	122.11	1.7	31572.	184885.	1.9	SE-75,SCL-000, CO-57
8?	249.24	124.44	1.7	29108.	6201.	41.6	
9?	479.85	239.64	1.7	14704.	1573.	20.1	
10?	490.48	244.95	1.7	13850.	35493.	2.0	
11?	495.91	247.66	1.7	13413.	1294.	23.6	
12	593.07	296.20	2.0	11013.	1692.	10.3	
13?	679.21	339.24	1.8	8302.	4018.	18.0	AC-228
14?	689.61	344.44	1.8	7779.	91977.	1.2	BA-141, SCM-000
15?	695.25	347.26	1.8	7495.	2796.	26.3	
16	736.49	367.87	2.0	5877.	2983.	4.4	
17C	823.29	411.25	1.7	5557.	5980.	3.6	AU-198
18C	832.84	416.02	1.7	5251.	502.	14.5	
19	888.91	444.04	1.7	6352.	7532.	2.1	
20	978.62	488.88	2.0	5743.	1050.	12.1	
21	1128.72	563.91	2.0	5938.	996.	12.9	CS-134,SB-122
22	1173.46	586.28	2.0	5053.	870.	13.3	
23	1358.08	678.59	1.6	5267.	609.	20.2	AG110M
24	1378.34	688.72	1.6	4716.	1298.	9.0	
25	1439.48	719.30	1.9	3409.	269.	32.2	
26?	1548.50	773.82	2.0	4412.	674.	17.3	W-187,TE131M
27?	1558.62	778.88	2.0	4253.	19371.	1.5	
28?	1565.16	782.15	2.0	4150.	564.	21.0	
29C	1735.52	867.36	2.1	4093.	5506.	4.0	
30C	1839.56	919.41	1.8	2229.	495.	20.2	
31C	1853.01	926.14	1.8	2242.	285.	21.6	PA-234
32?	1918.85	959.08	2.2	2751.	723.	16.9	
33?	1928.83	964.07	2.2	3005.	18352.	1.2	EU-152
34	2010.82	1005.10	2.2	2194.	841.	10.1	
35C	2162.48	1081.00	2.3	1860.	563.	13.5	
36C	2172.31	1085.91	2.3	1881.	12179.	1.7	EU-152
37C	2180.10	1089.81	2.3	1898.	2367.	5.0	
38?	2216.08	1107.82	2.3	2107.	695.	13.5	
39?	2224.82	1112.19	2.3	2231.	15417.	1.3	TE-129,EU-152
40	2426.49	1213.14	2.3	1103.	1315.	4.9	
41C	2549.45	1274.70	1.4	670.	261.	17.6	NA-22
42	2598.85	1299.43	2.0	527.	1457.	3.7	
43?	2806.61	1403.47	2.5	439.	797.	10.6	
44?	2816.74	1408.54	2.5	687.	18480.	0.9	EU-152,BI-214, SCH-000
45C	2915.89	1458.20	2.4	102.	465.	6.1	I-135
46C	2922.38	1461.45	2.4	88.	298.	7.5	K-40
47	3059.39	1530.08	3.7	92.	499.	5.7	KR-88

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

14 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.611118E-07*Ch^2 + 4.993353E-01*Ch +-2.994596E-02

New Calibration Coefficients:

Energy = 2.597442E-07*Ch^2 + 4.992634E-01*Ch +-1.578545E-01

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 14-FEB-96 08:28:07

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD2214
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 14-FEB-96 at 07:59:26

COLLECT Live Time: 600. seconds
Real Time: 757. seconds
Dead Time: 20.74 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 14-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 14-FEB-96 08:28:07

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.79	39.68	1.9	17581.	2186.	11.2	
2C	91.69	45.62	1.9	14670.	1311.	13.1	
3$	170.04	84.75	3.4	42860.	2172.	15.8	
4$	176.47	87.95	3.4	46242.	2172.	16.0	PB-214,CD-109
5$	182.36	90.90	3.4	49345.	1017.	32.3	
6?	233.90	116.64	1.7	19412.	4158.	27.4	
7?	244.32	121.84	1.7	18245.	91906.	1.3	SE-75,SCL-000, CO-57
8?	479.92	239.51	1.7	7495.	806.	25.2	PB-212
9?	490.21	244.65	1.7	7185.	18087.	2.2	
10?	496.02	247.55	1.7	7010.	664.	30.2	
11	592.79	295.89	1.3	4540.	954.	11.4	PB-214
12?	679.16	339.04	1.8	3996.	1973.	18.7	AC-228
13?	689.31	344.11	1.8	3762.	45440.	1.7	BA-141, SCM-000
14?	694.07	346.49	1.8	3652.	1440.	34.0	
15?	697.83	348.37	1.8	3565.	526.	76.8	
16	736.08	367.48	1.8	3482.	1513.	6.8	
17	822.97	410.90	1.6	2904.	2691.	3.6	AU-198
18	888.69	443.74	1.8	3165.	3900.	2.8	
19	978.16	488.45	2.5	2474.	372.	21.2	
20$	1128.61	563.65	1.9	2722.	424.	20.8	CS-134,SB-122
21$	1132.92	565.80	1.9	2676.	236.	27.4	
22	1173.46	586.07	1.3	2689.	560.	15.6	
23	1378.13	688.38	1.9	2499.	717.	12.2	
24C	1548.49	773.57	2.0	2162.	321.	17.7	I-132,W-187, TE131M
25C	1558.35	778.50	2.0	2359.	9143.	1.8	MO-99
26	1735.28	866.98	2.0	2351.	2398.	3.9	
27	1839.60	919.17	2.7	1367.	335.	18.7	
28$	1918.83	958.80	2.2	1248.	389.	11.6	
29$	1928.52	963.65	2.2	1206.	9279.	1.9	EU-152
30$	1935.72	967.25	2.2	1174.	247.	17.3	
31	2010.39	1004.61	2.1	1076.	363.	16.2	
32C	2172.11	1085.52	2.1	1269.	5767.	1.9	EU-152
33C	2179.81	1089.38	2.1	1083.	930.	3.6	
34$	2215.46	1107.22	2.3	1001.	363.	16.5	
35$	2224.54	1111.76	2.3	1202.	7462.	1.8	TE-129,EU-152
36	2426.04	1212.60	2.2	702.	626.	8.3	
37	2549.58	1274.45	2.3	268.	123.	23.8	NA-22
38	2598.70	1299.03	2.0	285.	703.	5.6	I-133
39C	2806.45	1403.04	2.4	185.	383.	11.4	
40C	2816.43	1408.04	2.4	300.	9352.	1.2	EU-152,BI-214, SCH-000
41	2915.60	1457.70	1.5	123.	263.	9.7	I-135
42C	2989.54	1494.73	1.4	12.	21.	45.6	
43	3058.43	1529.23	3.1	30.	227.	7.8	KR-88

Error Quotation at 1.00 sigma

Peak Confidence Level at 95.0%

13 Multiplets processed.

Multiplet Analysis converged normally
.. - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 14-FEB-96 08:28:07

Sample: Eu-152 Standard
Data collected on 14-FEB-96 at 07:59:26
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.89E+01		LLD<2.89E+01	
TH-234	LLD<2.19E+02		LLD<2.19E+02	
TH-230	LLD<1.83E+03		LLD<1.83E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	2.99E+02	+- 4.81E+01	2.99E+02	+- 4.81E+01
SCL-000	9.69E+02	+- 1.44E+01	9.69E+02	+- 1.44E+01
CO-57	3.22E+02	+- 4.78E+00	3.22E+02	+- 4.78E+00
PA-234	LLD<9.40E+00		LLD<9.40E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.98E+00		LLD<1.98E+00	
U-235	LLD<1.58E+01		LLD<1.58E+01	
CE-141	LLD<3.57E+00		LLD<3.57E+00	
KR-85M	LLD<2.37E+00		LLD<2.37E+00	
XE-131M	LLD<8.90E+01		LLD<8.90E+01	
BA-139	LLD<1.07E+01		LLD<1.07E+01	
[illegible]-139	LLD<2.14E+00		LLD<2.14E+00	
[illegible]-226	LLD<4.96E+01		LLD<4.96E+01	
BA-141	LLD<4.43E+00		LLD<4.43E+00	
KR-89	LLD<2.76E+01		LLD<2.76E+01	
TE-132	LLD<2.02E+00		LLD<2.02E+00	
XE-133M	LLD<1.90E+01		LLD<1.90E+01	
TH-227	LLD<1.37E+01		LLD<1.37E+01	
PB-212	7.18E+00	+- 1.81E+00	7.18E+00	+- 1.81E+00
RA-224	LLD<9.76E+01		LLD<9.76E+01	
XE-135	LLD<4.14E+00		LLD<4.14E+00	
XE-138	LLD<8.33E+00		LLD<8.33E+00	
SE-75	LLD<3.25E+00		LLD<3.25E+00	
NP-239	LLD<1.37E+01		LLD<1.37E+01	
HG-203	LLD<2.52E+00		LLD<2.52E+00	
IR-192	LLD<2.39E+00		LLD<2.39E+00	
CR-51	LLD<2.06E+01		LLD<2.06E+01	
SCM-000	9.57E+02	+- 1.78E+01	9.57E+02	+- 1.78E+01
BI-211	LLD<8.31E+01		LLD<8.31E+01	
PB-214	LLD<7.32E+00		LLD<7.32E+00	
BA-133	LLD<3.15E+00		LLD<3.15E+00	
I-131	LLD<2.72E+00		LLD<2.72E+00	
SN-113	LLD<2.99E+00		LLD<2.99E+00	
KR-87	LLD<4.27E+00		LLD<4.27E+00	
PB-211	LLD<8.22E+01		LLD<8.22E+01	
AU-198	1.88E+01	+- 7.11E-01	1.88E+01	+- 7.11E-01
[illegible]-125	LLD<6.94E+00		LLD<6.94E+00	
[illegible]-212	LLD<6.69E+02		LLD<6.69E+02	
BE-7	LLD<2.15E+01		LLD<2.15E+01	
HF-181	LLD<2.74E+00		LLD<2.74E+00	
RU-103	LLD<2.64E+00		LLD<2.64E+00	
KR-85	LLD<5.55E+02		LLD<5.55E+02	

SR-85	LLD<2.43E+00	LLD<2.43E+00
I-133	LLD<3.12E+00	LLD<3.12E+00
BA-140	LLD<1.05E+01	LLD<1.05E+01
[illegible]91M	LLD<3.07E+00	LLD<3.07E+00
[illegible] 207	LLD<2.97E+00	LLD<2.97E+00
[illegible]-208	LLD<1.04E+01	LLD<1.04E+01
SB-124	LLD<2.71E+00	LLD<2.71E+00
CS-134	LLD<2.71E+00	LLD<2.71E+00
BI-214	LLD<7.63E+00	LLD<7.63E+00
RU-106	LLD<2.90E+01	LLD<2.90E+01
LA-142	LLD<5.66E+00	LLD<5.66E+00
AG-110M	LLD<3.18E+00	LLD<3.18E+00
NB-97	LLD<3.25E+00	LLD<3.25E+00
CS-137	LLD<3.24E+00	LLD<3.24E+00
I-132	LLD<3.18E+00	LLD<3.18E+00
W-187	LLD<1.10E+01	LLD<1.10E+01
ZR-97	LLD<3.42E+00	LLD<3.42E+00
ZR-95	LLD<6.01E+00	LLD<6.01E+00
NB-95	LLD<3.25E+00	LLD<3.25E+00
TL-210	LLD<2.27E+01	LLD<2.27E+01
CO-58	LLD<3.31E+00	LLD<3.31E+00
CS-136	LLD<3.33E+00	LLD<3.33E+00
MN-54	LLD<3.43E+00	LLD<3.43E+00
CO-56	LLD<3.61E+00	LLD<3.61E+00
I-134	LLD<4.34E+00	LLD<4.34E+00
TL-207	LLD<3.05E+03	LLD<3.05E+03
Y-88	LLD<3.78E+00	LLD<3.78E+00
AC-228	LLD<1.23E+01	LLD<1.23E+01
EU-152	9.95E+02 +- 2.28E+01	9.95E+02 +- 2.28E+01
[illegible]-234M	LLD<4.39E+01	LLD<4.39E+01
[illegible]91	LLD<8.68E+00	LLD<8.68E+00
RB-89	LLD<6.24E+00	LLD<6.24E+00
FE-59	LLD<5.54E+00	LLD<5.54E+00
ZN-65	LLD<1.43E+01	LLD<1.43E+01
SC-46	LLD<3.71E+00	LLD<3.71E+00
TA-182	LLD<9.70E+00	LLD<9.70E+00
I-135	LLD<7.84E+00	LLD<7.84E+00
CL-39	LLD<4.63E+00	LLD<4.63E+00
NA-22	LLD<1.99E+00	LLD<1.99E+00
AR-41	LLD<4.03E+00	LLD<4.03E+00
CO-60	LLD<1.33E+00	LLD<1.33E+00
NA-24	LLD<1.31E+00	LLD<1.31E+00
SR-92	LLD<1.58E+00	LLD<1.58E+00
SCH-000	9.14E+02 +- 1.82E+01	9.14E+02 +- 1.82E+01
CS-138	LLD<1.28E+00	LLD<1.28E+00
K-40	LLD<9.00E+00	LLD<9.00E+00
KR-88	LLD<7.73E+00	LLD<7.73E+00
TL-209	LLD<2.56E+00	LLD<2.56E+00
LA-140	LLD<6.11E-01	LLD<6.11E-01
AL-26	LLD<3.14E-01	LLD<3.14E-01
MN-56	LLD<1.18E+00	LLD<1.18E+00
RB-88	LLD<9.95E-01	LLD<9.95E-01
	---	---
Total	4.48E+03 +- 6.09E+01	4.48E+03 +- 6.09E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD2214

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
79.79	39.68	2186.	11.2	8.77E+03
91.69	45.62	1311.	13.1	2.50E+03
170.04	84.75	2172.	15.8	4.01E+02
182.36	90.90	1017.	32.3	1.59E+02
233.90	116.64	4158.	27.4	4.29E+02
490.21	244.65	18087.	2.2	2.48E+03
496.02	247.55	664.	30.2	9.16E+01
592.79	295.89	954.	11.4	1.53E+02
679.16	339.04	1973.	18.7	3.58E+02
694.07	346.49	1440.	34.0	2.67E+02
697.83	348.37	526.	76.8	9.80E+01
736.08	367.48	1513.	6.8	2.97E+02
888.69	443.74	3900.	2.8	9.25E+02
978.16	488.45	372.	21.2	9.74E+01
1128.61	563.65	424.	20.8	1.29E+02
1132.92	565.80	236.	27.4	7.17E+01
1173.46	586.07	560.	15.6	1.76E+02
1378.13	688.38	717.	12.2	2.66E+02
1548.49	773.57	321.	17.7	1.33E+02
1558.35	778.50	9143.	1.8	3.82E+03
1735.28	866.98	2398.	3.9	1.11E+03
1839.60	919.17	335.	18.7	1.63E+02
1918.83	958.80	389.	11.6	1.96E+02
1935.72	967.25	247.	17.3	1.26E+02
2010.39	1004.61	363.	16.2	1.91E+02
2179.81	1089.38	930.	3.6	5.22E+02
2215.46	1107.22	363.	16.5	2.06E+02
2426.04	1212.60	626.	8.3	3.80E+02
2549.58	1274.45	123.	23.8	7.74E+01
2598.70	1299.03	703.	5.6	4.47E+02
2806.45	1403.04	383.	11.4	2.56E+02
2915.60	1457.70	263.	9.7	1.79E+02
2989.54	1494.73	21.	45.6	1.47E+01
3058.43	1529.23	227.	7.8	1.58E+02

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B-25 # 2046598

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 14-FEB-96 08:55:06

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0104
Measured by: dlv

Sample Description: B25#2046598
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.2500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 14-FEB-96 at 08:42:45

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 14-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 14-FEB-96 08:55:06

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	186.22	92.82	2.1	162.	223.	11.2	TH-234,TH-234
2	372.42	185.81	1.6	55.	178.	10.0	U-235,RA-226
3	478.03	238.56	1.5	80.	130.	14.1	PB-212
4	590.72	294.86	1.8	31.	48.	23.3	PB-214
5	677.79	338.36	1.2	30.	30.	33.9	AC-228
6	704.75	351.83	1.9	37.	50.	23.8	BI-211,PB-214
7	2921.53	1460.67	2.6	11.	71.	14.3	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 14-FEB-96 08:55:06

Sample: B25#2046598
Data collected on 14-FEB-96 at 08:42:45
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.62E+00		LLD<4.62E+00	
TH-234	LLD<3.11E+01		LLD<3.11E+01	
TH-230	LLD<2.89E+02		LLD<2.89E+02	
XE-133	LLD<1.81E+00		LLD<1.81E+00	
CD-109	LLD<1.82E+01		LLD<1.82E+01	
SCL-000	LLD<7.74E-01		LLD<7.74E-01	
CO-57	LLD<2.57E-01		LLD<2.57E-01	
PA-234	LLD<1.00E+00		LLD<1.00E+00	
CE-144	LLD<2.07E+00		LLD<2.07E+00	
TC-99M	LLD<2.35E-01		LLD<2.35E-01	
U-235	LLD<1.58E+00		LLD<1.58E+00	
CE-141	LLD<3.71E-01		LLD<3.71E-01	
KR-85M	LLD<2.38E-01		LLD<2.38E-01	
XE-131M	LLD<8.79E+00		LLD<8.79E+00	
BA-139	LLD<1.14E+00		LLD<1.14E+00	
[illegible]-139	LLD<2.32E-01		LLD<2.32E-01	
[illegible]-226	1.92E+01	+- 1.93E+00	1.92E+01	+- 1.93E+00
BA-141	LLD<7.97E-01		LLD<7.97E-01	
KR-89	LLD<2.42E+00		LLD<2.42E+00	
TE-132	LLD<2.01E-01		LLD<2.01E-01	
XE-133M	LLD<2.83E+00		LLD<2.83E+00	
TH-227	LLD<1.60E+00		LLD<1.60E+00	
PB-212	1.42E+00	+- 2.03E-01	1.42E+00	+- 2.03E-01
RA-224	LLD<5.46E+00		LLD<5.46E+00	
XE-135	LLD<2.37E-01		LLD<2.37E-01	
XE-138	LLD<8.79E-01		LLD<8.79E-01	
SE-75	LLD<3.73E-01		LLD<3.73E-01	
NP-239	LLD<1.32E+00		LLD<1.32E+00	
HG-203	LLD<2.54E-01		LLD<2.54E-01	
IR-192	LLD<2.33E-01		LLD<2.33E-01	
CR-51	LLD<2.06E+00		LLD<2.06E+00	
SCM-000	LLD<1.18E+00		LLD<1.18E+00	
BI-211	9.26E+00	+- 2.20E+00	9.26E+00	+- 2.20E+00
PB-214	1.08E+00	+- 2.57E-01	1.08E+00	+- 2.57E-01
BA-133	LLD<6.90E-01		LLD<6.90E-01	
I-131	LLD<2.84E-01		LLD<2.84E-01	
SN-113	LLD<3.13E-01		LLD<3.13E-01	
KR-87	LLD<5.20E-01		LLD<5.20E-01	
PB-211	LLD<9.98E+00		LLD<9.98E+00	
AU-198	LLD<2.72E-01		LLD<2.72E-01	
[illegible]-125	LLD<7.27E-01		LLD<7.27E-01	
[illegible]-212	LLD<6.65E+01		LLD<6.65E+01	
BE-7	LLD<2.07E+00		LLD<2.07E+00	
HF-181	LLD<2.73E-01		LLD<2.73E-01	
RU-103	LLD<2.76E-01		LLD<2.76E-01	
KR-85	LLD<6.96E+01		LLD<6.96E+01	

SR-85	LLD<3.04E-01	LLD<3.04E-01
I-133	LLD<3.12E-01	LLD<3.12E-01
BA-140	LLD<9.10E-01	LLD<9.10E-01
Y-91M	LLD<2.96E-01	LLD<2.96E-01
207	LLD<2.71E-01	LLD<2.71E-01
-208	LLD<1.17E+00	LLD<1.17E+00
SB-124	LLD<3.40E-01	LLD<3.40E-01
CS-134	LLD<4.86E-01	LLD<4.86E-01
BI-214	LLD<9.11E-01	LLD<9.11E-01
RU-106	LLD<2.87E+00	LLD<2.87E+00
LA-142	LLD<5.58E-01	LLD<5.58E-01
AG-110M	LLD<3.50E-01	LLD<3.50E-01
NB-97	LLD<3.52E-01	LLD<3.52E-01
CS-137	LLD<3.20E-01	LLD<3.20E-01
I-132	LLD<2.95E-01	LLD<2.95E-01
W-187	LLD<1.07E+00	LLD<1.07E+00
ZR-97	LLD<3.43E-01	LLD<3.43E-01
ZR-95	LLD<5.96E-01	LLD<5.96E-01
NB-95	LLD<3.67E-01	LLD<3.67E-01
TL-210	LLD<1.67E+00	LLD<1.67E+00
CO-58	LLD<3.54E-01	LLD<3.54E-01
CS-136	LLD<2.24E-01	LLD<2.24E-01
MN-54	LLD<3.57E-01	LLD<3.57E-01
CO-56	LLD<3.02E-01	LLD<3.02E-01
I-134	LLD<3.33E-01	LLD<3.33E-01
TL-207	LLD<2.35E+02	LLD<2.35E+02
Y-88	LLD<3.36E-01	LLD<3.36E-01
AC-228	LLD<1.73E+00	LLD<1.73E+00
EU-152	LLD<3.77E+00	LLD<3.77E+00
234M	LLD<4.21E+00	LLD<4.21E+00
91	LLD<1.32E+00	LLD<1.32E+00
RB-89	LLD<7.96E-01	LLD<7.96E-01
FE-59	LLD<6.70E-01	LLD<6.70E-01
ZN-65	LLD<1.08E+00	LLD<1.08E+00
SC-46	LLD<5.29E-01	LLD<5.29E-01
TA-182	LLD<1.46E+00	LLD<1.46E+00
I-135	LLD<1.58E+00	LLD<1.58E+00
CL-39	LLD<7.66E-01	LLD<7.66E-01
NA-22	LLD<4.92E-01	LLD<4.92E-01
AR-41	LLD<5.02E-01	LLD<5.02E-01
CO-60	LLD<4.37E-01	LLD<4.37E-01
NA-24	LLD<2.87E-01	LLD<2.87E-01
SR-92	LLD<3.81E-01	LLD<3.81E-01
SCH-000	LLD<1.47E+00	LLD<1.47E+00
CS-138	LLD<3.69E-01	LLD<3.69E-01
K-40	1.70E+01 +- 2.46E+00	1.70E+01 +- 2.46E+00
KR-88	LLD<3.00E+00	LLD<3.00E+00
TL-209	LLD<9.97E-01	LLD<9.97E-01
LA-140	LLD<3.60E-01	LLD<3.60E-01
AL-26	LLD<3.06E-01	LLD<3.06E-01
MN-56	LLD<6.29E-01	LLD<6.29E-01
RB-88	LLD<1.33E+00	LLD<1.33E+00
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Total	4.80E+01 +- 3.84E+00	4.80E+01 +- 3.84E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0104

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
186.22	92.82	223.	11.2	3.34E+01
590.72	294.86	48.	23.3	7.75E+00
677.79	338.36	30.	33.9	5.39E+00

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B-25 # 2046587

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*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 14-FEB-96 09:01:04

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0103
Measured by: dlv

Sample Description: B25#2046587 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.4000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 14-FEB-96 at 08:29:23

COLLECT Live Time: 600. seconds
Real Time: 602. seconds
Dead Time: 0.33 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 14-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 14-FEB-96 09:01:04

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	127.36	63.43	2.7	190.	143.	17.0	TH-234
2	186.21	92.82	1.4	300.	598.	6.1	TH-234,TH-234
3	288.57	143.94	1.0	147.	63.	32.3	U-235
4	372.54	185.88	1.6	95.	357.	6.7	U-235,RA-226
5	478.24	238.67	1.2	101.	125.	15.8	PB-212
6	590.92	294.96	0.9	48.	50.	26.1	PB-214
7	704.57	351.74	1.9	23.	72.	15.7	BI-211,PB-214
8	1166.48	582.58	0.7	14.	36.	22.6	TL-208
9	2002.84	1000.83	0.7	9.	32.	23.3	PA234M
10	2758.09	1378.83	0.6	0.	7.	37.8	
11	2921.90	1460.86	2.2	2.	94.	10.7	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 14-FEB-96 09:01:04

Sample: B25#2046587 Soil
Data collected on 14-FEB-96 at 08:29:23
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<6.18E+00		LLD<6.18E+00	
TH-234	6.26E+01	+- 1.10E+01	6.26E+01	+- 1.10E+01
TH-230	LLD<3.96E+02		LLD<3.96E+02	
XE-133	LLD<2.25E+00		LLD<2.25E+00	
CD-109	LLD<2.69E+01		LLD<2.69E+01	
SCL-000	LLD<1.02E+00		LLD<1.02E+00	
CO-57	LLD<3.38E-01		LLD<3.38E-01	
PA-234	LLD<1.31E+00		LLD<1.31E+00	
CE-144	LLD<2.50E+00		LLD<2.50E+00	
TC-99M	LLD<3.29E-01		LLD<3.29E-01	
U-235	1.85E+00	+- 5.98E-01	1.85E+00	+- 5.98E-01
CE-141	LLD<4.81E-01		LLD<4.81E-01	
KR-85M	LLD<3.10E-01		LLD<3.10E-01	
XE-131M	LLD<1.14E+01		LLD<1.14E+01	
BA-139	LLD<1.29E+00		LLD<1.29E+00	
[illegible]-139	LLD<2.61E-01		LLD<2.61E-01	
[illegible]-226	3.76E+01	+- 2.55E+00	3.76E+01	+- 2.55E+00
BA-141	LLD<1.15E+00		LLD<1.15E+00	
KR-89	LLD<2.88E+00		LLD<2.88E+00	
TE-132	LLD<2.11E-01		LLD<2.11E-01	
XE-133M	LLD<2.86E+00		LLD<2.86E+00	
TH-227	LLD<1.74E+00		LLD<1.74E+00	
PB-212	1.34E+00	+- 2.12E-01	1.34E+00	+- 2.12E-01
RA-224	LLD<6.30E+00		LLD<6.30E+00	
XE-135	LLD<2.45E-01		LLD<2.45E-01	
XE-138	LLD<8.74E-01		LLD<8.74E-01	
SE-75	LLD<4.11E-01		LLD<4.11E-01	
NP-239	LLD<1.44E+00		LLD<1.44E+00	
HG-203	LLD<2.78E-01		LLD<2.78E-01	
IR-192	LLD<2.72E-01		LLD<2.72E-01	
CR-51	LLD<2.13E+00		LLD<2.13E+00	
SCM-000	LLD<9.78E-01		LLD<9.78E-01	
BI-211	1.29E+01	+- 2.03E+00	1.29E+01	+- 2.03E+00
PB-214	1.50E+00	+- 2.37E-01	1.50E+00	+- 2.37E-01
BA-133	LLD<7.09E-01		LLD<7.09E-01	
I-131	LLD<2.45E-01		LLD<2.45E-01	
SN-113	LLD<3.78E-01		LLD<3.78E-01	
KR-87	LLD<4.96E-01		LLD<4.96E-01	
PB-211	LLD<1.12E+01		LLD<1.12E+01	
AU-198	LLD<2.42E-01		LLD<2.42E-01	
[illegible]B-125	LLD<7.32E-01		LLD<7.32E-01	
[illegible]-212	LLD<8.50E+01		LLD<8.50E+01	
BE-7	LLD<2.77E+00		LLD<2.77E+00	
HF-181	LLD<2.90E-01		LLD<2.90E-01	
RU-103	LLD<3.14E-01		LLD<3.14E-01	
KR-85	LLD<7.60E+01		LLD<7.60E+01	

SR-85	LLD<3.32E-01	LLD<3.32E-01
I-133	LLD<3.26E-01	LLD<3.26E-01
BA-140	LLD<1.02E+00	LLD<1.02E+00
91M	LLD<3.31E-01	LLD<3.31E-01
207	LLD<2.59E-01	LLD<2.59E-01
-208	LLD<1.12E+00	LLD<1.12E+00
SB-124	LLD<3.87E-01	LLD<3.87E-01
CS-134	LLD<5.53E-01	LLD<5.53E-01
BI-214	LLD<1.16E+00	LLD<1.16E+00
RU-106	LLD<2.71E+00	LLD<2.71E+00
LA-142	LLD<5.51E-01	LLD<5.51E-01
AG-110M	LLD<4.92E-01	LLD<4.92E-01
NB-97	LLD<4.96E-01	LLD<4.96E-01
CS-137	LLD<4.38E-01	LLD<4.38E-01
I-132	LLD<3.33E-01	LLD<3.33E-01
W-187	LLD<1.73E+00	LLD<1.73E+00
ZR-97	LLD<3.44E-01	LLD<3.44E-01
ZR-95	LLD<4.28E-01	LLD<4.28E-01
NB-95	LLD<4.10E-01	LLD<4.10E-01
TL-210	LLD<1.99E+00	LLD<1.99E+00
CO-58	LLD<2.85E-01	LLD<2.85E-01
CS-136	LLD<3.49E-01	LLD<3.49E-01
MN-54	LLD<3.19E-01	LLD<3.19E-01
CO-56	LLD<3.29E-01	LLD<3.29E-01
I-134	LLD<4.08E-01	LLD<4.08E-01
TL-207	LLD<2.70E+02	LLD<2.70E+02
Y-88	LLD<3.67E-01	LLD<3.67E-01
AC-228	LLD<1.50E+00	LLD<1.50E+00
EU-152	LLD<3.39E+00	LLD<3.39E+00
234M	LLD<5.44E+00	LLD<5.44E+00
91	LLD<1.30E+00	LLD<1.30E+00
RB-89	LLD<7.20E-01	LLD<7.20E-01
FE-59	LLD<6.63E-01	LLD<6.63E-01
ZN-65	LLD<1.06E+00	LLD<1.06E+00
SC-46	LLD<5.13E-01	LLD<5.13E-01
TA-182	LLD<1.23E+00	LLD<1.23E+00
I-135	LLD<1.12E+00	LLD<1.12E+00
CL-39	LLD<7.71E-01	LLD<7.71E-01
NA-22	LLD<3.64E-01	LLD<3.64E-01
AR-41	LLD<4.77E-01	LLD<4.77E-01
CO-60	LLD<4.45E-01	LLD<4.45E-01
NA-24	LLD<2.66E-01	LLD<2.66E-01
SR-92	LLD<5.56E-01	LLD<5.56E-01
SCH-000	LLD<1.44E+00	LLD<1.44E+00
CS-138	LLD<4.12E-01	LLD<4.12E-01
K-40	2.19E+01 +- 2.38E+00	2.19E+01 +- 2.38E+00
KR-88	LLD<2.94E+00	LLD<2.94E+00
TL-209	LLD<1.25E+00	LLD<1.25E+00
LA-140	LLD<4.97E-01	LLD<4.97E-01
AL-26	LLD<4.17E-01	LLD<4.17E-01
MN-56	LLD<8.64E-01	LLD<8.64E-01
RB-88	LLD<2.02E+00	LLD<2.02E+00
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Total	1.40E+02 +- 1.18E+01	1.40E+02 +- 1.18E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
590.92	294.96	50.	26.1	7.99E+00
1166.48	582.58	36.	22.6	1.14E+01
2002.84	1000.83	32.	23.3	1.69E+01
2758.09	1378.83	7.	37.8	4.62E+00

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GAMMA SPECTROSCOPY RESULTS FROM 2/15/96

FOR

CELL 124

0↕♥♠ Auto cal 2/15/96

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*                                                                     *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-FEB-96 15:12:24

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 15-FEB-96 at 14:30:00

COLLECT Live Time: 1200. sec.

hgtrw 15-FEB-96 15:12:24

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.57	39.57	1.7	30961.	5032.	7.6	
2C	91.35	45.45	1.7	25501.	2156.	10.7	
3C	150.36	74.92	1.5	26597.	1276.	19.9	PB-214
4C	169.10	84.28	3.6	91070.	2454.	12.4	
5C	174.61	87.02	3.6	100398.	3397.	10.4	PB-214
6?	233.12	116.24	1.6	38195.	8039.	35.1	
7?	243.92	121.64	1.6	35702.	184394.	1.6	SE-75,SCL-000, CO-57
8?	478.50	238.80	1.7	14571.	1202.	29.8	PB-212
9?	489.82	244.46	1.7	14760.	34705.	1.5	
10	592.32	295.66	1.5	11058.	1529.	11.4	PB-214
11?	678.04	338.48	1.7	7930.	3249.	20.2	AC-228
12?	688.92	343.92	1.7	7402.	87625.	2.0	BA-141, SCM-000
13?	692.77	345.84	1.7	7215.	5583.	27.7	
14?	697.17	348.04	1.7	7001.	1215.	50.5	
15	735.82	367.35	1.8	5996.	2706.	4.8	
16C	822.70	410.76	1.8	5898.	5945.	3.7	
17C	831.28	415.05	1.8	5697.	357.	23.5	SB-126
18	888.31	443.55	1.7	6165.	7848.	2.0	
19	977.88	488.31	1.7	5361.	787.	15.1	
20	1128.44	563.56	2.2	5970.	1155.	11.2	CS-134,SB-122
21	1172.70	585.69	1.8	4686.	1034.	10.7	
22	1357.77	678.21	1.7	4539.	448.	24.2	I-134,AG110M
23	1377.61	688.13	1.8	4345.	1401.	7.9	
24	1438.96	718.80	1.2	5348.	206.	59.3	
25?	1547.52	773.08	2.0	4791.	352.	33.5	I-132,W-187, TE131M
26?	1558.08	778.36	2.0	4913.	18739.	1.4	MO-99
27C	1620.94	809.80	1.9	3552.	471.	20.5	I-132,CO-58
28	1734.94	866.81	1.9	4758.	5114.	2.6	
29	1838.56	918.64	2.2	3084.	471.	20.5	
30?	1917.71	958.24	2.2	2587.	748.	16.2	
31?	1928.34	963.56	2.2	2804.	18334.	1.2	EU-152
32	2010.43	1004.62	2.0	1822.	896.	8.4	
33?	2161.04	1079.98	2.3	1914.	529.	15.4	
34?	2171.80	1085.37	2.3	1872.	12102.	1.7	EU-152
35?	2179.41	1089.18	2.3	1843.	2405.	5.2	
36?	2214.66	1106.81	2.3	2155.	587.	17.3	
37?	2224.32	1111.65	2.3	2409.	15117.	1.3	TE-129,EU-152
38	2245.65	1122.32	2.0	1727.	192.	35.9	
39	2426.02	1212.59	2.5	1368.	1423.	5.2	
40C	2549.41	1274.36	2.6	752.	309.	16.4	NA-22
41	2598.39	1298.88	2.2	483.	1531.	3.5	I-133
42?	2805.69	1402.66	2.5	156.	874.	10.0	
43?	2816.29	1407.97	2.5	137.	18820.	1.0	EU-152,BI-214, SCH-000
44?	2823.88	1411.77	2.5	123.	494.	17.4	
45C	2915.37	1457.59	2.6	84.	452.	6.4	I-135
46C	2921.94	1460.88	2.6	73.	286.	8.4	K-40
47	3059.05	1529.55	3.3	74.	519.	5.3	KR-88

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

12 Multiplets processed.

C - Multiplet Analysis converged normally
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.597442E-07*Ch^2 + 4.992634E-01*Ch +-1.578545E-01

New Calibration Coefficients:

Energy = 2.411377E-07*Ch^2 + 4.992691E-01*Ch + 1.747853E-01

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Daily source check 2/15/96

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            G A M M A   S P E C T R U M   A N A L Y S I S              *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-FEB-96 15:39:17

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD2215
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 15-FEB-96 at 15:23:31

COLLECT Live Time: 600. seconds
Real Time: 759. seconds
Dead Time: 20.95 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 15-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 15-FEB-96 15:39:17

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.59	40.41	1.6	14228.	2315.	11.4	
2C	92.00	46.11	1.6	11897.	1003.	15.4	
3N	172.02	86.07	2.6	32716.	1035.	33.9	
4?	233.18	116.61	1.6	17401.	3861.	31.7	
5?	244.73	122.37	1.6	15157.	92253.	2.6	SCL-000,CO-57
6?	248.45	124.23	1.6	14433.	4182.	49.9	
7	490.53	245.14	1.5	9053.	16898.	1.2	
8	592.79	296.22	1.4	4708.	833.	13.2	
9?	677.93	338.76	1.7	4217.	1478.	23.6	AC-228
10?	689.54	344.56	1.7	3928.	45104.	1.5	BA-141, SCM-000
11?	693.91	346.74	1.7	3820.	1515.	35.8	
12	736.36	367.95	2.0	3432.	1472.	7.0	
13C	823.13	411.30	1.7	2666.	3015.	4.9	AU-198
14	888.89	444.16	1.6	3195.	3768.	2.9	
15	978.11	488.75	1.9	2649.	477.	17.7	
16	1128.73	564.02	2.0	2701.	612.	14.0	CS-134,SB-122
17	1377.96	688.61	1.8	2101.	739.	10.5	
18C	1546.55	772.89	2.0	2251.	308.	19.4	I-132,W-187, TE131M
19C	1558.19	778.72	2.0	2443.	9510.	1.9	MO-99
20	1621.00	810.12	1.7	2152.	193.	40.4	I-132,CO-58
21	1734.93	867.10	2.1	2065.	2749.	3.3	
22C	1916.54	957.93	2.1	1310.	339.	15.6	
23C	1928.21	963.77	2.1	1393.	9016.	1.7	EU-152
24	2010.39	1004.87	1.9	905.	494.	10.8	
25	2171.56	1085.50	2.0	2349.	5112.	2.1	EU-152
26	2224.01	1111.75	2.1	1482.	7650.	1.4	TE-129,EU-152
27	2425.64	1212.64	2.3	518.	765.	6.0	
28	2549.01	1274.38	1.7	324.	148.	22.3	NA-22
29	2598.02	1298.91	2.1	247.	737.	5.1	I-133
30$	2804.30	1402.17	2.4	169.	395.	10.9	
31$	2815.65	1407.85	2.4	271.	9389.	1.2	EU-152,BI-214, SCH-000
32C	2914.71	1457.45	2.4	154.	153.	15.5	I-135
33	3057.24	1528.81	3.6	45.	218.	8.7	KR-88

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

8 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 15-FEB-96 15:39:17

mple: Eu-152 Standard
a collected on 15-FEB-96 at 15:23:31
ecayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm			
	Measured	Error	Decay corrected	Error
AM-241	LLD<2.86E+01		LLD<2.86E+01	
TH-234	LLD<2.20E+02		LLD<2.20E+02	
TH-230	LLD<1.81E+03		LLD<1.81E+03	
XE-133	LLD<1.29E+01		LLD<1.29E+01	
CD-109	LLD<1.08E+02		LLD<1.08E+02	
SCL-000	9.72E+02	+- 2.59E+01	9.72E+02	+- 2.59E+01
CO-57	3.23E+02	+- 8.59E+00	3.23E+02	+- 8.59E+00
PA-234	LLD<9.36E+00		LLD<9.36E+00	
CE-144	LLD<1.67E+01		LLD<1.67E+01	
TC-99M	LLD<1.96E+00		LLD<1.96E+00	
U-235	LLD<1.57E+01		LLD<1.57E+01	
CE-141	LLD<3.57E+00		LLD<3.57E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.87E+01		LLD<8.87E+01	
BA-139	LLD<1.08E+01		LLD<1.08E+01	
[illegible]-139	LLD<2.17E+00		LLD<2.17E+00	
[illegible]-226	LLD<5.33E+01		LLD<5.33E+01	
BA-141	LLD<4.50E+00		LLD<4.50E+00	
KR-89	LLD<2.74E+01		LLD<2.74E+01	
TE-132	LLD<2.15E+00		LLD<2.15E+00	
XE-133M	LLD<1.90E+01		LLD<1.90E+01	
TH-227	LLD<1.35E+01		LLD<1.35E+01	
PB-212	LLD<4.70E+00		LLD<4.70E+00	
RA-224	LLD<9.77E+01		LLD<9.77E+01	
XE-135	LLD<4.42E+00		LLD<4.42E+00	
XE-138	LLD<8.23E+00		LLD<8.23E+00	
SE-75	LLD<3.23E+00		LLD<3.23E+00	
NP-239	LLD<1.37E+01		LLD<1.37E+01	
HG-203	LLD<2.54E+00		LLD<2.54E+00	
IR-192	LLD<2.32E+00		LLD<2.32E+00	
CR-51	LLD<2.03E+01		LLD<2.03E+01	
SCM-000	9.50E+02	+- 1.65E+01	9.50E+02	+- 1.65E+01
BI-211	LLD<1.08E+02		LLD<1.08E+02	
PB-214	LLD<7.28E+00		LLD<7.28E+00	
BA-133	LLD<3.14E+00		LLD<3.14E+00	
I-131	LLD<2.76E+00		LLD<2.76E+00	
SN-113	LLD<2.99E+00		LLD<2.99E+00	
KR-87	LLD<4.26E+00		LLD<4.26E+00	
PB-211	LLD<8.14E+01		LLD<8.14E+01	
AU-198	2.11E+01	+- 1.05E+00	2.11E+01	+- 1.05E+00
[illegible]-125	LLD<6.96E+00		LLD<6.96E+00	
[illegible]-212	LLD<6.75E+02		LLD<6.75E+02	
[illegible]-7	LLD<2.14E+01		LLD<2.14E+01	
HF-181	LLD<2.68E+00		LLD<2.68E+00	
RU-103	LLD<2.58E+00		LLD<2.58E+00	
KR-85	LLD<5.48E+02		LLD<5.48E+02	

SR-85	LLD<2.40E+00		LLD<2.40E+00		
I-133	LLD<2.95E+00		LLD<2.95E+00		
BA-140	LLD<1.02E+01		LLD<1.02E+01		
[illegible]91M	LLD<3.09E+00		LLD<3.09E+00		
[illegible]-207	LLD<3.13E+00		LLD<3.13E+00		
TL-208	LLD<1.10E+01		LLD<1.10E+01		
SB-124	LLD<2.88E+00		LLD<2.88E+00		
CS-134	LLD<2.90E+00		LLD<2.90E+00		
BI-214	LLD<7.34E+00		LLD<7.34E+00		
RU-106	LLD<2.74E+01		LLD<2.74E+01		
LA-142	LLD<5.86E+00		LLD<5.86E+00		
AG-110M	LLD<3.06E+00		LLD<3.06E+00		
NB-97	LLD<3.13E+00		LLD<3.13E+00		
CS-137	LLD<3.45E+00		LLD<3.45E+00		
I-132	LLD<3.23E+00		LLD<3.23E+00		
W-187	LLD<1.08E+01		LLD<1.08E+01		
ZR-97	LLD<3.25E+00		LLD<3.25E+00		
ZR-95	LLD<6.20E+00		LLD<6.20E+00		
NB-95	LLD<3.39E+00		LLD<3.39E+00		
TL-210	LLD<2.26E+01		LLD<2.26E+01		
CO-58	2.57E+00	+- 1.04E+00	2.57E+00	+-	1.04E+00
CS-136	LLD<3.37E+00		LLD<3.37E+00		
MN-54	LLD<3.61E+00		LLD<3.61E+00		
CO-56	LLD<3.58E+00		LLD<3.58E+00		
I-134	LLD<4.03E+00		LLD<4.03E+00		
TL-207	LLD<3.26E+03		LLD<3.26E+03		
Y-88	LLD<3.64E+00		LLD<3.64E+00		
AC-228	LLD<1.16E+01		LLD<1.16E+01		
EU-152	9.67E+02	+- 1.99E+01	9.67E+02	+-	1.99E+01
[illegible]-234M	LLD<4.71E+01		LLD<4.71E+01		
[illegible]-91	LLD<8.87E+00		LLD<8.87E+00		
RB-89	LLD<6.36E+00		LLD<6.36E+00		
FE-59	LLD<5.81E+00		LLD<5.81E+00		
ZN-65	LLD<1.55E+01		LLD<1.55E+01		
SC-46	LLD<3.43E+00		LLD<3.43E+00		
TA-182	LLD<1.01E+01		LLD<1.01E+01		
I-135	LLD<8.09E+00		LLD<8.09E+00		
CL-39	LLD<5.07E+00		LLD<5.07E+00		
NA-22	LLD<2.11E+00		LLD<2.11E+00		
AR-41	LLD<4.48E+00		LLD<4.48E+00		
CO-60	LLD<1.42E+00		LLD<1.42E+00		
NA-24	LLD<1.47E+00		LLD<1.47E+00		
SR-92	LLD<1.35E+00		LLD<1.35E+00		
SCH-000	9.17E+02	+- 1.83E+01	9.17E+02	+-	1.83E+01
CS-138	LLD<1.41E+00		LLD<1.41E+00		
K-40	LLD<1.12E+01		LLD<1.12E+01		
KR-88	LLD<9.26E+00		LLD<9.26E+00		
TL-209	LLD<1.92E+00		LLD<1.92E+00		
LA-140	LLD<6.01E-01		LLD<6.01E-01		
AL-26	LLD<3.35E-01		LLD<3.35E-01		
MN-56	LLD<1.91E+00		LLD<1.91E+00		
RB-88	LLD<1.84E+00		LLD<1.84E+00		
	---		---		
Total	4.15E+03	+- 4.18E+01	4.15E+03	+-	4.18E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD2215

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
80.59	40.41	2315.	11.4	8.39E+03
92.00	46.11	1003.	15.4	1.81E+03
172.02	86.07	1035.	33.9	1.84E+02
233.18	116.61	3861.	31.7	3.99E+02
248.45	124.23	4182.	49.9	4.05E+02
490.53	245.14	16898.	1.2	2.31E+03
592.79	296.22	833.	13.2	1.34E+02
677.93	338.76	1478.	23.6	2.68E+02
693.91	346.74	1515.	35.8	2.81E+02
736.36	367.95	1472.	7.0	2.89E+02
888.89	444.16	3768.	2.9	8.94E+02
978.11	488.75	477.	17.7	1.25E+02
1128.73	564.02	612.	14.0	1.86E+02
1377.96	688.61	739.	10.5	2.74E+02
1546.55	772.89	308.	19.4	1.28E+02
1558.19	778.72	9510.	1.9	3.98E+03
1734.93	867.10	2749.	3.3	1.27E+03
1916.54	957.93	339.	15.6	1.71E+02
2010.39	1004.87	494.	10.8	2.60E+02
2425.64	1212.64	765.	6.0	4.64E+02
2549.01	1274.38	148.	22.3	9.27E+01
2598.02	1298.91	737.	5.1	4.69E+02
2804.30	1402.17	395.	10.9	2.63E+02
2914.71	1457.45	153.	15.5	1.04E+02
3057.24	1528.81	218.	8.7	1.52E+02

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            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 15-FEB-96 17:40:27

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0105
Measured by: dlv

Sample Description: c-124
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.1600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 15-FEB-96 at 15:40:24

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 15-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 15-FEB-96 17:40:27

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	127.78	63.98	1.5	114.	40.	45.1	TH-234
2	186.62	93.36	1.4	140.	224.	10.8	TH-234,TH-234
3	372.44	186.16	2.0	57.	137.	12.2	U-235,RA-226
4	478.51	239.13	1.2	65.	127.	13.2	PB-212
5	677.48	338.53	1.8	16.	24.	32.6	AC-228
6	705.63	352.59	1.3	28.	35.	29.1	PB-214
7	927.71	463.56	1.9	11.	23.	32.0	CS-138
8	1219.68	609.48	1.6	5.	45.	16.9	BI-214
9	1324.14	661.70	2.3	12.	64.	15.1	CS-137
10	1822.22	910.76	2.3	6.	28.	23.4	AC-228
11	2921.64	1460.92	1.6	7.	63.	14.5	K-40
12	3528.25	1764.72	1.2	0.	5.	44.7	BI-214

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 15-FEB-96 17:40:27

Sample: c-124
a collected on 15-FEB-96 at 15:40:24
cayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<4.84E+00		LLD<4.84E+00	
TH-234	2.10E+01	+- 9.51E+00	2.10E+01	+- 9.51E+00
TH-230	LLD<2.92E+02		LLD<2.92E+02	
XE-133	LLD<2.06E+00		LLD<2.06E+00	
CD-109	LLD<1.73E+01		LLD<1.73E+01	
SCL-000	LLD<9.59E-01		LLD<9.59E-01	
CO-57	LLD<3.18E-01		LLD<3.18E-01	
PA-234	LLD<1.18E+00		LLD<1.18E+00	
CE-144	LLD<2.41E+00		LLD<2.41E+00	
TC-99M	LLD<2.78E-01		LLD<2.78E-01	
U-235	LLD<1.91E+00		LLD<1.91E+00	
CE-141	LLD<4.71E-01		LLD<4.71E-01	
KR-85M	LLD<2.98E-01		LLD<2.98E-01	
XE-131M	LLD<1.10E+01		LLD<1.10E+01	
BA-139	LLD<1.43E+00		LLD<1.43E+00	
[illegible]-139	LLD<2.91E-01		LLD<2.91E-01	
[illegible]-226	1.73E+01	+- 2.13E+00	1.73E+01	+- 2.13E+00
[illegible]A-141	LLD<8.31E-01		LLD<8.31E-01	
KR-89	LLD<3.01E+00		LLD<3.01E+00	
TE-132	LLD<2.72E-01		LLD<2.72E-01	
XE-133M	LLD<2.58E+00		LLD<2.58E+00	
TH-227	LLD<2.06E+00		LLD<2.06E+00	
PB-212	1.64E+00	+- 2.17E-01	1.64E+00	+- 2.17E-01
RA-224	LLD<6.42E+00		LLD<6.42E+00	
XE-135	LLD<2.38E-01		LLD<2.38E-01	
XE-138	LLD<9.40E-01		LLD<9.40E-01	
SE-75	LLD<4.20E-01		LLD<4.20E-01	
NP-239	LLD<1.75E+00		LLD<1.75E+00	
HG-203	LLD<3.16E-01		LLD<3.16E-01	
IR-192	LLD<3.09E-01		LLD<3.09E-01	
CR-51	LLD<2.92E+00		LLD<2.92E+00	
SCM-000	LLD<1.17E+00		LLD<1.17E+00	
BI-211	LLD<8.42E+00		LLD<8.42E+00	
PB-214	8.95E-01	+- 2.60E-01	8.95E-01	+- 2.60E-01
BA-133	LLD<5.81E-01		LLD<5.81E-01	
I-131	LLD<2.85E-01		LLD<2.85E-01	
SN-113	LLD<3.36E-01		LLD<3.36E-01	
KR-87	LLD<6.20E-01		LLD<6.20E-01	
PB-211	LLD<1.04E+01		LLD<1.04E+01	
AU-198	LLD<2.82E-01		LLD<2.82E-01	
SB-125	LLD<7.24E-01		LLD<7.24E-01	
[illegible]-212	LLD<9.86E+01		LLD<9.86E+01	
[illegible]-7	LLD<2.86E+00		LLD<2.86E+00	
HF-181	LLD<3.82E-01		LLD<3.82E-01	
RU-103	LLD<3.45E-01		LLD<3.45E-01	
KR-85	LLD<7.76E+01		LLD<7.76E+01	

SR-85	LLD<3.39E-01		LLD<3.39E-01		
I-133	LLD<3.45E-01		LLD<3.45E-01		
BA-140	LLD<1.33E+00		LLD<1.33E+00		
K-91M	LLD<2.79E-01		LLD<2.79E-01		
[illegible]-207	LLD<3.66E-01		LLD<3.66E-01		
TL-208	LLD<1.24E+00		LLD<1.24E+00		
SB-124	LLD<3.67E-01		LLD<3.67E-01		
CS-134	LLD<6.61E-01		LLD<6.61E-01		
BI-214	1.66E+00	+- 2.81E-01	1.66E+00	+-	2.81E-01
RU-106	LLD<3.02E+00		LLD<3.02E+00		
LA-142	LLD<7.16E-01		LLD<7.16E-01		
AG-110M	LLD<8.22E-01		LLD<8.22E-01		
NB-97	LLD<8.28E-01		LLD<8.28E-01		
CS-137	1.11E+00	+- 1.69E-01	1.11E+00	+-	1.69E-01
I-132	LLD<6.82E-01		LLD<6.82E-01		
W-187	LLD<1.11E+00		LLD<1.11E+00		
ZR-97	LLD<3.28E-01		LLD<3.28E-01		
ZR-95	LLD<7.63E-01		LLD<7.63E-01		
NB-95	LLD<3.66E-01		LLD<3.66E-01		
TL-210	LLD<2.30E+00		LLD<2.30E+00		
CO-58	LLD<4.29E-01		LLD<4.29E-01		
CS-136	LLD<3.23E-01		LLD<3.23E-01		
MN-54	LLD<3.79E-01		LLD<3.79E-01		
CO-56	LLD<3.40E-01		LLD<3.40E-01		
I-134	LLD<3.81E-01		LLD<3.81E-01		
TL-207	LLD<2.60E+02		LLD<2.60E+02		
Y-88	LLD<3.58E-01		LLD<3.58E-01		
AC-228	2.14E+00	+- 5.03E-01	2.14E+00	+-	5.03E-01
EU-152	LLD<3.26E+00		LLD<3.26E+00		
[illegible]-234M	LLD<4.92E+00		LLD<4.92E+00		
[illegible]-91	LLD<1.51E+00		LLD<1.51E+00		
RB-89	LLD<1.05E+00		LLD<1.05E+00		
FE-59	LLD<9.22E-01		LLD<9.22E-01		
ZN-65	LLD<9.55E-01		LLD<9.55E-01		
SC-46	LLD<5.22E-01		LLD<5.22E-01		
TA-182	LLD<1.49E+00		LLD<1.49E+00		
I-135	LLD<1.56E+00		LLD<1.56E+00		
CL-39	LLD<9.73E-01		LLD<9.73E-01		
NA-22	LLD<6.19E-01		LLD<6.19E-01		
AR-41	LLD<4.15E-01		LLD<4.15E-01		
CO-60	LLD<5.34E-01		LLD<5.34E-01		
NA-24	LLD<2.68E-01		LLD<2.68E-01		
SR-92	LLD<4.65E-01		LLD<4.65E-01		
SCH-000	LLD<2.41E+00		LLD<2.41E+00		
CS-138	LLD<3.18E-01		LLD<3.18E-01		
K-40	1.78E+01	+- 2.61E+00	1.78E+01	+-	2.61E+00
KR-88	LLD<1.72E+00		LLD<1.72E+00		
TL-209	LLD<1.59E+00		LLD<1.59E+00		
LA-140	LLD<4.23E-01		LLD<4.23E-01		
AL-26	LLD<4.18E-01		LLD<4.18E-01		
MN-56	LLD<1.04E+00		LLD<1.04E+00		
RB-88	LLD<1.37E+00		LLD<1.37E+00		
	---		---		
Total	6.36E+01	+- 1.01E+01	6.36E+01	+-	1.01E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0105

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
677.48	338.53	24.	32.6	4.44E+00
927.71	463.56	23.	32.0	5.61E+00
3528.25	1764.72	5.	44.7	3.71E+00

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GAMMA SPECTROSCOPY RESULTS FROM 2/16/96

FOR

CELL 124

Autocal 2/16/96

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*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 16-FEB-96 07:55:38

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

Multiplet Analysis Performed.

gular Output.
pectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 16-FEB-96 at 07:27:10

COLLECT Live Time: 1200. sec.

hgtrw 16-FEB-96 07:55:38

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.14	40.19	1.8	31429.	4360.	8.6	
2C	91.63	45.92	1.8	26327.	2170.	11.0	
3C	169.76	84.94	2.8	68010.	3654.	9.6	
4C	175.22	87.66	2.8	72935.	3490.	9.9	PB-214,CD-109
5C	180.84	90.47	2.8	78013.	1889.	14.8	
6?	235.39	117.71	1.7	38800.	9463.	27.3	
7?	244.50	122.26	1.7	35408.	185366.	1.4	SCL-000,CO-57
8?	481.43	240.60	1.7	14983.	1426.	24.7	RA-224
9?	490.39	245.07	1.7	14109.	35776.	2.0	
10?	496.19	247.97	1.7	13544.	1274.	26.7	
11	593.06	296.36	1.6	10970.	1921.	9.1	
12?	680.46	340.02	1.8	8327.	4058.	17.4	CS-136
13?	689.51	344.54	1.8	7705.	91956.	1.1	BA-141, SCM-000
14?	695.23	347.40	1.8	7312.	2931.	24.1	
15	736.59	368.06	1.9	7077.	2746.	5.3	
16	823.22	411.34	1.6	5683.	5574.	2.5	AU-198
17	888.83	444.13	1.7	6419.	7807.	2.0	
18	978.47	488.92	2.3	5304.	882.	13.5	
19$	1128.98	564.15	1.8	4984.	1046.	13.1	CS-134,SB-122
20$	1133.76	566.54	1.8	5009.	384.	18.6	
[illegible]	1173.43	586.37	2.1	4642.	898.	12.2	
22C	1358.49	678.87	1.7	4199.	555.	18.5	
23	1378.12	688.69	1.9	4898.	1541.	8.0	
24?	1549.30	774.27	2.1	4548.	764.	17.9	TE131M
25?	1558.50	778.87	2.1	4713.	19537.	1.3	MO-99
26	1621.63	810.44	2.4	3553.	490.	19.7	I-132,CO-58
27	1735.51	867.39	2.2	5006.	5187.	2.7	
28	1839.62	919.46	1.7	2670.	557.	15.6	
29C	1919.40	959.36	2.2	2741.	822.	10.9	
30C	1928.69	964.01	2.2	2986.	18442.	1.1	EU-152
31	2010.92	1005.14	2.1	1998.	857.	9.3	
32C	2163.13	1081.29	2.3	1961.	545.	11.4	
33C	2172.23	1085.84	2.3	1925.	12197.	1.5	EU-152
34C	2179.89	1089.67	2.3	1895.	2309.	4.1	
35?	2216.39	1107.93	2.4	2111.	746.	14.8	
36?	2224.67	1112.08	2.4	2276.	15448.	1.3	TE-129,EU-152
37	2426.46	1213.05	2.2	1241.	1331.	5.3	
38C	2549.45	1274.60	2.0	611.	195.	30.6	NA-22
39	2598.76	1299.28	2.5	555.	1361.	3.9	I-133
40C	2807.80	1403.92	2.6	414.	850.	8.4	
41C	2816.56	1408.31	2.6	599.	18646.	0.9	EU-152,BI-214, SCH-000
42C	2915.85	1458.02	2.4	85.	496.	5.4	I-135
43C	2922.16	1461.18	2.4	64.	272.	7.0	K-40
44	3059.26	1529.83	2.7	94.	489.	5.8	KR-88
[illegible]	3287.76	1644.26	1.6	25.	29.	35.8	

Error Quotation at 1.00 sigma

Peak Confidence Level at 95.0%

13 Multiplets processed.

- Multiplet Analysis converged normally
S - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.411377E-07*Ch^2 + 4.992691E-01*Ch + 1.747853E-01

New Calibration Coefficients:

Energy = 2.554503E-07*Ch^2 + 4.992957E-01*Ch +-1.298310E-01

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Daily source check 2/16/96

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          G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 16-FEB-96 08:12:53

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD2216
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 16-FEB-96 at 07:57:52

COLLECT Live Time: 600. seconds
Real Time: 756. seconds
Dead Time: 20.63 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 16-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 16-FEB-96 08:12:53

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.88	39.75	1.7	15131.	2304.	10.8	
2C	90.92	45.27	1.7	12834.	1076.	13.2	
3$	167.22	83.37	2.2	24155.	824.	25.5	
4$	171.13	85.32	2.2	25097.	1366.	17.2	
5$	175.83	87.67	2.2	26230.	1413.	16.0	PB-214,CD-109
6$	180.79	90.15	2.2	27427.	787.	21.0	
7?	235.34	117.39	1.7	19998.	4883.	28.5	
8?	244.01	121.72	1.7	18690.	91334.	1.6	SE-75,SCL-000, CO-57
9?	480.38	239.78	1.7	7732.	762.	33.9	
10?	489.83	244.50	1.7	7752.	17174.	2.1	
11	592.18	295.63	1.8	5473.	990.	12.5	PB-214
12?	679.96	339.49	1.8	4675.	1805.	18.5	
13?	688.89	343.95	1.8	5233.	44338.	1.0	BA-141, SCM-000
14	735.68	367.33	1.7	3469.	1528.	6.8	
15	822.52	410.72	1.6	3276.	2713.	3.8	
16	888.13	443.51	1.6	2941.	3808.	2.8	
17	977.11	487.98	1.8	2769.	514.	17.2	TE-129
18C	1127.77	563.28	1.5	2206.	367.	17.0	CS-134,SB-122
19C	1132.32	565.56	1.5	2165.	275.	17.9	
20	1376.91	687.84	1.9	2490.	766.	11.4	AG110M
21C	1446.36	722.56	1.6	1701.	232.	29.7	SB-124,I-131
22C	1548.43	773.61	2.1	2349.	295.	24.0	W-187,TE131M
23C	1557.70	778.24	2.1	2404.	9560.	1.8	MO-99
24	1734.51	866.67	2.0	2411.	2625.	3.7	
25	1838.35	918.61	1.7	1115.	270.	20.0	
26C	1919.08	959.00	2.3	1339.	398.	14.2	
27C	1927.77	963.35	2.3	1421.	9221.	1.6	EU-152
28	2009.66	1004.31	2.4	1033.	436.	13.4	
29C	2162.00	1080.54	2.3	966.	279.	14.2	
30C	2171.15	1085.12	2.3	978.	5936.	2.2	EU-152
31C	2178.75	1088.92	2.3	988.	1094.	5.5	
32C	2214.61	1106.87	2.4	1030.	356.	16.3	
33C	2223.60	1111.37	2.4	1124.	7605.	1.7	TE-129,EU-152
34	2425.26	1212.29	2.3	480.	749.	5.9	
35	2597.65	1298.59	2.2	304.	679.	5.9	I-133
36C	2806.85	1403.33	2.6	184.	431.	9.0	
37C	2815.37	1407.60	2.6	261.	9452.	1.2	EU-152,BI-214, SCH-000
38	2913.84	1456.91	2.8	117.	243.	10.3	I-135
39$	3051.01	1525.60	3.0	36.	36.	38.0	
40$	3057.88	1529.04	3.0	38.	204.	10.8	KR-88

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

14 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 16-FEB-96 08:12:53

Sample: Eu-152 Standard
Data collected on 16-FEB-96 at 07:57:52
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.85E+01		LLD<2.85E+01	
TH-234	LLD<2.18E+02		LLD<2.18E+02	
TH-230	LLD<1.82E+03		LLD<1.82E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	1.95E+02	+- 3.13E+01	1.95E+02	+- 3.13E+01
SCL-000	9.63E+02	+- 1.66E+01	9.63E+02	+- 1.66E+01
CO-57	3.20E+02	+- 5.51E+00	3.20E+02	+- 5.51E+00
PA-234	LLD<9.25E+00		LLD<9.25E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.96E+00		LLD<1.96E+00	
U-235	LLD<1.57E+01		LLD<1.57E+01	
CE-141	LLD<3.55E+00		LLD<3.55E+00	
KR-85M	LLD<2.34E+00		LLD<2.34E+00	
XE-131M	LLD<8.75E+01		LLD<8.75E+01	
BA-139	LLD<1.07E+01		LLD<1.07E+01	
[illegible]-139	LLD<2.15E+00		LLD<2.15E+00	
[illegible]-226	LLD<5.23E+01		LLD<5.23E+01	
BA-141	LLD<4.47E+00		LLD<4.47E+00	
KR-89	LLD<2.74E+01		LLD<2.74E+01	
TE-132	LLD<2.18E+00		LLD<2.18E+00	
XE-133M	LLD<1.88E+01		LLD<1.88E+01	
TH-227	LLD<1.37E+01		LLD<1.37E+01	
PB-212	LLD<4.97E+00		LLD<4.97E+00	
RA-224	LLD<9.47E+01		LLD<9.47E+01	
XE-135	LLD<3.87E+00		LLD<3.87E+00	
XE-138	LLD<8.15E+00		LLD<8.15E+00	
SE-75	LLD<3.08E+00		LLD<3.08E+00	
NP-239	LLD<1.35E+01		LLD<1.35E+01	
HG-203	LLD<2.52E+00		LLD<2.52E+00	
IR-192	LLD<2.34E+00		LLD<2.34E+00	
CR-51	LLD<1.92E+01		LLD<1.92E+01	
SCM-000	9.34E+02	+- 1.17E+01	9.34E+02	+- 1.17E+01
BI-211	LLD<8.31E+01		LLD<8.31E+01	
PB-214	LLD<7.23E+00		LLD<7.23E+00	
BA-133	LLD<3.10E+00		LLD<3.10E+00	
I-131	LLD<2.68E+00		LLD<2.68E+00	
SN-113	LLD<3.02E+00		LLD<3.02E+00	
KR-87	LLD<4.32E+00		LLD<4.32E+00	
PB-211	LLD<8.28E+01		LLD<8.28E+01	
AU-198	LLD<2.22E+00		LLD<2.22E+00	
SB-125	LLD<6.92E+00		LLD<6.92E+00	
[illegible]-212	LLD<6.65E+02		LLD<6.65E+02	
BE-7	LLD<2.15E+01		LLD<2.15E+01	
HF-181	LLD<2.71E+00		LLD<2.71E+00	
RU-103	LLD<2.60E+00		LLD<2.60E+00	
KR-85	LLD<5.43E+02		LLD<5.43E+02	

SR-85	LLD<2.37E+00	LLD<2.37E+00
I-133	LLD<3.06E+00	LLD<3.06E+00
BA-140	LLD<9.83E+00	LLD<9.83E+00
[illegible]-91M	LLD<3.09E+00	LLD<3.09E+00
[illegible]-207	LLD<2.94E+00	LLD<2.94E+00
[illegible]-208	LLD<1.01E+01	LLD<1.01E+01
SB-124	LLD<2.71E+00	LLD<2.71E+00
CS-134	LLD<2.76E+00	LLD<2.76E+00
BI-214	LLD<7.40E+00	LLD<7.40E+00
RU-106	LLD<2.89E+01	LLD<2.89E+01
LA-142	LLD<5.54E+00	LLD<5.54E+00
AG-110M	LLD<3.20E+00	LLD<3.20E+00
NB-97	LLD<3.27E+00	LLD<3.27E+00
CS-137	LLD<3.21E+00	LLD<3.21E+00
I-132	LLD<3.03E+00	LLD<3.03E+00
W-187	LLD<1.10E+01	LLD<1.10E+01
ZR-97	LLD<3.40E+00	LLD<3.40E+00
ZR-95	LLD<6.07E+00	LLD<6.07E+00
NB-95	LLD<3.39E+00	LLD<3.39E+00
TL-210	LLD<2.28E+01	LLD<2.28E+01
CO-58	LLD<3.35E+00	LLD<3.35E+00
CS-136	LLD<3.32E+00	LLD<3.32E+00
MN-54	LLD<3.38E+00	LLD<3.38E+00
CO-56	LLD<3.50E+00	LLD<3.50E+00
I-134	LLD<3.98E+00	LLD<3.98E+00
TL-207	LLD<3.05E+03	LLD<3.05E+03
Y-88	LLD<3.60E+00	LLD<3.60E+00
AC-228	LLD<1.20E+01	LLD<1.20E+01
EU-152	9.89E+02 +- 1.96E+01	9.89E+02 +- 1.96E+01
[illegible]-234M	LLD<4.09E+01	LLD<4.09E+01
[illegible]-91	LLD<8.77E+00	LLD<8.77E+00
RB-89	LLD<6.47E+00	LLD<6.47E+00
FE-59	LLD<5.39E+00	LLD<5.39E+00
ZN-65	LLD<1.75E+01	LLD<1.75E+01
SC-46	LLD<3.67E+00	LLD<3.67E+00
TA-182	LLD<9.33E+00	LLD<9.33E+00
I-135	LLD<8.84E+00	LLD<8.84E+00
CL-39	LLD<5.11E+00	LLD<5.11E+00
NA-22	LLD<2.01E+00	LLD<2.01E+00
AR-41	LLD<4.10E+00	LLD<4.10E+00
CO-60	LLD<1.40E+00	LLD<1.40E+00
NA-24	LLD<1.18E+00	LLD<1.18E+00
SR-92	LLD<1.44E+00	LLD<1.44E+00
SCH-000	9.23E+02 +- 1.81E+01	9.23E+02 +- 1.81E+01
CS-138	LLD<1.07E+00	LLD<1.07E+00
K-40	LLD<1.31E+01	LLD<1.31E+01
KR-88	LLD<9.78E+00	LLD<9.78E+00
TL-209	LLD<1.81E+00	LLD<1.81E+00
LA-140	LLD<5.92E-01	LLD<5.92E-01
AL-26	LLD<4.28E-01	LLD<4.28E-01
MN-56	LLD<1.48E+00	LLD<1.48E+00
RB-88	LLD<2.08E+00	LLD<2.08E+00
	---	---
Total	4.32E+03 +- 4.62E+01	4.32E+03 +- 4.62E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD2216

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
79.88	39.75	2304.	10.8	9.14E+03
90.92	45.27	1076.	13.2	2.13E+03
167.22	83.37	824.	25.5	1.59E+02
171.13	85.32	1366.	17.2	2.48E+02
180.79	90.15	787.	21.0	1.26E+02
235.34	117.39	4883.	28.5	5.00E+02
480.38	239.78	762.	33.9	1.00E+02
489.83	244.50	17174.	2.1	2.35E+03
592.18	295.63	990.	12.5	1.58E+02
679.96	339.49	1805.	18.5	3.28E+02
735.68	367.33	1528.	6.8	3.00E+02
822.52	410.72	2713.	3.8	5.95E+02
888.13	443.51	3808.	2.8	9.02E+02
977.11	487.98	514.	17.2	1.34E+02
1127.77	563.28	367.	17.0	1.11E+02
1132.32	565.56	275.	17.9	8.37E+01
1376.91	687.84	766.	11.4	2.84E+02
1446.36	722.56	232.	29.7	9.03E+01
1548.43	773.61	295.	24.0	1.23E+02
1557.70	778.24	9560.	1.8	4.00E+03
1734.51	866.67	2625.	3.7	1.21E+03
1838.35	918.61	270.	20.0	1.31E+02
1919.08	959.00	398.	14.2	2.01E+02
2009.66	1004.31	436.	13.4	2.29E+02
2162.00	1080.54	279.	14.2	1.55E+02
2178.75	1088.92	1094.	5.5	6.13E+02
2214.61	1106.87	356.	16.3	2.02E+02
2425.26	1212.29	749.	5.9	4.55E+02
2597.65	1298.59	679.	5.9	4.32E+02
2806.85	1403.33	431.	9.0	2.87E+02
2913.84	1456.91	243.	10.3	1.65E+02
3051.01	1525.60	36.	38.0	2.51E+01
3057.88	1529.04	204.	10.8	1.42E+02

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C-124 (1hr recount)

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*                                                                     *
*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 16-FEB-96 11:50:17

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0105
Measured by: dlv

Sample Description: C-124 Soil
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.1400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 16-FEB-96 at 10:00:00

COLLECT Live Time: 3600. seconds
Real Time: 3615. seconds
Dead Time: 0.41 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 16-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 16-FEB-96 11:50:17

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	127.84	63.70	1.8	663.	188.	22.3	TH-234
2C	150.77	75.16	1.5	715.	221.	14.4	PB-214
3C	155.72	77.63	1.5	713.	321.	13.7	PB-214
4	186.76	93.13	1.7	990.	1097.	5.5	TH-234,TH-234
5	372.80	186.04	1.9	432.	652.	6.5	U-235,RA-226
6C	478.41	238.80	1.7	294.	941.	5.0	PB-212
7C	483.79	241.48	1.7	261.	152.	11.9	RA-224,PB-214
8	591.13	295.11	1.2	195.	190.	13.5	PB-214
9	677.37	338.20	1.4	151.	165.	13.9	AC-228
10	704.63	351.82	1.7	155.	319.	8.2	BI-211,PB-214
11	1022.39	510.61	1.6	68.	170.	11.0	TL-208,NA-22, ANN-RD
12	1166.64	582.72	2.1	101.	222.	9.9	TL-208
13	1219.03	608.91	1.7	93.	209.	10.2	XE-135,BI-214
14	1323.42	661.09	2.3	89.	261.	8.5	CS-137
15	1454.42	726.60	2.8	51.	56.	23.7	BI-212
16	1822.61	910.74	2.3	39.	162.	10.3	AC-228
17	1937.53	968.23	1.8	55.	61.	23.0	AC-228
18	2001.39	1000.18	3.0	37.	60.	21.1	PA234M
19	2920.14	1460.06	2.0	16.	364.	5.6	K-40
20C	3526.95	1764.04	2.7	3.	41.	17.2	BI-214

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

2 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 16-FEB-96 11:50:17

Sample: C-124 Soil
Data collected on 16-FEB-96 at 10:00:00
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.05E+00		LLD<2.05E+00	
TH-234	1.65E+01	+- 3.76E+00	1.65E+01	+- 3.76E+00
TH-230	LLD<1.26E+02		LLD<1.26E+02	
XE-133	LLD<8.24E-01		LLD<8.24E-01	
CD-109	LLD<7.45E+00		LLD<7.45E+00	
SCL-000	LLD<3.57E-01		LLD<3.57E-01	
CO-57	LLD<1.19E-01		LLD<1.19E-01	
PA-234	LLD<4.89E-01		LLD<4.89E-01	
CE-144	LLD<9.16E-01		LLD<9.16E-01	
TC-99M	LLD<1.15E-01		LLD<1.15E-01	
U-235	LLD<8.10E-01		LLD<8.10E-01	
CE-141	LLD<1.78E-01		LLD<1.78E-01	
KR-85M	LLD<1.25E-01		LLD<1.25E-01	
XE-131M	LLD<4.24E+00		LLD<4.24E+00	
BA-139	LLD<6.21E-01		LLD<6.21E-01	
[illegible]-139	LLD<1.03E-01		LLD<1.03E-01	
[illegible]A-226	1.38E+01	+- 9.08E-01	1.38E+01	+- 9.08E-01
BA-141	LLD<6.48E-01		LLD<6.48E-01	
KR-89	LLD<5.75E+00		LLD<5.75E+00	
TE-132	LLD<1.06E-01		LLD<1.06E-01	
XE-133M	LLD<1.30E+00		LLD<1.30E+00	
TH-227	LLD<8.64E-01		LLD<8.64E-01	
PB-212	2.09E+00	+- 1.09E-01	2.09E+00	+- 1.09E-01
RA-224	3.75E+00	+- 4.49E-01	3.75E+00	+- 4.49E-01
XE-135	LLD<1.01E-01		LLD<1.01E-01	
XE-138	LLD<8.76E-01		LLD<8.76E-01	
SE-75	LLD<1.55E-01		LLD<1.55E-01	
NP-239	LLD<6.71E-01		LLD<6.71E-01	
HG-203	LLD<1.23E-01		LLD<1.23E-01	
IR-192	LLD<1.16E-01		LLD<1.16E-01	
CR-51	LLD<8.69E-01		LLD<8.69E-01	
SCM-000	LLD<4.89E-01		LLD<4.89E-01	
BI-211	6.65E+01	+- 5.50E+00	6.65E+01	+- 5.50E+00
PB-214	2.33E+00	+- 1.93E-01	2.33E+00	+- 1.93E-01
BA-133	LLD<3.04E-01		LLD<3.04E-01	
I-131	LLD<1.26E-01		LLD<1.26E-01	
SN-113	LLD<1.54E-01		LLD<1.54E-01	
KR-87	LLD<2.79E-01		LLD<2.79E-01	
PB-211	LLD<6.39E+00		LLD<6.39E+00	
AU-198	LLD<1.07E-01		LLD<1.07E-01	
SB-125	LLD<3.71E-01		LLD<3.71E-01	
[illegible]-212	LLD<4.26E+01		LLD<4.26E+01	
BE-7	LLD<1.09E+00		LLD<1.09E+00	
HF-181	LLD<1.26E-01		LLD<1.26E-01	
RU-103	LLD<1.27E-01		LLD<1.27E-01	
KR-85	LLD<3.82E+01		LLD<3.82E+01	

SR-85	LLD<1.67E-01		LLD<1.67E-01		
I-133	LLD<1.28E-01		LLD<1.28E-01		
BA-140	LLD<4.42E-01		LLD<4.42E-01		
91M	LLD<1.86E-01		LLD<1.86E-01		
207	LLD<1.25E-01		LLD<1.25E-01		
TL-208	8.31E+00	+- 8.31E-01	8.31E+00	+-	8.31E-01
SB-124	LLD<1.58E-01		LLD<1.58E-01		
CS-134	LLD<2.47E-01		LLD<2.47E-01		
BI-214	2.60E+00	+- 2.67E-01	2.60E+00	+-	2.67E-01
RU-106	LLD<1.23E+00		LLD<1.23E+00		
LA-142	LLD<2.85E-01		LLD<2.85E-01		
AG-110M	LLD<2.67E-01		LLD<2.67E-01		
NB-97	LLD<3.38E-01		LLD<3.38E-01		
CS-137	7.58E-01	+- 6.54E-02	7.58E-01	+-	6.54E-02
I-132	LLD<2.03E-01		LLD<2.03E-01		
W-187	LLD<4.10E-01		LLD<4.10E-01		
ZR-97	LLD<1.44E-01		LLD<1.44E-01		
ZR-95	LLD<2.70E-01		LLD<2.70E-01		
NB-95	LLD<1.43E-01		LLD<1.43E-01		
TL-210	LLD<5.33E+00		LLD<5.33E+00		
CO-58	LLD<1.21E-01		LLD<1.21E-01		
CS-136	LLD<1.20E-01		LLD<1.20E-01		
MN-54	LLD<1.45E-01		LLD<1.45E-01		
CO-56	LLD<1.26E-01		LLD<1.26E-01		
I-134	LLD<1.92E-01		LLD<1.92E-01		
TL-207	LLD<5.31E+02		LLD<5.31E+02		
Y-88	LLD<1.56E-01		LLD<1.56E-01		
AC-228	2.19E+00	+- 2.26E-01	2.19E+00	+-	2.26E-01
EU-152	LLD<1.82E+00		LLD<1.82E+00		
234M	LLD<9.53E+00		LLD<9.53E+00		
-91	LLD<4.50E-01		LLD<4.50E-01		
RB-89	LLD<7.26E-01		LLD<7.26E-01		
FE-59	LLD<2.82E-01		LLD<2.82E-01		
ZN-65	LLD<4.38E-01		LLD<4.38E-01		
SC-46	LLD<1.63E-01		LLD<1.63E-01		
TA-182	LLD<5.01E-01		LLD<5.01E-01		
I-135	LLD<7.74E-01		LLD<7.74E-01		
CL-39	LLD<4.48E-01		LLD<4.48E-01		
NA-22	LLD<1.66E-01		LLD<1.66E-01		
AR-41	LLD<1.89E-01		LLD<1.89E-01		
CO-60	LLD<1.56E-01		LLD<1.56E-01		
NA-24	LLD<1.17E-01		LLD<1.17E-01		
SR-92	LLD<1.73E-01		LLD<1.73E-01		
SCH-000	LLD<7.22E-01		LLD<7.22E-01		
CS-138	LLD<3.17E-01		LLD<3.17E-01		
K-40	1.71E+01	+- 1.00E+00	1.71E+01	+-	1.00E+00
KR-88	LLD<9.26E-01		LLD<9.26E-01		
TL-209	LLD<2.61E+00		LLD<2.61E+00		
LA-140	LLD<1.54E-01		LLD<1.54E-01		
AL-26	LLD<1.34E-01		LLD<1.34E-01		
MN-56	LLD<5.66E-01		LLD<5.66E-01		
RB-88	LLD<1.28E+00		LLD<1.28E+00		
	---	---	---	---	---
Total	1.36E+02	+- 6.88E+00	1.36E+02	+-	6.88E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0105

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
150.77	75.16	221.	14.4	9.45E+00
155.72	77.63	321.	13.7	1.25E+01
591.13	295.11	190.	13.5	5.05E+00
677.37	338.20	165.	13.9	4.98E+00
1454.42	726.60	56.	23.7	3.66E+00
1937.53	968.23	61.	23.0	5.22E+00
2001.39	1000.18	60.	21.1	5.26E+00
3526.95	1764.04	41.	17.2	5.12E+00

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GAMMA SPECTROSCOPY RESULTS FROM 2/22/96

FOR

CELL 124

0↕♥♠ Daily Autocal 2/22

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*                                                                     *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 22-FEB-96 10:15:36

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 22-FEB-96 at 09:49:20

COLLECT Live Time: 1200. sec.

hgtrw 22-FEB-96 10:15:36

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.56	40.09	1.7	30243.	5305.	7.0	
2C	92.22	45.92	1.7	24573.	2383.	9.2	
3C	150.52	75.03	1.1	22060.	639.	34.1	PB-214
4$	167.57	83.55	2.8	66158.	1247.	57.4	
5$	171.85	85.68	2.8	69258.	2982.	21.9	
6$	176.90	88.20	2.8	72918.	3166.	19.3	PB-214,CD-109
7$	182.47	90.98	2.8	76957.	1477.	30.6	
8?	231.69	115.57	1.7	38176.	7492.	36.2	
9?	244.64	122.03	1.7	33266.	191424.	1.5	SE-75,SCL-000, CO-57
10?	476.84	238.01	1.7	15329.	1107.	27.2	PB-212
11?	490.42	244.80	1.7	14764.	35219.	1.5	
12	592.96	296.02	1.9	9338.	1618.	9.5	PB-214
13?	676.62	337.82	1.8	8128.	3135.	22.6	AC-228
14?	689.42	344.21	1.8	7683.	90285.	1.8	BA-141, SCM-000
15?	693.48	346.24	1.8	7541.	4377.	33.9	
16	736.33	367.66	1.9	6448.	2957.	4.7	
17C	823.11	411.02	1.8	5761.	5783.	3.5	AU-198
18	888.60	443.75	1.8	6136.	7620.	2.0	
[illegible]	978.23	488.54	2.1	5639.	1036.	12.1	
[illegible]0	1128.61	563.71	1.6	5584.	1153.	10.7	CS-134,SB-122
21	1172.97	585.88	1.7	5922.	782.	16.7	
22C	1357.96	678.37	1.0	4349.	204.	50.3	AG110M
23	1377.74	688.26	1.6	4605.	1397.	8.3	
24	1438.81	718.79	2.0	5308.	349.	35.0	
25C	1544.91	771.85	2.1	4496.	566.	16.8	I-132
26C	1558.16	778.47	2.1	4614.	19330.	1.3	MO-99
27C	1621.05	809.93	2.1	4592.	601.	20.0	I-132,CO-58
28	1734.92	866.88	2.1	4504.	5403.	2.5	
29	1838.98	918.93	1.9	2454.	545.	15.0	
30?	1916.49	957.70	2.3	2904.	537.	18.8	
31?	1928.17	963.55	2.3	2913.	18532.	1.2	EU-152
32	2010.34	1004.66	2.1	2006.	986.	8.3	
33C	2171.59	1085.34	2.3	2351.	11473.	1.3	EU-152
34C	2179.15	1089.12	2.3	2089.	2077.	3.0	
35?	2212.65	1105.89	2.4	2048.	530.	18.2	
36?	2223.96	1111.55	2.4	2232.	15714.	1.3	TE-129,EU-152
37	2425.59	1212.46	2.6	1190.	1265.	5.3	
38	2548.63	1274.05	1.4	707.	262.	18.3	NA-22
39	2598.05	1298.79	2.1	514.	1427.	3.7	I-133
40?	2803.82	1401.82	2.7	313.	663.	11.8	
41?	2815.63	1407.73	2.7	399.	19035.	0.9	EU-152,BI-214, SCH-000
42C	2914.86	1457.42	2.5	96.	431.	6.5	I-135
[illegible]3C	2921.40	1460.69	2.5	78.	265.	8.5	K-40
[illegible]	3058.07	1529.14	3.1	74.	472.	5.6	KR-88

Error Quotation at 1.00 sigma

Peak Confidence Level at 95.0%

12 Multiplets processed.

- Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.554503E-07*Ch^2 + 4.992957E-01*Ch +-1.298310E-01

New Calibration Coefficients:

Energy = 2.494007E-07*Ch^2 + 4.995148E-01*Ch +-2.470095E-01

0↕☺

Daily Source check

0↕♥♠

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                                                                     *
            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                    *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 22-FEB-96 11:02:29

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD2222
Measured by: dlv

Sample Description: Eu-152 Standard
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 22-FEB-96 at 11:00:00

COLLECT Live Time: 600. seconds
Real Time: 759. seconds
Dead Time: 20.95 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 22-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 22-FEB-96 11:02:29

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.43	39.93	1.6	14611.	2690.	9.1	
2C	92.06	45.74	1.6	11896.	1363.	10.7	
3N	171.31	85.33	3.6	46997.	2496.	8.7	
4N	178.80	89.07	3.6	51959.	1614.	9.0	
5?	233.10	116.20	1.6	17738.	3831.	30.3	
6?	244.60	121.95	1.6	15205.	91814.	2.4	SE-75,SCL-000, CO-57
7?	248.38	123.84	1.6	14373.	4171.	46.6	
8?	478.18	238.67	1.6	7580.	488.	28.1	PB-212
9?	490.49	244.82	1.6	7368.	17160.	1.9	
10	592.89	296.00	1.1	4749.	768.	14.3	PB-214
11?	677.58	338.33	1.7	4348.	1491.	21.1	AC-228
12?	689.61	344.34	1.7	4884.	44882.	0.9	BA-141, SCM-000
13	736.47	367.76	1.9	2639.	1447.	5.9	
14C	823.30	411.17	1.8	2907.	2896.	4.7	AU-198
15C	834.34	416.69	1.8	2705.	215.	16.7	I-135
16	888.84	443.94	1.7	3122.	3716.	2.9	
17	978.49	488.76	2.3	2730.	597.	14.8	
18C	1129.41	564.23	1.9	2734.	538.	15.8	CS-134,SB-122
19C	1133.81	566.43	1.9	2723.	208.	19.7	
20	1173.29	586.17	1.8	2306.	377.	20.3	
21	1358.12	678.61	2.4	2304.	375.	21.4	
22	1378.01	688.56	1.5	2170.	615.	12.6	
23C	1547.17	773.18	2.0	2291.	245.	25.2	I-132,W-187, TE131M
24C	1558.53	778.87	2.0	2302.	9490.	1.9	MO-99
25	1735.41	867.37	2.1	2207.	2709.	3.5	
26C	1917.00	958.24	2.1	1310.	288.	14.4	
27C	1928.66	964.08	2.1	1423.	9025.	1.6	EU-152
28	2010.67	1005.12	2.3	918.	367.	14.4	
29C	2172.14	1085.95	2.2	1161.	5869.	1.9	EU-152
30C	2179.92	1089.84	2.2	1025.	1053.	5.3	
31?	2213.09	1106.45	2.3	1060.	274.	22.6	
32?	2224.61	1112.22	2.3	1132.	7818.	1.8	TE-129,EU-152
33	2426.19	1213.14	2.0	621.	635.	7.7	
34	2598.68	1299.52	2.1	276.	694.	5.5	
35?	2805.47	1403.09	2.5	92.	425.	11.6	
36?	2816.42	1408.57	2.5	69.	9586.	1.2	EU-152,BI-214, SCH-000
37?	2824.65	1412.70	2.5	51.	198.	20.2	
38	2915.36	1458.14	2.3	81.	276.	8.2	I-135
39$	3046.64	1523.91	3.2	33.	21.	31.8	
40$	3059.02	1530.11	3.2	19.	279.	7.7	KR-88

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

13 Multiplets processed.

C - Multiplet Analysis converged normally
N - Multiplet Analysis did NOT converge
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
. Multiplet Analysis converged but GFIT > 4

hgtrw 22-FEB-96 11:02:29

Sample: Eu-152 Standard
Data collected on 22-FEB-96 at 11:00:00
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.86E+01		LLD<2.86E+01	
TH-234	LLD<2.19E+02		LLD<2.19E+02	
TH-230	LLD<1.83E+03		LLD<1.83E+03	
XE-133	LLD<1.30E+01		LLD<1.30E+01	
CD-109	LLD<1.10E+02		LLD<1.10E+02	
SCL-000	9.68E+02	+- 2.44E+01	9.68E+02	+- 2.44E+01
CO-57	3.21E+02	+- 8.09E+00	3.21E+02	+- 8.09E+00
PA-234	LLD<9.36E+00		LLD<9.36E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.97E+00		LLD<1.97E+00	
U-235	LLD<1.46E+01		LLD<1.46E+01	
CE-141	LLD<3.60E+00		LLD<3.60E+00	
KR-85M	LLD<2.35E+00		LLD<2.35E+00	
XE-131M	LLD<8.85E+01		LLD<8.85E+01	
BA-139	LLD<1.07E+01		LLD<1.07E+01	
[illegible]-139	LLD<2.15E+00		LLD<2.15E+00	
[illegible]A-226	LLD<4.97E+01		LLD<4.97E+01	
BA-141	LLD<4.23E+00		LLD<4.23E+00	
KR-89	LLD<2.75E+01		LLD<2.75E+01	
TE-132	LLD<2.04E+00		LLD<2.04E+00	
XE-133M	LLD<1.92E+01		LLD<1.92E+01	
TH-227	LLD<1.36E+01		LLD<1.36E+01	
PB-212	4.35E+00	+- 1.22E+00	4.35E+00	+- 1.22E+00
RA-224	LLD<9.78E+01		LLD<9.78E+01	
XE-135	LLD<4.22E+00		LLD<4.22E+00	
XE-138	LLD<8.28E+00		LLD<8.28E+00	
SE-75	LLD<3.04E+00		LLD<3.04E+00	
NP-239	LLD<1.39E+01		LLD<1.39E+01	
HG-203	LLD<2.54E+00		LLD<2.54E+00	
IR-192	LLD<2.34E+00		LLD<2.34E+00	
CR-51	LLD<2.05E+01		LLD<2.05E+01	
SCM-000	9.45E+02	+- 1.17E+01	9.45E+02	+- 1.17E+01
BI-211	LLD<1.10E+02		LLD<1.10E+02	
PB-214	LLD<7.42E+00		LLD<7.42E+00	
BA-133	LLD<3.14E+00		LLD<3.14E+00	
I-131	LLD<2.75E+00		LLD<2.75E+00	
SN-113	LLD<3.02E+00		LLD<3.02E+00	
KR-87	LLD<4.31E+00		LLD<4.31E+00	
PB-211	LLD<7.92E+01		LLD<7.92E+01	
AU-198	2.03E+01	+- 9.67E-01	2.03E+01	+- 9.67E-01
SB-125	LLD<7.01E+00		LLD<7.01E+00	
[illegible]-212	LLD<6.65E+02		LLD<6.65E+02	
BE-7	LLD<2.14E+01		LLD<2.14E+01	
HF-181	LLD<2.94E+00		LLD<2.94E+00	
RU-103	LLD<2.57E+00		LLD<2.57E+00	
KR-85	LLD<5.87E+02		LLD<5.87E+02	

SR-85	LLD<2.57E+00	LLD<2.57E+00
I-133	LLD<2.90E+00	LLD<2.90E+00
BA-140	LLD<1.01E+01	LLD<1.01E+01
[illegible]-91M	LLD<3.25E+00	LLD<3.25E+00
[illegible]-207	LLD<3.01E+00	LLD<3.01E+00
[illegible]-208	LLD<1.03E+01	LLD<1.03E+01
SB-124	LLD<2.74E+00	LLD<2.74E+00
CS-134	LLD<2.67E+00	LLD<2.67E+00
BI-214	LLD<7.05E+00	LLD<7.05E+00
RU-106	LLD<2.74E+01	LLD<2.74E+01
LA-142	LLD<5.53E+00	LLD<5.53E+00
AG-110M	LLD<2.97E+00	LLD<2.97E+00
NB-97	LLD<3.23E+00	LLD<3.23E+00
CS-137	LLD<3.41E+00	LLD<3.41E+00
I-132	LLD<2.98E+00	LLD<2.98E+00
W-187	LLD<1.07E+01	LLD<1.07E+01
ZR-97	LLD<3.50E+00	LLD<3.50E+00
ZR-95	LLD<6.08E+00	LLD<6.08E+00
NB-95	LLD<3.18E+00	LLD<3.18E+00
TL-210	LLD<2.30E+01	LLD<2.30E+01
CO-58	LLD<3.36E+00	LLD<3.36E+00
CS-136	LLD<3.31E+00	LLD<3.31E+00
MN-54	LLD<3.54E+00	LLD<3.54E+00
CO-56	LLD<3.50E+00	LLD<3.50E+00
I-134	LLD<3.94E+00	LLD<3.94E+00
TL-207	LLD<3.29E+03	LLD<3.29E+03
Y-88	LLD<3.72E+00	LLD<3.72E+00
AC-228	LLD<1.17E+01	LLD<1.17E+01
EU-152	9.68E+02 +- 1.96E+01	9.68E+02 +- 1.96E+01
[illegible]-234M	LLD<4.63E+01	LLD<4.63E+01
[illegible]-91	LLD<8.59E+00	LLD<8.59E+00
RB-89	LLD<6.68E+00	LLD<6.68E+00
FE-59	LLD<5.21E+00	LLD<5.21E+00
ZN-65	LLD<1.36E+01	LLD<1.36E+01
SC-46	LLD<3.55E+00	LLD<3.55E+00
TA-182	LLD<9.68E+00	LLD<9.68E+00
I-135	LLD<7.80E+00	LLD<7.80E+00
CL-39	LLD<4.92E+00	LLD<4.92E+00
NA-22	LLD<2.14E+00	LLD<2.14E+00
AR-41	LLD<3.62E+00	LLD<3.62E+00
CO-60	LLD<1.41E+00	LLD<1.41E+00
NA-24	LLD<1.19E+00	LLD<1.19E+00
SR-92	LLD<1.37E+00	LLD<1.37E+00
SCH-000	9.36E+02 +- 1.88E+01	9.36E+02 +- 1.88E+01
CS-138	LLD<1.28E+00	LLD<1.28E+00
K-40	LLD<7.32E+00	LLD<7.32E+00
KR-88	LLD<8.89E+00	LLD<8.89E+00
TL-209	LLD<1.70E+00	LLD<1.70E+00
LA-140	LLD<5.54E-01	LLD<5.54E-01
AL-26	LLD<4.12E-01	LLD<4.12E-01
MN-56	LLD<8.66E-01	LLD<8.66E-01
RB-88	LLD<1.79E+00	LLD<1.79E+00
	---	---
Total	4.16E+03 +- 3.92E+01	4.16E+03 +- 3.92E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD2222

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
80.43	39.93	2690.	9.1	1.04E+04
92.06	45.74	1363.	10.7	2.56E+03
171.31	85.33	2496.	8.7	4.53E+02
178.80	89.07	1614.	9.0	2.65E+02
233.10	116.20	3831.	30.3	3.97E+02
248.38	123.84	4171.	46.6	4.05E+02
490.49	244.82	17160.	1.9	2.35E+03
592.89	296.00	768.	14.3	1.23E+02
677.58	338.33	1491.	21.1	2.70E+02
736.47	367.76	1447.	5.9	2.84E+02
834.34	416.69	215.	16.7	4.79E+01
888.84	443.94	3716.	2.9	8.81E+02
978.49	488.76	597.	14.8	1.56E+02
1129.41	564.23	538.	15.8	1.63E+02
1133.81	566.43	208.	19.7	6.32E+01
1173.29	586.17	377.	20.3	1.19E+02
1358.12	678.61	375.	21.4	1.37E+02
1378.01	688.56	615.	12.6	2.28E+02
1547.17	773.18	245.	25.2	1.02E+02
1558.53	778.87	9490.	1.9	3.97E+03
1735.41	867.37	2709.	3.5	1.25E+03
1917.00	958.24	288.	14.4	1.45E+02
2010.67	1005.12	367.	14.4	1.93E+02
2179.92	1089.84	1053.	5.3	5.91E+02
2213.09	1106.45	274.	22.6	1.55E+02
2426.19	1213.14	635.	7.7	3.86E+02
2598.68	1299.52	694.	5.5	4.42E+02
2805.47	1403.09	425.	11.6	2.84E+02
2824.65	1412.70	198.	20.2	1.32E+02
2915.36	1458.14	276.	8.2	1.88E+02
3046.64	1523.91	21.	31.8	1.45E+01
3059.02	1530.11	279.	7.7	1.95E+02

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0:♥♠ C-124 (20 min count)

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*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 22-FEB-96 14:02:52

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0106
Measured by: dlv

Sample Description: C-124
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.0000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 22-FEB-96 at 13:26:37

COLLECT Live Time: 1200. seconds
Real Time: 1220. seconds
Dead Time: 1.64 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 22-FEB-96
Efficiency Calibration performed 21-NOV-95

hgtrw 22-FEB-96 14:02:52

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	478.98	239.07	1.3	214.	237.	11.9	PB-212
2	591.97	295.54	0.8	82.	53.	30.1	PB-214
3	657.12	328.10	0.7	43.	29.	37.5	LA-140
4$	705.49	352.28	1.6	47.	109.	20.1	PB-214
5	1167.22	583.14	1.4	31.	74.	16.6	TL-208
6	1219.50	609.28	1.4	16.	71.	14.4	BI-214
7C	1324.31	661.70	2.1	17.	76.	16.0	CS-137
8	1822.70	911.05	2.5	16.	74.	14.6	AC-228
9$	2237.92	1118.87	1.9	8.	14.	50.4	
10	2921.60	1461.27	2.2	6.	154.	8.6	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

3 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 22-FEB-96 14:02:52

Sample: C-124
Data collected on 22-FEB-96 at 13:26:37
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.56E+00		LLD<2.56E+00	
TH-234	LLD<1.91E+01		LLD<1.91E+01	
TH-230	LLD<1.53E+02		LLD<1.53E+02	
XE-133	LLD<1.22E+00		LLD<1.22E+00	
CD-109	LLD<8.51E+00		LLD<8.51E+00	
SCL-000	LLD<5.42E-01		LLD<5.42E-01	
CO-57	LLD<1.80E-01		LLD<1.80E-01	
PA-234	LLD<7.42E-01		LLD<7.42E-01	
CE-144	LLD<1.37E+00		LLD<1.37E+00	
TC-99M	LLD<1.66E-01		LLD<1.66E-01	
U-235	LLD<1.20E+00		LLD<1.20E+00	
CE-141	LLD<2.69E-01		LLD<2.69E-01	
KR-85M	LLD<1.78E-01		LLD<1.78E-01	
XE-131M	LLD<6.54E+00		LLD<6.54E+00	
BA-139	LLD<7.56E-01		LLD<7.56E-01	
[illegible]-139	LLD<1.47E-01		LLD<1.47E-01	
RA-226	LLD<3.61E+00		LLD<3.61E+00	
BA-141	LLD<4.56E-01		LLD<4.56E-01	
KR-89	LLD<3.12E+00		LLD<3.12E+00	
TE-132	LLD<1.74E-01		LLD<1.74E-01	
XE-133M	LLD<1.74E+00		LLD<1.74E+00	
TH-227	LLD<1.48E+00		LLD<1.48E+00	
PB-212	1.36E+00	+- 1.63E-01	1.36E+00	+- 1.63E-01
RA-224	LLD<3.84E+00		LLD<3.84E+00	
XE-135	LLD<1.64E-01		LLD<1.64E-01	
XE-138	LLD<8.00E-01		LLD<8.00E-01	
SE-75	LLD<2.41E-01		LLD<2.41E-01	
NP-239	LLD<1.02E+00		LLD<1.02E+00	
HG-203	LLD<1.98E-01		LLD<1.98E-01	
IR-192	LLD<1.81E-01		LLD<1.81E-01	
CR-51	LLD<1.61E+00		LLD<1.61E+00	
SCM-000	LLD<8.73E-01		LLD<8.73E-01	
BI-211	LLD<7.18E+00		LLD<7.18E+00	
PB-214	1.37E+00	+- 2.75E-01	1.37E+00	+- 2.75E-01
BA-133	LLD<4.26E-01		LLD<4.26E-01	
I-131	LLD<2.16E-01		LLD<2.16E-01	
SN-113	LLD<3.00E-01		LLD<3.00E-01	
KR-87	LLD<3.78E-01		LLD<3.78E-01	
PB-211	LLD<8.39E+00		LLD<8.39E+00	
AU-198	LLD<1.96E-01		LLD<1.96E-01	
[illegible]B-125	LLD<5.58E-01		LLD<5.58E-01	
[illegible]I-212	LLD<5.52E+01		LLD<5.52E+01	
BE-7	LLD<1.25E+00		LLD<1.25E+00	
HF-181	LLD<2.02E-01		LLD<2.02E-01	
RU-103	LLD<1.94E-01		LLD<1.94E-01	
KR-85	LLD<5.49E+01		LLD<5.49E+01	

SR-85	LLD<2.40E-01		LLD<2.40E-01		
I-133	LLD<2.05E-01		LLD<2.05E-01		
BA-140	LLD<7.26E-01		LLD<7.26E-01		
91M	LLD<2.50E-01		LLD<2.50E-01		
·207	LLD<2.34E-01		LLD<2.34E-01		
TL-208	LLD<1.49E+00		LLD<1.49E+00		
SB-124	LLD<2.03E-01		LLD<2.03E-01		
CS-134	LLD<3.84E-01		LLD<3.84E-01		
BI-214	1.36E+00	+- 1.96E-01	1.36E+00	+-	1.96E-01
RU-106	LLD<1.95E+00		LLD<1.95E+00		
LA-142	LLD<3.95E-01		LLD<3.95E-01		
AG-110M	LLD<4.08E-01		LLD<4.08E-01		
NB-97	LLD<4.32E-01		LLD<4.32E-01		
CS-137	5.79E-01	+- 9.28E-02	5.79E-01	+-	9.28E-02
I-132	LLD<2.96E-01		LLD<2.96E-01		
W-187	LLD<7.51E-01		LLD<7.51E-01		
ZR-97	LLD<2.30E-01		LLD<2.30E-01		
ZR-95	LLD<4.12E-01		LLD<4.12E-01		
NB-95	LLD<2.36E-01		LLD<2.36E-01		
TL-210	LLD<2.93E+00		LLD<2.93E+00		
CO-58	LLD<2.00E-01		LLD<2.00E-01		
CS-136	LLD<2.10E-01		LLD<2.10E-01		
MN-54	LLD<2.38E-01		LLD<2.38E-01		
CO-56	LLD<2.34E-01		LLD<2.34E-01		
I-134	LLD<3.12E-01		LLD<3.12E-01		
TL-207	LLD<3.12E+02		LLD<3.12E+02		
Y-88	LLD<2.49E-01		LLD<2.49E-01		
AC-228	2.55E+00	+- 3.74E-01	2.55E+00	+-	3.74E-01
EU-152	LLD<3.43E+00		LLD<3.43E+00		
-234M	LLD<5.52E+00		LLD<5.52E+00		
-91	LLD<6.66E-01		LLD<6.66E-01		
RB-89	LLD<5.62E-01		LLD<5.62E-01		
FE-59	LLD<4.69E-01		LLD<4.69E-01		
ZN-65	LLD<8.01E-01		LLD<8.01E-01		
SC-46	LLD<3.20E-01		LLD<3.20E-01		
TA-182	LLD<8.99E-01		LLD<8.99E-01		
I-135	LLD<1.29E+00		LLD<1.29E+00		
CL-39	LLD<5.41E-01		LLD<5.41E-01		
NA-22	LLD<2.66E-01		LLD<2.66E-01		
AR-41	LLD<2.77E-01		LLD<2.77E-01		
CO-60	LLD<2.35E-01		LLD<2.35E-01		
NA-24	LLD<2.23E-01		LLD<2.23E-01		
SR-92	LLD<3.01E-01		LLD<3.01E-01		
SCH-000	LLD<1.05E+00		LLD<1.05E+00		
CS-138	LLD<3.08E-01		LLD<3.08E-01		
K-40	1.90E+01	+- 1.66E+00	1.90E+01	+-	1.66E+00
KR-88	LLD<1.76E+00		LLD<1.76E+00		
TL-209	LLD<1.30E+00		LLD<1.30E+00		
LA-140	LLD<2.85E-01		LLD<2.85E-01		
AL-26	LLD<1.22E-01		LLD<1.22E-01		
MN-56	LLD<7.06E-01		LLD<7.06E-01		
RB-88	LLD<1.73E+00		LLD<1.73E+00		
	---		---		
Total	2.62E+01	+- 1.75E+00	2.62E+01	+-	1.75E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0106

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
591.97	295.54	53.	30.1	4.28E+00
657.12	328.10	29.	37.5	2.58E+00
1167.22	583.14	74.	16.6	1.17E+01
2237.92	1118.87	14.	50.4	4.11E+00

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APPENDIX D

INDEPENDENT LABORATORY RESULTS FOR WASTE PROFILING

ASSAGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
December 18, 1995 13:04

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9512072
WORK ID : MDAM
CLIENT CODE : NES01
DATE RECEIVED : 12/07/95

Lab ID: 9512072-01A
Sample ID: CELLS 20,21,23

Collected: 12/06/95 13:40:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
PCBs XT/SW846 3520	12/07/95	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1221	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1232	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1242	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1248	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1254	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1260	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
TCLP (ICP) DIG/1311/3005	12/08/95	N/A				
TCLP EXTRACTION/TCLP 1311	12/07/95	N/A				
TCLP HERB XT/SM 509B	12/12/95	N/A				
TCLP HERBICIDES/SM509B						
2,4'-D	ND	mg/L	0.00010	1.0	12/14/95	THERB031
2,4,5'-TP	ND	mg/L	0.00010	1.0	12/14/95	THERB031
2,4,5'-T	ND	mg/L	0.00010	1.0	12/14/95	THERB031
TCLP METALS/1311/SW8466010						
Arsenic, As	ND	mg/L	0.20	1.0	12/11/95	TI119/TCV13,TFTI118
Barium, Ba	1.6	mg/L	0.50	1.0	12/11/95	TI119/TCV13,TFTI118
Cadmium, Cd	0.036	mg/L	0.0030	1.0	12/11/95	TI119/TCV13,TFTI118
Chromium, Cr	ND	mg/L	0.020	1.0	12/12/95	TI119/TCV13,TFTI118
Lead, Pb	ND	mg/L	0.030	1.0	12/12/95	TI119/TCV13,TFTI118
Mercury, Hg	ND	mg/L	0.0020	1.0	12/12/95	TI119/TCV13,TFTI118
Selenium, Se	ND	mg/L	0.050	1.0	12/11/95	TI119/TCV13,TFTI118
Silver, Ag	ND	mg/L	0.020	1.0	12/11/95	TI119/TCV13,TFTI118
TCLP PEST XT/1311/3520	12/11/95	N/A				
TCLP PESTICIDES/1311/8080A						
gamma-BHC (lindane)	0.000026E	mg/L	0.000010	1.1	12/13/95	TPEST32
Chlordane	ND	mg/L	0.000020	1.1	12/13/95	TPEST32
Endrin	ND	mg/L	0.000010	1.1	12/13/95	TPEST32
Heptachlor	ND	mg/L	0.000010	1.1	12/13/95	TPEST32
Heptachlor Epoxide	ND	mg/L	0.000010	1.1	12/13/95	TPEST32
Methoxychlor	ND	mg/L	0.000020	1.1	12/13/95	TPEST32
Toxaphene	ND	mg/L	0.0010	1.1	12/13/95	TPEST32
TCLP SV/METHOD 1311/8270B						
1,4-Dichlorobenzene	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
2-Methylphenol / O-Cresol	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
3/4-Methylphenol / M/P-Cresol	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
Hexachloroethane	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
robenzene	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
xachlorobutadiene	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
,4,6-Trichlorophenol	ND	mg/L	0.010	2.3	12/09/95	TSVOA139
2,4,5-Trichlorophenol	ND	mg/L	0.010	2.3	12/09/95	TSVOA139
2,4-Dinitrotoluene	ND	mg/L	0.010	2.3	12/09/95	TSVOA139

Member: American Council of Independent Laboratories, Inc.

REPRODUCTION OF THIS REPORT IN LESS THAN FULL REQUIRES THE WRITTEN CONSENT OF AAL. THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL LABORATORY VOLUNTARY ACCREDITATION PROGRAM.

ID: 9512072-01A
Sample ID: CELLS 20,21,23

Collected: 12/06/95 13:40:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP SV/METHOD 1311/8270B						
Hexachlorobenzene	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
Pentachlorophenol	ND	mg/L	0.020	2.3	12/09/95	TSVOA139
Pyridine	ND	mg/L	0.010	2.3	12/09/95	TSVOA139
TCLP SVOA XT/1311/3520	12/08/95	N/A				
TCLP ZHE / TCLP 1311	12/07/95	N/A				
TCLP(CVAA)Hg XT/SW846 7471	12/12/95	N/A				
ZHE/VOA/METHOD 1311/8240B						
Vinyl Chloride	ND	mg/L	0.0050	1.0	12/08/95	TVOA210
1,1-Dichloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Chloroform	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
1,2-Dichloroethane	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
2-Butanone (MEK)	ND	mg/L	0.0050	1.0	12/08/95	TVOA210
Carbon Tetrachloride	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Trichloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Benzene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Tetrachloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Chlorobenzene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210

Lab ID: 9512072-02A
Sample ID: BACKGROUND

Collected: 12/06/95 13:40:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
PCBs XT/SW846 3520	12/07/95	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1221	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1232	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1242	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1248	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1254	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1260	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
TCLP (ICP) DIG/1311/3005	12/08/95	N/A				
TCLP EXTRACTION/TCLP 1311	12/07/95	N/A				
TCLP HERB XT/SM 509B	12/12/95	N/A				
TCLP HERBICIDES/SM509B						
2,4'-D	ND	mg/L	0.00010	1.1	12/14/95	THERB031
2,4,5'-TP	ND	mg/L	0.00010	1.1	12/14/95	THERB031
2,4,5'-T	ND	mg/L	0.00010	1.1	12/14/95	THERB031
TCLP METALS/1311/SW8466010						
Arsenic, As	ND	mg/L	0.20	1.0	12/11/95	TI119,TCV13,TFTI118
Barium, Ba	1.6	mg/L	0.50	1.0	12/11/95	TI119,TCV13,TFTI118
Cadmium, Cd	ND	mg/L	0.0030	1.0	12/11/95	TI119,TCV13,TFTI118
Chromium, Cr	ND	mg/L	0.020	1.0	12/12/95	TI119,TCV13,TFTI118
Lead, Pb	ND	mg/L	0.030	1.0	12/12/95	TI119,TCV13,TFTI118
Mercury, Hg	ND	mg/L	0.0020	1.0	12/12/95	TI119,TCV13,TFTI118
Selenium, Se	ND	mg/L	0.050	1.0	12/11/95	TI119,TCV13,TFTI118
Silver, Ag	ND	mg/L	0.020	1.0	12/11/95	TI119,TCV13,TFTI118
TCLP PEST XT/1311/3520	12/11/95	N/A				
TCLP PESTICIDES/1311/8080A						
gamma-BHC (lindane)	ND	mg/L	0.000010	1.2	12/13/95	TPEST32
Chlordane	ND	mg/L	0.000020	1.2	12/13/95	TPEST32
drin	ND	mg/L	0.000010	1.2	12/13/95	TPEST32
tachlor	ND	mg/L	0.000010	1.2	12/13/95	TPEST32
tachlor Epoxide	ND	mg/L	0.000010	1.2	12/13/95	TPEST32
Methoxychlor	ND	mg/L	0.000020	1.2	12/13/95	TPEST32
Toxaphene	ND	mg/L	0.0010	1.2	12/13/95	TPEST32

Lab ID: 9512072-02A
Sample ID: BACKGROUND

Collected: 12/06/95 13:40:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP SV/METHOD 1311/8270B						
1,4-Dichlorobenzene	ND	mg/L	0.0010	2.2	12/09/95	TSVOA139
2-Methylphenol / O-Cresol	ND	mg/L	0.0010	2.2	12/09/95	TSVOA139
3/4-Methylphenol / M/P-Cresol	ND	mg/L	0.0010	2.2	12/09/95	TSVOA139
Hexachloroethane	ND	mg/L	0.0010	2.2	12/09/95	TSVOA139
Nitrobenzene	ND	mg/L	0.0010	2.2	12/09/95	TSVOA139
Hexachlorobutadiene	ND	mg/L	0.0010	2.2	12/09/95	TSVOA139
2,4,6-Trichlorophenol	ND	mg/L	0.010	2.2	12/09/95	TSVOA139
2,4,5-Trichlorophenol	ND	mg/L	0.010	2.2	12/09/95	TSVOA139
2,4-Dinitrotoluene	ND	mg/L	0.010	2.2	12/09/95	TSVOA139
Hexachlorobenzene	ND	mg/L	0.0010	2.2	12/09/95	TSVOA139
Pentachlorophenol	ND	mg/L	0.020	2.2	12/09/95	TSVOA139
Pyridine	ND	mg/L	0.010	2.2	12/09/95	TSVOA139
TCLP SVOA XT/1311/3520	12/08/95	N/A				
TCLP ZHE / TCLP 1311	12/07/95	N/A				
TCLP(CVAA)Hg XT/SW846 7471	12/12/95	N/A				
ZHE/VOA/METHOD 1311/8240B						
Vinyl Chloride	ND	mg/L	0.0050	1.0	12/08/95	TVOA210
1,1-Dichloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Chloroform	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
1,2-Dichloroethane	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
2-Butanone (MEK)	0.031	mg/L	0.0050	1.0	12/08/95	TVOA210
Carbon Tetrachloride	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Trichloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Benzene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Tetrachloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Chlorobenzene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210

Lab ID: 9512072-03A
Sample ID: CELLS 24,25,26,38

Collected: 12/06/95 13:40:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
PCBs XT/SW846 3520	12/07/95	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1221	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1232	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1242	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1248	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1254	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
PCB-1260	ND	mg/Kg	0.0030	1.0	12/11/95	SPCB-117
TCLP (ICP) DIG/1311/3005	12/08/95	N/A				
TCLP EXTRACTION/TCLP 1311	12/07/95	N/A				
TCLP HERB XT/SM 509B	12/12/95	N/A				
TCLP HERBICIDES/SM509B						
2,4'-D	ND	mg/L	0.00010	1.1	12/14/95	THERB031
2,4,5'-TP	ND	mg/L	0.00010	1.1	12/14/95	THERB031
2,4,5'-T	ND	mg/L	0.00010	1.1	12/14/95	THERB031
TCLP METALS/1311/SW8466010						
Arsenic, As	ND	mg/L	0.20	1.0	12/11/95	TI119,TCV13,TFTI118
Barium, Ba	1.6	mg/L	0.50	1.0	12/11/95	TI119,TCV13,TFTI118
Cadmium, Cd	ND	mg/L	0.0030	1.0	12/11/95	TI119,TCV13,TFTI118
Chromium, Cr	ND	mg/L	0.020	1.0	12/12/95	TI119,TCV13,TFTI118
Lead, Pb	ND	mg/L	0.030	1.0	12/12/95	TI119,TCV13,TFTI118
Mercury, Hg	ND	mg/L	0.0020	1.0	12/12/95	TI119,TCV13,TFTI118
Selenium, Se	ND	mg/L	0.050	1.0	12/11/95	TI119,TCV13,TFTI118
Silver, Ag	ND	mg/L	0.020	1.0	12/11/95	TI119,TCV13,TFTI118

ID: 9512072-03A
Sample ID: CELLS 24,25,26,38

Collected: 12/06/95 13:40:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP PEST XT/1311/3520	12/11/95	N/A				
TCLP PESTICIDES/1311/8080A						
gamma-BHC (lindane)	ND	mg/L	0.000010	1.2	12/13/95	TPEST32
Chlordane	ND	mg/L	0.000020	1.2	12/13/95	TPEST32
Endrin	ND	mg/L	0.000010	1.2	12/13/95	TPEST32
Heptachlor	ND	mg/L	0.000010	1.2	12/13/95	TPEST32
Heptachlor Epoxide	ND	mg/L	0.000010	1.2	12/13/95	TPEST32
Methoxychlor	ND	mg/L	0.000020	1.2	12/13/95	TPEST32
Toxaphene	ND	mg/L	0.0010	1.2	12/13/95	TPEST32
TCLP SV/METHOD 1311/8270B						
1,4-Dichlorobenzene	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
2-Methylphenol / O-Cresol	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
3/4-Methylphenol / M/P-Cresol	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
Hexachloroethane	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
Nitrobenzene	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
Hexachlorobutadiene	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
2,4,6-Trichlorophenol	ND	mg/L	0.010	2.3	12/09/95	TSVOA139
2,4,5-Trichlorophenol	ND	mg/L	0.010	2.3	12/09/95	TSVOA139
2,4-Dinitrotoluene	ND	mg/L	0.010	2.3	12/09/95	TSVOA139
Hexachlorobenzene	ND	mg/L	0.0010	2.3	12/09/95	TSVOA139
Pentachlorophenol	ND	mg/L	0.020	2.3	12/09/95	TSVOA139
Pyridine	ND	mg/L	0.010	2.3	12/09/95	TSVOA139
TCLP SVOA XT/1311/3520	12/08/95	N/A				
TCLP ZHE / TCLP 1311	12/07/95	N/A				
TCLP(CVAA)Hg XT/SW846 7471	12/12/95	N/A				
[illegible]VOA/METHOD 1311/8240B						
[illegible]l Chloride	ND	mg/L	0.0050	1.0	12/08/95	TVOA210
[illegible]-Dichloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Chloroform	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
1,2-Dichloroethane	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
2-Butanone (MEK)	0.0082	mg/L	0.0050	1.0	12/08/95	TVOA210
Carbon Tetrachloride	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Trichloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Benzene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Tetrachloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Chlorobenzene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : **12/18/95**
WORKORDER: **9512072**

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

E: FRACTION 01A, FOR TCLP PESTICIDES HAD A LOW LEVEL POSITIVE THAT CONFIRMED FOR LINDANE. THE QC RECOVERIES FOR THIS ANALYTE WERE HIGHER THAN ACCEPTABLE CRITERIA, THEREFORE THIS VALUE IS BIASED HIGH BY AS MUCH AS 20%.

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 12072 Date [illegible]

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87[illegible]
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG [illegible]ING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NE[illegible], Inc

Address: 3[illegible] Ste C5

City / State / Zip: [illegible]

Project Name / Number: [illegible]

Contract / Purchase Order / Quote:

Project Manager / Contact: [illegible]

Telephone No.: [illegible]

Fax No.:

Samplers: (Signature)

								No. of Containers	Full TCLP & RCRA									Remarks
01A	Cells 20, 21, 23	12/6/95	1:00	soil	[illegible]	4°C	n/a	3	✓									
02A	Background	12/6/95	1:00	soil	[illegible]	4°C	n/a	3	✓									
03A	Cells 24, 25, 28, 38	12/6/95	1:00	soil	[illegible]	4°C	n/a	3	✓									

12/6/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: DMC Connell	12/6/95	Signature: [illegible]	Signature: [illegible]	12/7/95	Signature: Laura M [illegible]
Printed: DMC Connell	Time: 2:00pm	Printed: Elvis G Chavez	Printed: Elvis G Chavez	Time: 8:30am	Printed: Laura M [illegible]
Company: NE[illegible]		Company: AAL	Company: AAL		Company: AAL
Reason: testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.:

Special Instructions:

Comments: A115 #111

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

ASSAGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
January 3, 1996 10:29

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9512167
WORK ID : MDA/M
CLIENT CODE : NES01
DATE RECEIVED : 12/14/95

Lab ID: 9512167-01A
Sample ID: CELLS 10,18,19

Collected: 12/12/95 09:30:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	12/29/95	N/A				
ICP DIG/SW 846 3050	12/15/95	N/A				
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
alpha-BHC	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
-BHC	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
ma-BHC (lindane)	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
ta-BHC	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
lordane	ND	mg/Kg	0.030	14.0	12/27/95	SPCB119/SPEST43
4,4'-DDD	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
4,4'-DDE	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
4,4'-DDT	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
Dieldrin	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
Endosulfan I	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
Endosulfan II	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
Endrin	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
Endrin Aldehyde	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
Heptachlor	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
Heptachlor Epoxide	ND	mg/Kg	0.0030	14.0	12/27/95	SPCB119/SPEST43
Methoxychlor	ND	mg/Kg	0.030	14.0	12/27/95	SPCB119/SPEST43
Endosulfan Sulfate	ND	mg/Kg	0.030	14.0	12/27/95	SPCB119/SPEST43
Toxaphene	ND	mg/Kg	0.30	14.0	12/27/95	SPCB119/SPEST43
PCB-1016	ND	mg/Kg	0.0030	1.4	12/27/95	SPCB119/SPEST43
PCB-1221	ND	mg/Kg	0.0030	1.4	12/27/95	SPCB119/SPEST43
PCB-1232	ND	mg/Kg	0.0030	1.4	12/27/95	SPCB119/SPEST43
PCB-1242	ND	mg/Kg	0.0030	1.4	12/27/95	SPCB119/SPEST43
PCB-1248	ND	mg/Kg	0.0030	1.4	12/27/95	SPCB119/SPEST43
PCB-1254	0.033	mg/Kg	0.0030	1.4	12/27/95	SPCB119/SPEST43
PCB-1260	0.040	mg/Kg	0.0030	1.4	12/27/95	SPCB119/SPEST43
PEST/PCB XT/SW846 3520	12/26/95	N/A				
RCRA METALS(ICP)SW846 6010						
Arsenic, As	ND	mg/Kg	5.0	1.0	12/27/95	SI61,SCV84
Barium, Ba	1040	mg/Kg	0.50	1.0	12/27/95	SI61,SCV84
Cadmium, Cd	4.35	mg/Kg	0.15	1.0	12/27/95	SI61,SCV84
Chromium, Cr	33.6	mg/Kg	1.0	1.0	12/27/95	SI61,SCV84
Lead, Pb	686	mg/Kg	1.0	1.0	12/27/95	SI61,SCV84
Mercury, Hg	ND	mg/Kg	0.15	1.0	12/29/95	SI61,SCV84
Selenium, Se	ND	mg/Kg	2.5	1.0	12/27/95	SI61,SCV84
Silver, Ag	58.7	mg/Kg	1.0	1.0	12/27/95	SI61,SCV84
T-VOA/SW846 8270B						
itrosodimethylamine	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
ridine	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
niline	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
s(2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
2-Chlorophenol	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096

Member: American Council of Independent Laboratories, Inc.

REPRODUCTION OF THIS REPORT IN LESS THAN FULL REQUIRES THE WRITTEN CONSENT OF AAL. THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL LABORATORY VOLUNTARY ACCREDITATION PROGRAM.

ID: 9512167-01A
Sample ID: CELLS 10,18,19

Collected: 12/12/95 09:30:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Phenol	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
1,2-Dichlorobenzene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Benzyl Alcohol	ND	mg/Kg	1.5	2.1	12/19/95	SMSSVOA096
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Hexachloroethane	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Nitrobenzene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Isophorone	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
2-Nitrophenol	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Naphthalene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Benzoic Acid	ND	mg/Kg	3.0	2.1	12/19/95	SMSSVOA096
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
4-Chloroaniline	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
Hexachlorobutadiene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
2-Methylnaphthalene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
[illegible]chlorocyclopentadiene	ND	mg/Kg	1.5	2.1	12/19/95	SMSSVOA096
[illegible]6-Trichlorophenol	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
[illegible],5-Trichlorophenol	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
[illegible]hloronaphthalene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
2-Nitroaniline	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
Acenaphthylene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Dimethylphthalate	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
2,6-Dinitrotoluene	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
Acenaphthene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
3-Nitroaniline	NT	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
Dibenzofuran	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
Fluorene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Diethylphthalate	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
4-Nitrophenol	ND	mg/Kg	0.60	2.1	12/19/95	SMSSVOA096
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
4-Nitroaniline	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Hexachlorobenzene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Pentachlorophenol	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
2,4-Dinitrophenol	ND	mg/Kg	0.050	2.1	12/19/95	SMSSVOA096
Benzidine	NT	mg/Kg	1.5	2.1	12/19/95	SMSSVOA096
Phenanthrene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Anthracene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Di-n-butylphthalate	1.4	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
Fluoranthene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Pyrene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Butylbenzylphthalate	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Benzo(a)anthracene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Chrysene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
[illegible]-octyl phthalate	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
[illegible]zo(b)fluoranthene	0.092	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
[illegible]zo(k)fluoranthene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
[illegible]nzo(a)pyrene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
[illegible]deno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096

ID: 9512167-01A
Sample ID: CELLS 10,18,19

Collected: 12/12/95 09:30:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	2.1	12/19/95	SMSSVOA096
Azobenzene	ND	mg/Kg	0.030	2.1	12/19/95	SMSSVOA096
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	2.1	12/19/95	SMSSVOA096
SVOA XT/SW846 3520	12/17/95	N/A				

Lab ID: 9512167-01B
Sample ID: CELLS 10,18,19

Collected: 12/12/95 09:30:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	12/19/95	SMSVOA340
Chloromethane	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
Iodomethane	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
Acetone	4.6	mg/Kg	0.0050	50	12/19/95	SMSVOA340
Bromomethane	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
Vinyl Chloride	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
Chloroethane	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
hlorofluoromethane	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
n 113	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
bon Disulfide	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
rolein	ND	mg/Kg	0.020	50	12/19/95	SMSVOA340
ethylene Chloride	ND	mg/Kg	0.010	50	12/19/95	SMSVOA340
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Acrylonitrile	ND	mg/Kg	0.020	50	12/19/95	SMSVOA340
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Chloroform	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Vinyl Acetate	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
2-Butanone (MEK)	0.62	mg/Kg	0.0050	50	12/19/95	SMSVOA340
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Bromodichloromethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Dibromomethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Trichloroethene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Chlorodibromomethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Benzene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Bromoform	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
Tetrachloroethene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	12/19/95	SMSVOA340
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
ıene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
orobenzene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
ıylbenzene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	12/19/95	SMSVOA340
yrene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
/M Xylene	ND	mg/Kg	0.0020	50	12/19/95	SMSVOA340

ID: 9512167-01B
Sample ID: CELLS 10,18,19

Collected: 12/12/95 09:30:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
O-Xylene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	12/19/95	SMSVOA340
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/19/95	SMSVOA340

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : **01/02/96**
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

Chain of Custody Record

NAIGAI ANALYTICAL LABORATORIES

Lab job no.: 12-117 Date: 12/12/95

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 8710
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-0000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES

Address: 3700 Trinity Drive C-5

City / State / Zip: Las Alamos, NM 87544

Project Name / Number: MDA M

Contract / Purchase Order / Quote:

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1984

Fax No.: 662-2030

Samplers: (Signature) DMO'Connell

Analysis Required: Full Scan

Sample No.	Sample Description	Date	Time	Matrix	Type	Preservative	No. of Containers	Full Scan	Remarks
01A,B	Cells 10, 16, 19	12/12/95	0930	Soil	4oz soil jars	4C	N/A	3	

12/13/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: DMO'Connell	12/13/95	Signature: [illegible]	Signature:	12/[illegible]	Signature: [illegible]
Printed: DM O'Connell	Time	Printed: [illegible]	Printed:	Time	Printed: [illegible]
Company: NES	10:40	Company: AAL	Company:		Company:
Reason: Testing (5% Verif)		Reason: testing	Reason:		Reason:

Method of Shipment:

Shipment No.:

Special Instructions:

Comments: SEE COMMENTS HEADING

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

ASSAIGAI
ANALYTICAL
LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
January 25, 1996 09:35

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9601158
WORK ID : MDAM
CLIENT CODE : NES01
DATE RECEIVED : 01/22/96

Lab ID: 9601158-01A
Sample ID: CELLS 10,18,19

Collected: 12/12/95 09:30:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	01/23/96	N/A				
TCLP EXTRACTION/TCLP 1311	01/22/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.1	mg/L	0.10	1.0	01/24/96	TF13

James A. Seely
Operations Manager

Member: American Council of Independent Laboratories, Inc.

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WORKORDER COMMENTS

DATE : 01/25/96
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

WORKORDER # 1158
(SAME AS NEW WO #)
DATE DUE: 1/25/96

ANALYTICAL REQUEST FORM

DATE OF CHANGE: 1/22/96
CLIENT: NES
CLIENT CONTACT: Debbie O'Connell

REASON: ☒ CHANGE REQUEST ☐ REMOVE SAMPLE FROM "HOLD"

☐ CANCEL REQUEST ☐ INTERNAL WORKORDER

"OLD" WORKORDER # 12167-1B (PLEASE ATTACH)
1A consumed previously

"NEW" WORKORDER # 1158 If "old" workorder # unchanged enter here or enter "new" workorder #

ARE SAMPLES STILL WITHIN EPA RECOMMENDED HOLD TIME?
☒ yes. How many days remaining? [illegible] If less than 5, whom in the lab was notified?_____

☐ no. Was client notified? ☐ yes. ☐ no. If no, who at AAL decided to proceed?_____

"NEW" DUE DATE FOR WORKORDER 1/25/96

TEST REQUEST

TCLP Pb							

Client Sample #	AAL Sample # Old	AAL Sample # New	Date Collected								
Cells 10, 18, 19	12167-1B	1158-1A	12/12/95	X							

Comments:_____

Changes Made By: [signature] (Signature) Date: 1/22/96

Chain of Custody Record

AMERICAN ANALYTICAL LABORATORIES

Lab job no.: 12-167 Date: 12/12/95

Page 1 of 1

ALBUQUERQUE, NEW MEXICO 87107
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES
Address: 3500 Trinity Drive C-5
City / State / Zip: Los Alamos, NM 87544
Project Name / Number: MDA M
Contract / Purchase Order / Quote:

Project Manager / Contact: Debbie O'Connell
Telephone No.: 662-1984
Fax No.: 662-2036
Samplers: (Signature) DMO'Connell

Analysis Required: Full TCLP + RCI

AAL Transaction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Remarks
014,B	Cells 10, 18, 19	12/12/95	0930	Soil	4oz soil jars	4C	N/A	3	

12/12/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: DMO'Connell	12/13/95	Signature: [illegible]	Signature:	12/14/95	Signature: [illegible]
Printed: DMO'Connell	Time	Printed: Elin S. Chael	Printed:	Time	Printed: Daniel J. Tatom
Company: NES	10:40	Company: AAL	Company:	7:58 AM	Company: AAL
Reason: Testing (5% Verif)		Reason: Testing	Reason:		Reason:

Method of Shipment:
Shipment No.
Special Instructions:

Comments: -SEE CONVERSATION LEDGER FOR CHANGES- [illegible] 12/14/95

After analysis, samples are to be:
- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

LABORATORY

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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
January 8, 1996 15:13

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT NES, INC.
TO: 3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9512193
WORK ID : MDAM
CLIENT CODE : NES01
DATE RECEIVED : 12/18/95

Lab ID: 9512193-01A
Sample ID: C-8,17

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	12/29/95	N/A				
ICP DIG/SW 846 3050	12/19/95	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	0.22	mg/Kg	0.15	1.0	12/29/95	SCV84
METALS by ICP/SW-846 6010						
r, Ag	32.6	mg/Kg	1.0	1.0	12/23/95	SI63
inum, Al	NT	mg/Kg	25			SI63
nic, As	6.90	mg/Kg	1.5	1.0	12/23/95	SI63
on, B	NT	mg/Kg	5.0			SI63
Barium, Ba	792	mg/Kg	0.50	1.0	12/23/95	SI63
Beryllium, Be	NT	mg/Kg	0.020			SI63
Calcium, Ca	NT	mg/Kg	10			SI63
Cadmium, Cd	2.48	mg/Kg	0.15	1.0	12/23/95	SI63
Cobalt, Co	NT	mg/Kg	0.50			SI63
Chromium, Cr	35.4	mg/Kg	1.0	1.0	12/23/95	SI63
Copper, Cu	NT	mg/Kg	1.0			SI63
Iron, Fe	NT	mg/Kg	10			SI63
Potassium, K	NT	mg/Kg	5.0			SI63
Magnesium, Mg	NT	mg/Kg	5.0			SI63
Manganese, Mn	NT	mg/Kg	0.15			SI63
Sodium, Na	NT	mg/Kg	10			SI63
Nickel, Ni	NT	mg/Kg	0.50			SI63
Lead, Pb	388	mg/Kg	1.5	1.0	12/23/95	SI63
Antimony, Sb	NT	mg/Kg	1.5			SI63
Selenium, Se	ND	mg/Kg	2.5	1.0	12/23/95	SI63
Vanadium, V	NT	mg/Kg	0.15			SI63
Zinc, Zn	NT	mg/Kg	5.0			SI63
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
alpha-BHC	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
beta-BHC	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
gamma-BHC (lindane)	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
delta-BHC	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Chlordane	ND	mg/Kg	0.030	10	12/27/95	SPEST43/SPCB119
4,4'-DDD	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
4,4'-DDE	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
4,4'-DDT	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Dieldrin	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Endosulfan I	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
osulfan II	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
in	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
drin Aldehyde	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
ptachlor	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
eptachlor Epoxide	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Methoxychlor	ND	mg/Kg	0.030	10	12/27/95	SPEST43/SPCB119

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.o ID: 9512193-01A
Sample ID: C-8,17

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
PEST/PCB /SW846 8080A						
Endosulfan Sulfate	ND	mg/Kg	0.030	10	12/27/95	SPEST43/SPCB119
Toxaphene	ND	mg/Kg	0.30	10	12/27/95	SPEST43/SPCB119
PCB-1016	ND	mg/Kg	0.0030	10	01/04/96	SPEST43/SPCB119
PCB-1221	ND	mg/Kg	0.0030	10	01/04/96	SPEST43/SPCB119
PCB-1232	ND	mg/Kg	0.0030	10	01/04/96	SPEST43/SPCB119
PCB-1242	ND	mg/Kg	0.0030	10	01/04/96	SPEST43/SPCB119
PCB-1248	ND	mg/Kg	0.0030	10	01/04/96	SPEST43/SPCB119
PCB-1254	0.038	mg/Kg	0.0030	10	01/04/96	SPEST43/SPCB119
PCB-1260	0.020	mg/Kg	0.0030	10	01/04/96	SPEST43/SPCB119
PEST/PCB XT/SW846 3520	12/26/95	N/A				
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Pyridine	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Aniline	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Chlorophenol	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Phenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
1,2-Dichlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzyl Alcohol	ND	mg/Kg	1.5	2.0	12/30/95	SMSSVOA101
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
achloroethane	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
troso-di-n-propylamine	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
obenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Isophorone	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Nitrophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Naphthalene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzoic Acid	ND	mg/Kg	3.0	2.0	12/30/95	SMSSVOA101
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
4-Chloroaniline	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Hexachlorobutadiene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Methylnaphthalene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	2.0	12/30/95	SMSSVOA101
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
2-Chloronaphthalene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Nitroaniline	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Acenaphthylene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Dimethylphthalate	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2,6-Dinitrotoluene	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Acenaphthene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA101
Dibenzofuran	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Fluorene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Diethylphthalate	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
4-Nitrophenol	ND	mg/Kg	0.60	2.0	12/30/95	SMSSVOA101
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
itroaniline	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
omophenyl-phenylether	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
xachlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
ntachlorophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
2,4-Dinitrophenol	ND	mg/Kg	0.050	2.0	12/30/95	SMSSVOA101
Benzidine	NT	mg/Kg	1.5			SMSSVOA101

Lab ID: 9512193-01A
Sample ID: C-8,17

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Phenanthrene	0.075	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Anthracene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Di-n-butylphthalate	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Fluoranthene	0.22	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Pyrene	0.14	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Butylbenzylphthalate	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzo(a)anthracene	0.12	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Chrysene	0.22	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Di-n-octyl phthalate	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Benzo(b)fluoranthene	0.35	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzo(k)fluoranthene	0.11	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzo(a)pyrene	0.22	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	2.0	12/30/95	SMSSVOA101
Azobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
SVOA XT/SW846 3520	12/28/95	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
Chloromethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
[illegible]omethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
[illegible]one	6.1	mg/Kg	0.0050	50	12/26/95	SMSVOA341
[illegible]omomethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Vinyl Chloride	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Chloroethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Freon 113	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Carbon Disulfide	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Acrolein	ND	mg/Kg	0.020	50	12/26/95	SMSVOA341
Methylene Chloride	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Acrylonitrile	ND	mg/Kg	0.020	50	12/26/95	SMSVOA341
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Chloroform	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Vinyl Acetate	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
2-Butanone (MEK)	0.62	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Bromodichloromethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Dibromomethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Trichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Chlorodibromomethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Benzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Bromoform	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
[illegible]rachloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible]2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible]-Dibromoethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible]Hexanone (MBK)	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Toluene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341

Lab ID: 9512193-01A
Sample ID: C-8,17

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Chlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Ethylbenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
Styrene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
P/M Xylene	ND	mg/Kg	0.0020	50	12/26/95	SMSVOA341
O-Xylene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50.	12/26/95	SMSVOA341

Lab ID: 9512193-02A
Sample ID: Q,S,P (C65-113)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	12/29/95	N/A				
DIG/SW 846 3050	12/19/95	N/A				
CURY (CVAA)/SW846 7471						
cury	ND	mg/Kg	0.15	1.0	12/29/95	SCV84
ALS by ICP/SW-846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	12/23/95	SI63
Aluminum, Al	NT	mg/Kg	25			SI63
Arsenic, As	ND	mg/Kg	1.5	1.0	12/23/95	SI63
Boron, B	NT	mg/Kg	5.0			SI63
Barium, Ba	148	mg/Kg	0.50	1.0	12/23/95	SI63
Beryllium, Be	NT	mg/Kg	0.020			SI63
Calcium, Ca	NT	mg/Kg	10			SI63
Cadmium, Cd	ND	mg/Kg	0.15	1.0	12/23/95	SI63
Cobalt, Co	NT	mg/Kg	0.50			SI63
Chromium, Cr	6.14	mg/Kg	1.0	1.0	12/23/95	SI63
Copper, Cu	NT	mg/Kg	1.0			SI63
Iron, Fe	NT	mg/Kg	10			SI63
Potassium, K	NT	mg/Kg	5.0			SI63
Magnesium, Mg	NT	mg/Kg	5.0			SI63
Manganese, Mn	NT	mg/Kg	0.15			SI63
Sodium, Na	NT	mg/Kg	10			SI63
Nickel, Ni	NT	mg/Kg	0.50			SI63
Lead, Pb	15.0	mg/Kg	1.5	1.0	12/23/95	SI63
Antimony, Sb	NT	mg/Kg	1.5			SI63
Selenium, Se	ND	mg/Kg	2.5	1.0	12/23/95	SI63
Vanadium, V	NT	mg/Kg	0.15			SI63
Zinc, Zn	NT	mg/Kg	5.0			SI63
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
alpha-BHC	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
beta-BHC	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
gamma-BHC (lindane)	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
delta-BHC	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
Chlordane	ND	mg/Kg	0.030	1.0	12/27/95	SPEST43/SPCB119
4,4'-DDD	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
4'-DDE	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
-DDT	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
ldrin	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
dosulfan I	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
ndosulfan II	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
Endrin	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119

.b ID: 9512193-02A
Sample ID: Q,S,P (C65-113)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
PEST/PCB /SW846 8080A						
Endrin Aldehyde	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
Heptachlor	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
Heptachlor Epoxide	ND	mg/Kg	0.0030	1.0	12/27/95	SPEST43/SPCB119
Methoxychlor	ND	mg/Kg	0.030	1.0	12/27/95	SPEST43/SPCB119
Endosulfan Sulfate	ND	mg/Kg	0.030	1.0	12/27/95	SPEST43/SPCB119
Toxaphene	ND	mg/Kg	0.30	1.0	12/27/95	SPEST43/SPCB119
PCB-1016	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1221	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1232	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1242	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1248	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1254	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1260	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PEST/PCB XT/SW846 3520	12/26/95	N/A				
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Pyridine	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Aniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Chlorophenol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Phenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
[illegible]Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]yl Alcohol	ND	mg/Kg	1.5	2.1	01/07/96	SMSSVOA101
[illegible]2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]Methylphenol / O-Cresol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Hexachloroethane	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Nitrobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Isophorone	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Nitrophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Naphthalene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzoic Acid	ND	mg/Kg	3.0	2.1	01/07/96	SMSSVOA101
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
4-Chloroaniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Hexachlorobutadiene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Methylnaphthalene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	2.1	01/07/96	SMSSVOA101
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2-Chloronaphthalene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Nitroaniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Acenaphthylene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Dimethylphthalate	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2,6-Dinitrotoluene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Acenaphthene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA101
Dibenzofuran	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Fluorene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]hylphthalate	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]trophenol	ND	mg/Kg	0.60	2.1	01/07/96	SMSSVOA101
[illegible]-Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
[illegible]Nitrosodiphenylamine	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]-Nitroaniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101

ID: 9512193-02A
Sample ID: Q,S,P (C65-113)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Hexachlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Pentachlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2,4-Dinitrophenol	ND	mg/Kg	0.050	2.1	01/07/96	SMSSVOA101
Benzidine	NT	mg/Kg	1.5			SMSSVOA101
Phenanthrene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Anthracene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Di-n-butylphthalate	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Fluoranthene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Pyrene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Butylbenzylphthalate	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzo(a)anthracene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Chrysene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Di-n-octyl phthalate	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Benzo(b)fluoranthene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzo(k)fluoranthene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzo(a)pyrene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	2.1	01/07/96	SMSSVOA101
Azobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
VOA XT/SW846 3520	12/28/95	N/A				
TILES/SW846 8240B						
Chlorodifluoromethane	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
Chloromethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Iodomethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Acetone	2.9	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Bromomethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Vinyl Chloride	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Chloroethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Freon 113	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Carbon Disulfide	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Acrolein	ND	mg/Kg	0.020	50	12/26/95	SMSVOA341
Methylene Chloride	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Acrylonitrile	ND	mg/Kg	0.020	50	12/26/95	SMSVOA341
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Chloroform	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Vinyl Acetate	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
2-Butanone (MEK)	0.32	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Bromodichloromethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Dibromomethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Trichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Chlorodibromomethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Benzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Bromoform	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Tetrachloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341

Lab ID: 9512193-02A **Collected:** 12/15/95 08:00:00
Sample ID: Q,S,P (C65-113) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Toluene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Chlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Ethylbenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
Styrene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
P/M Xylene	ND	mg/Kg	0.0020	50	12/26/95	SMSVOA341
O-Xylene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341

Lab ID: 9512193-03A **Collected:** 12/15/95 08:00:00
Sample ID: K,J,F,E,D,C,O (C105-142) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
.A Hg XT/SW846 7471	12/29/95	N/A				
ICP DIG/SW 846 3050	12/19/95	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	12/29/95	SCV84
METALS by ICP/SW-846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	12/23/95	SI63
Aluminum, Al	NT	mg/Kg	25			SI63
Arsenic, As	ND	mg/Kg	1.5	1.0	12/23/95	SI63
Boron, B	NT	mg/Kg	5.0			SI63
Barium, Ba	127	mg/Kg	0.50	1.0	12/23/95	SI63
Beryllium, Be	NT	mg/Kg	0.020			SI63
Calcium, Ca	NT	mg/Kg	10			SI63
Cadmium, Cd	ND	mg/Kg	0.15	1.0	12/23/95	SI63
Cobalt, Co	NT	mg/Kg	0.50			SI63
Chromium, Cr	6.67	mg/Kg	1.0	1.0	12/23/95	SI63
Copper, Cu	NT	mg/Kg	1.0			SI63
Iron, Fe	NT	mg/Kg	10			SI63
Potassium, K	NT	mg/Kg	5.0			SI63
Magnesium, Mg	NT	mg/Kg	5.0			SI63
Manganese, Mn	NT	mg/Kg	0.15			SI63
Sodium, Na	NT	mg/Kg	10			SI63
Nickel, Ni	NT	mg/Kg	0.50			SI63
Lead, Pb	27.7	mg/Kg	1.5	1.0	12/23/95	SI63
Antimony, Sb	NT	mg/Kg	1.5			SI63
Selenium, Se	ND	mg/Kg	2.5	1.0	12/23/95	SI63
Vanadium, V	NT	mg/Kg	0.15			SI63
Zinc, Zn	NT	mg/Kg	5.0			SI63
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
alpha-BHC	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
beta-BHC	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
mma-BHC (lindane)	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
-BHC	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
ordane	ND	mg/Kg	0.030	10	12/27/95	SPEST43/SPCB119
-DDD	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
,4'-DDE	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
4,4'-DDT	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119

Lab ID: 9512193-03A **Collected:** 12/15/95 08:00:00
Sample ID: K,J,F,E,D,C,O (C105-142) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
PEST/PCB /SW846 8080A						
Dieldrin	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Endosulfan I	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Endosulfan II	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Endrin	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Endrin Aldehyde	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Heptachlor	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Methoxychlor	ND	mg/Kg	0.030	10	12/27/95	SPEST43/SPCB119
Endosulfan Sulfate	ND	mg/Kg	0.030	10	12/27/95	SPEST43/SPCB119
Toxaphene	ND	mg/Kg	0.30	10	12/27/95	SPEST43/SPCB119
PCB-1016	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1221	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1232	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1242	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1248	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1254	0.020	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1260	0.012	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PEST/PCB XT/SW846 3520	12/26/95	N/A				
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
Pyridine	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
Aniline	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
[illegible]lorophenol	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
[illegible]Dichlorobenzene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
[illegible] Dichlorobenzene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
[illegible]enol	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
1,2-Dichlorobenzene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Benzyl Alcohol	ND	mg/Kg	1.5	1.7	01/07/96	SMSSVOA101
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Hexachloroethane	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Nitrobenzene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Isophorone	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
2-Nitrophenol	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
2,4-Dimethylphenol	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Naphthalene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Benzoic Acid	ND	mg/Kg	3.0	1.7	01/07/96	SMSSVOA101
2,4-Dichlorophenol	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
4-Chloroaniline	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
Hexachlorobutadiene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
2-Methylnaphthalene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	1.7	01/07/96	SMSSVOA101
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
2-Chloronaphthalene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
2-Nitroaniline	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
Acenaphthylene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Dimethylphthalate	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
2,6-Dinitrotoluene	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
Acenaphthene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA101
[illegible]nzofuran	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
[illegible] Dinitrotoluene	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
[illegible]orene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Chlorophenyl-phenylether	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Diethylphthalate	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
4-Nitrophenol	ND	mg/Kg	0.60	1.7	01/07/96	SMSSVOA101

.o ID: 9512193-03A **Collected:** 12/15/95 08:00:00
Sample ID: K,J,F,E,D,C,O (C105-142) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
4-Nitroaniline	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Hexachlorobenzene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Pentachlorophenol	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
2,4-Dinitrophenol	ND	mg/Kg	0.050	1.7	01/07/96	SMSSVOA101
Benzidine	NT	mg/Kg	1.5			SMSSVOA101
Phenanthrene	0.21	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Anthracene	0.07	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Di-n-butylphthalate	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
Fluoranthene	0.34	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Pyrene	0.31	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Butylbenzylphthalate	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Benzo(a)anthracene	0.18	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Chrysene	0.20	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
Di-n-octyl phthalate	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
Benzo(b)fluoranthene	0.24	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Benzo(k)fluoranthene	0.95	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Benzo(a)pyrene	0.19	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
[illegible]zo(g,h,i)perylene	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
[illegible]4,6-Tetrachlorophenol	ND	mg/Kg	1.5	1.7	01/07/96	SMSSVOA101
[illegible] benzene	ND	mg/Kg	0.030	1.7	01/07/96	SMSSVOA101
[illegible]benz(a,h)anthracene	ND	mg/Kg	0.30	1.7	01/07/96	SMSSVOA101
SVOA XT/SW846 3520	12/28/95	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
Chloromethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Iodomethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Acetone	4.3	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Bromomethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Vinyl Chloride	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Chloroethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Freon 113	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Carbon Disulfide	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Acrolein	ND	mg/Kg	0.020	50	12/26/95	SMSVOA341
Methylene Chloride	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Acrylonitrile	ND	mg/Kg	0.020	50	12/26/95	SMSVOA341
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Chloroform	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Vinyl Acetate	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
2-Butanone (MEK)	0.67	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Bromodichloromethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Dibromomethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Trichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible]rodibromomethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible] Methacrylate	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
[illegible]hloroethylvinyl Ether	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
[illegible],2-Trichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible]enzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341

Lab ID: 9512193-03A
Sample ID: K,J,F,E,D,C,O (C105-142)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Bromoform	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Tetrachloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Toluene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Chlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Ethylbenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
Styrene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
P/M Xylene	ND	mg/Kg	0.0020	50	12/26/95	SMSVOA341
O-Xylene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341

Lab ID: 9512193-04A
Sample ID: T,R (C68-81)

Collected: 12/15/95 08:00:00 TCLP
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	12/29/95	N/A				
ICP DIG/SW 846 3050	12/19/95	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	12/29/95	SCV84
METALS by ICP/SW-846 6010						
Silver, Ag	6.66	mg/Kg	1.0	1.0	12/23/95	SI63
Aluminum, Al	NT	mg/Kg	25			SI63
Arsenic, As	ND	mg/Kg	1.5	1.0	12/23/95	SI63
Boron, B	NT	mg/Kg	5.0			SI63
Barium, Ba	343	mg/Kg	0.50	1.0	12/23/95	SI63
Beryllium, Be	NT	mg/Kg	0.020			SI63
Calcium, Ca	NT	mg/Kg	10			SI63
Cadmium, Cd	1.10	mg/Kg	0.15	1.0	12/23/95	SI63
Cobalt, Co	NT	mg/Kg	0.50			SI63
Chromium, Cr	13.9	mg/Kg	1.0	1.0	12/23/95	SI63
Copper, Cu	NT	mg/Kg	1.0			SI63
Iron, Fe	NT	mg/Kg	10			SI63
Potassium, K	NT	mg/Kg	5.0			SI63
Magnesium, Mg	NT	mg/Kg	5.0			SI63
Manganese, Mn	NT	mg/Kg	0.15			SI63
Sodium, Na	NT	mg/Kg	10			SI63
Nickel, Ni	NT	mg/Kg	0.50			SI63
Lead, Pb	108	mg/Kg	1.5	1.0	12/23/95	SI63
Antimony, Sb	NT	mg/Kg	1.5			SI63
Selenium, Se	ND	mg/Kg	2.5	1.0	12/23/95	SI63
Vanadium, V	NT	mg/Kg	0.15			SI63
Zinc, Zn	NT	mg/Kg	5.0			SI63
PEST/PCB /SW846 8080A						
[illegible]in	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
[illegible]a-BHC	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
[illegible]ta-BHC	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
[illegible]amma-BHC (lindane)	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
delta-BHC	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119

ID: 9512193-04A
Sample ID: T,R (C68-81)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
PEST/PCB /SW846 8080A						
Chlordane	ND	mg/Kg	0.030	10	12/27/95	SPEST43/SPCB119
4,4'-DDD	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
4,4'-DDE	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
4,4'-DDT	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Dieldrin	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Endosulfan I	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Endosulfan II	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Endrin	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Endrin Aldehyde	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Heptachlor	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	12/27/95	SPEST43/SPCB119
Methoxychlor	ND	mg/Kg	0.030	10	12/27/95	SPEST43/SPCB119
Endosulfan Sulfate	ND	mg/Kg	0.030	10	12/27/95	SPEST43/SPCB119
Toxaphene	ND	mg/Kg	0.30	10	12/27/95	SPEST43/SPCB119
PCB-1016	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PCB-1221	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PCB-1232	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PCB-1242	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PCB-1248	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PCB-1254	0.014	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PCB-1260	0.029	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PEST/PCB XT/SW846 3520	12/26/95	N/A				
SEMI-VOA/SW846 8270B						
[illegible]itrosodimethylamine	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
[illegible]idine	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
[illegible]line	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
[illegible](2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Chlorophenol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Phenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
1,2-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzyl Alcohol	ND	mg/Kg	1.5	2.1	01/07/96	SMSSVOA101
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Hexachloroethane	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Nitrobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Isophorone	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Nitrophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Naphthalene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzoic Acid	ND	mg/Kg	3.0	2.1	01/07/96	SMSSVOA101
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
4-Chloroaniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Hexachlorobutadiene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Methylnaphthalene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	2.1	01/07/96	SMSSVOA101
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2-Chloronaphthalene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Nitroaniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Acenaphthylene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]methylphthalate	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]-Dinitrotoluene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
[illegible]enaphthene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]Nitroaniline	NT	mg/Kg	0.30			SMSSVOA101
Dibenzofuran	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101

ID: 9512193-04A
Sample ID: T,R (C68-81)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Fluorene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Diethylphthalate	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
4-Nitrophenol	ND	mg/Kg	0.60	2.1	01/07/96	SMSSVOA101
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
4-Nitroaniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Hexachlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Pentachlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2,4-Dinitrophenol	ND	mg/Kg	0.050	2.1	01/07/96	SMSSVOA101
Benzidine	NT	mg/Kg	1.5			SMSSVOA101
Phenanthrene	0.23	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Anthracene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Di-n-butylphthalate	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Fluoranthene	0.31	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Pyrene	0.12	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Butylbenzylphthalate	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzo(a)anthracene	0.11	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Chrysene	0.18	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Di-n-octyl phthalate	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
[illegible]o(b)fluoranthene	0.17	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]o(k)fluoranthene	0.068	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]izo(a)pyrene	0.089	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]deno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	2.1	01/07/96	SMSSVOA101
Azobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
SVOA XT/SW846 3520	12/28/95	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
Chloromethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Iodomethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Acetone	1.7	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Bromomethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Vinyl Chloride	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Chloroethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Freon 113	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Carbon Disulfide	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Acrolein	ND	mg/Kg	0.020	50	12/26/95	SMSVOA341
Methylene Chloride	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Acrylonitrile	ND	mg/Kg	0.020	50	12/26/95	SMSVOA341
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Chloroform	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Vinyl Acetate	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
2-Butanone (MEK)	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Bromodichloromethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible] Dichloropropane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible]omomethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible]s-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible]ichloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
[illegible]hlorodibromomethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341

ID: 9512193-04A
Sample ID: T,R (C68-81)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Benzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Bromoform	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
Tetrachloroethene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	12/26/95	SMSVOA341
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Toluene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Chlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Ethylbenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
Styrene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
P/M Xylene	ND	mg/Kg	0.0020	50	12/26/95	SMSVOA341
O-Xylene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	12/26/95	SMSVOA341
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/26/95	SMSVOA341

ID: 9512193-05A
Sample ID: BB,CC (C60-91)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	12/29/95	N/A				
ICP DIG/SW 846 3050	12/19/95	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	12/29/95	SCV84
METALS by ICP/SW-846 6010						
Silver, Ag	19.7	mg/Kg	1.0	1.0	12/23/95	SI63
Aluminum, Al	NT	mg/Kg	25			SI63
Arsenic, As	ND	mg/Kg	1.5	1.0	12/23/95	SI63
Boron, B	NT	mg/Kg	5.0			SI63
Barium, Ba	272	mg/Kg	0.50	1.0	12/23/95	SI63
Beryllium, Be	NT	mg/Kg	0.020			SI63
Calcium, Ca	NT	mg/Kg	10			SI63
Cadmium, Cd	ND	mg/Kg	0.15	1.0	12/23/95	SI63
Cobalt, Co	NT	mg/Kg	0.50			SI63
Chromium, Cr	9.46	mg/Kg	1.0	1.0	12/23/95	SI63
Copper, Cu	NT	mg/Kg	1.0			SI63
Iron, Fe	NT	mg/Kg	10			SI63
Potassium, K	NT	mg/Kg	5.0			SI63
Magnesium, Mg	NT	mg/Kg	5.0			SI63
Manganese, Mn	NT	mg/Kg	0.15			SI63
Sodium, Na	NT	mg/Kg	10			SI63
Nickel, Ni	NT	mg/Kg	0.50			SI63
Lead, Pb	4160	mg/Kg	1.5	1.0	12/23/95	SI63
Antimony, Sb	NT	mg/Kg	1.5			SI63
Selenium, Se	ND	mg/Kg	2.5	1.0	12/23/95	SI63
Vanadium, V	NT	mg/Kg	0.15			SI63
Zinc, Zn	NT	mg/Kg	5.0			SI63
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119

Lab ID: 9512193-05A
Sample ID: BB,CC (C60-91)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
PEST/PCB /SW846 8080A						
alpha-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
beta-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
gamma-BHC (lindane)	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
delta-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Chlordane	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
4,4'-DDD	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
4,4'-DDE	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
4,4'-DDT	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Dieldrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endosulfan I	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endosulfan II	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endrin Aldehyde	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Heptachlor	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Methoxychlor	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
Endosulfan Sulfate	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
Toxaphene	ND	mg/Kg	0.30	10	12/28/95	SPEST43/SPCB119
PCB-1016	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1221	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1232	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1242	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1248	ND	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
PCB-1254	0.0030	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
-1260	0.0039	mg/Kg	0.0030	1.0	01/04/96	SPEST43/SPCB119
/PCB XT/SW846 3520	12/26/95	N/A				
II-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
Pyridine	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
Aniline	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
2-Chlorophenol	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
1,3-Dichlorobenzene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
1,4-Dichlorobenzene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Phenol	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
1,2-Dichlorobenzene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Benzyl Alcohol	ND	mg/Kg	1.5	1.7	12/30/95	SMSSVOA101
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Hexachloroethane	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Nitrobenzene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Isophorone	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
2-Nitrophenol	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
2,4-Dimethylphenol	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Naphthalene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Benzoic Acid	ND	mg/Kg	3.0	1.7	12/30/95	SMSSVOA101
2,4-Dichlorophenol	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
4-Chloroaniline	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
Hexachlorobutadiene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
2-Methylnaphthalene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	1.7	12/30/95	SMSSVOA101
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
hloronaphthalene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
itroaniline	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
enaphthylene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
imethylphthalate	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
2,6-Dinitrotoluene	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101

. ID: 9512193-05A
Sample ID: BB,CC (C60-91)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Acenaphthene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA101
Dibenzofuran	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
2,4-Dinitrotoluene	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
Fluorene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Diethylphthalate	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
4-Nitrophenol	ND	mg/Kg	0.60	1.7	12/30/95	SMSSVOA101
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
4-Nitroaniline	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Hexachlorobenzene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Pentachlorophenol	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
2,4-Dinitrophenol	ND	mg/Kg	0.050	1.7	12/30/95	SMSSVOA101
Benzidine	NT	mg/Kg	1.5			SMSSVOA101
Phenanthrene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Anthracene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Di-n-butylphthalate	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
Fluoranthene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Pyrene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Butylbenzylphthalate	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Benzo(a)anthracene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Chrysene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
[illegible]-Dichlorobenzidine	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
[illegible]-Ethylhexyl)phthalate	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
[illegible]n-octyl phthalate	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
Benzo(b)fluoranthene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Benzo(k)fluoranthene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Benzo(a)pyrene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	1.7	12/30/95	SMSSVOA101
Azobenzene	ND	mg/Kg	0.030	1.7	12/30/95	SMSSVOA101
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	1.7	12/30/95	SMSSVOA101
SVOA XT/SW846 3520	12/28/95	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
Chloromethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Iodomethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Acetone	1.4	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Bromomethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Vinyl Chloride	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Chloroethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Freon 113	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Carbon Disulfide	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Acrolein	ND	mg/Kg	0.020	50	12/27/95	SMSVOA342
Methylene Chloride	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Acrylonitrile	ND	mg/Kg	0.020	50	12/27/95	SMSVOA342
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Chloroform	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Vinyl Acetate	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]-Butanone (MEK)	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
[illegible]1-Trichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]oon Tetrachloride	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]omodichloromethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible],2-Dichloropropane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Dibromomethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342

ID: 9512193-05A
Sample ID: BB,CC (C60-91)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Trichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Chlorodibromomethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Benzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Bromoform	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Tetrachloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Toluene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Chlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Ethylbenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
Styrene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
P/M Xylene	ND	mg/Kg	0.0020	50	12/27/95	SMSVOA342
O-Xylene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]hyl-tert Butyl Ether	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
[illegible]Dichlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342

Lab ID: 9512193-06A
Sample ID: Y,Z (C-41,42,43)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	12/29/95	N/A				
ICP DIG/SW 846 3050	12/19/95	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	12/29/95	SCV84
METALS by ICP/SW-846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	12/23/95	SI63
Aluminum, Al	NT	mg/Kg	25			SI63
Arsenic, As	ND	mg/Kg	1.5	1.0	12/23/95	SI63
Boron, B	NT	mg/Kg	5.0			SI63
Barium, Ba	115	mg/Kg	0.50	1.0	12/23/95	SI63
Beryllium, Be	NT	mg/Kg	0.020			SI63
Calcium, Ca	NT	mg/Kg	10			SI63
Cadmium, Cd	ND	mg/Kg	0.15	1.0	12/23/95	SI63
Cobalt, Co	NT	mg/Kg	0.50			SI63
Chromium, Cr	6.56	mg/Kg	1.0	1.0	12/23/95	SI63
Copper, Cu	NT	mg/Kg	1.0			SI63
Iron, Fe	NT	mg/Kg	10			SI63
Potassium, K	NT	mg/Kg	5.0			SI63
Magnesium, Mg	NT	mg/Kg	5.0			SI63
[illegible]nganese, Mn	NT	mg/Kg	0.15			SI63
[illegible]um, Na	NT	mg/Kg	10			SI63
[illegible]kel, Ni	NT	mg/Kg	0.50			SI63
[illegible]ad, Pb	22.6	mg/Kg	1.5	1.0	12/23/95	SI63
[illegible]timony, Sb	NT	mg/Kg	1.5			SI63
Selenium, Se	ND	mg/Kg	2.5	1.0	12/23/95	SI63

ID: 9512193-06A
Sample ID: Y,Z (C-41,42,43)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
METALS by ICP/SW-846 6010						
Vanadium, V	NT	mg/Kg	0.15			SI63
Zinc, Zn	NT	mg/Kg	5.0			SI63
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
alpha-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
beta-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
gamma-BHC (lindane)	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
delta-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Chlordane	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
4,4'-DDD	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
4,4'-DDE	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
4,4'-DDT	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Dieldrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endosulfan I	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endosulfan II	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endrin Aldehyde	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Heptachlor	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Methoxychlor	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
Endosulfan Sulfate	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
Toxaphene	ND	mg/Kg	0.30	10	12/28/95	SPEST43/SPCB119
PCB-1016	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PCB-1221	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
[illegible]1232	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
[illegible]-1242	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
[illegible]B-1248	ND	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PCB-1254	0.066	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PCB-1260	0.051	mg/Kg	0.0030	1.0	01/03/96	SPEST43/SPCB119
PEST/PCB XT/SW846 3520	12/26/95	N/A				
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Pyridine	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Aniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Chlorophenol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Phenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
1,2-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzyl Alcohol	ND	mg/Kg	1.5	2.1	01/07/96	SMSSVOA101
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Hexachloroethane	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Nitrobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Isophorone	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2-Nitrophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Naphthalene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzoic Acid	ND	mg/Kg	3.0	2.1	01/07/96	SMSSVOA101
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
4-Chloroaniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Hexachlorobutadiene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible] Methylnaphthalene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]loro-3-methylphenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
[illegible]achlorocyclopentadiene	ND	mg/Kg	1.5	2.1	01/07/96	SMSSVOA101
[illegible],6-Trichlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
[illegible],4,5-Trichlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2-Chloronaphthalene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101

ID: 9512193-06A
Sample ID: Y,Z (C-41,42,43)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
2-Nitroaniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Acenaphthylene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Dimethylphthalate	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2,6-Dinitrotoluene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Acenaphthene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA101
Dibenzofuran	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Fluorene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Diethylphthalate	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
4-Nitrophenol	ND	mg/Kg	0.60	2.1	01/07/96	SMSSVOA101
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
4-Nitroaniline	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Hexachlorobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Pentachlorophenol	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2,4-Dinitrophenol	ND	mg/Kg	0.050	2.1	01/07/96	SMSSVOA101
Benzidine	NT	mg/Kg	1.5			SMSSVOA101
Phenanthrene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Anthracene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Di-n-butylphthalate	5.2	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Fluoranthene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]ne	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]lbenzylphthalate	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
[illegible]nzo(a)anthracene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Chrysene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Di-n-octyl phthalate	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Benzo(b)fluoranthene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzo(k)fluoranthene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Benzo(a)pyrene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	2.1	01/07/96	SMSSVOA101
Azobenzene	ND	mg/Kg	0.030	2.1	01/07/96	SMSSVOA101
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	2.1	01/07/96	SMSSVOA101
SVOA XT/SW846 3520	12/28/95	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
Chloromethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Iodomethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Acetone	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Bromomethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Vinyl Chloride	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Chloroethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Freon 113	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Carbon Disulfide	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Acrolein	ND	mg/Kg	0.020	50	12/27/95	SMSVOA342
Methylene Chloride	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Acrylonitrile	ND	mg/Kg	0.020	50	12/27/95	SMSVOA342
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Chloroform	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible] Dichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]yl Acetate	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
[illegible]s-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]-Butanone (MEK)	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342

Lab ID: 9512193-06A
Sample ID: Y,Z (C-41,42,43)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Bromodichloromethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Dibromomethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Trichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Chlorodibromomethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Benzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Bromoform	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Tetrachloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Toluene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Chlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Ethylbenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
Styrene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
P/M Xylene	ND	mg/Kg	0.0020	50	12/27/95	SMSVOA342
O-Xylene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]3-Trichloropropane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]yl-tert Butyl Ether	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
[illegible]-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342

Lab ID: 9512193-07A
Sample ID: U,X,Y (C53-85)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TCLP [illegible]

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	12/29/95	N/A				
ICP DIG/SW 846 3050	12/19/95	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	12/29/95	SCV84
METALS by ICP/SW-846 6010						
Silver, Ag	10.9	mg/Kg	1.0	1.0	12/23/95	SI63
Aluminum, Al	NT	mg/Kg	25			SI63
Arsenic, As	NDE	mg/Kg	1.5	1.0	12/23/95	SI63
Boron, B	NT	mg/Kg	5.0			SI63
Barium, Ba	472	mg/Kg	0.50	1.0	12/23/95	SI63
Beryllium, Be	NT	mg/Kg	0.020			SI63
Calcium, Ca	NT	mg/Kg	10			SI63
Cadmium, Cd	3.92	mg/Kg	0.15	1.0	12/23/95	SI63
Cobalt, Co	NT	mg/Kg	0.50			SI63
Chromium, Cr	13.4	mg/Kg	1.0	1.0	12/23/95	SI63
Copper, Cu	NT	mg/Kg	1.0			SI63
Iron, Fe	NT	mg/Kg	10			SI63
Potassium, K	NT	mg/Kg	5.0			SI63
Magnesium, Mg	NT	mg/Kg	5.0			SI63
Manganese, Mn	NT	mg/Kg	0.15			SI63
Sodium, Na	NT	mg/Kg	10			SI63

ab ID: 9512193-07A
Sample ID: U,X,Y (C53-85)

Collected: 12/15/95 08:00:00
Matrix: SOIL

EST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ETALS by ICP/SW-846 6010						
Nickel, Ni	NT	mg/Kg	0.50			SI63
Lead, Pb	511	mg/Kg	1.5	1.0	12/23/95	SI63
Antimony, Sb	NT	mg/Kg	1.5			SI63
Selenium, Se	ND	mg/Kg	2.5	1.0	12/23/95	SI63
Vanadium, V	NT	mg/Kg	0.15			SI63
Zinc, Zn	NT	mg/Kg	5.0			SI63
EST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
lpha-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
eta-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
amma-BHC (lindane)	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
elta-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
hlordane	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
,4'-DDD	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
,4'-DDE	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
,4'-DDT	0.042	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
ieldrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
ndosulfan I	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
ndosulfan II	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
ndrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
ndrin Aldehyde	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
eptachlor	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
eptachlor Epoxide	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
ethoxychlor	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
ndosulfan Sulfate	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
[illegible]ne	ND	mg/Kg	0.30	10	12/28/95	SPEST43/SPCB119
[illegible]6	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
[illegible]21	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
[illegible]232	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
CB-1242	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
CB-1248	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
CB-1254	0.042	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
CB-1260	0.051	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
T/PCB XT/SW846 3520	12/26/95	N/A				
MI-VOA/SW846 8270B						
Nitrosodimethylamine	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
ridine	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
iline	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
(2-Chloroethyl) Ether	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Chlorophenol	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
-Dichlorobenzene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
-Dichlorobenzene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
enol	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
-Dichlorobenzene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
nzyl Alcohol	ND	mg/Kg	1.5	18	01/07/96	SMSSVOA101
(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Methylphenol / O-Cresol	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
xachloroethane	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Nitroso-di-n-propylamine	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
robenzene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
phorone	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Nitrophenol	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
-Dimethylphenol	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
,4-Trichlorobenzene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
phthalene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
zoic Acid	ND	mg/Kg	3.0	18	01/07/96	SMSSVOA101
-Dichlorophenol	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
hloroaniline	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
achlorobutadiene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
[illegible]naphthalene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
[illegible]-methylphenol	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101

ID: 9512193-07A
Sample ID: U,X,Y (C53-85)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	18	01/07/96	SMSSVOA101
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
2-Chloronaphthalene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
2-Nitroaniline	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
Acenaphthylene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Dimethylphthalate	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
2,6-Dinitrotoluene	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
Acenaphthene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA101
Dibenzofuran	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
2,4-Dinitrotoluene	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
Fluorene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Diethylphthalate	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
4-Nitrophenol	ND	mg/Kg	0.60	18	01/07/96	SMSSVOA101
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
4-Nitroaniline	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Hexachlorobenzene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Pentachlorophenol	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
2,4-Dinitrophenol	ND	mg/Kg	0.050	18	01/07/96	SMSSVOA101
[illegible]idine	NT	mg/Kg	1.5			SMSSVOA101
[illegible]anthrene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
[illegible]hracene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
[illegible]-n-butylphthalate	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
Fluoranthene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Pyrene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Butylbenzylphthalate	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Benzo(a)anthracene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Chrysene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
Di-n-octyl phthalate	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
Benzo(b)fluoranthene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Benzo(k)fluoranthene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Benzo(a)pyrene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	18	01/07/96	SMSSVOA101
Azobenzene	ND	mg/Kg	0.030	18	01/07/96	SMSSVOA101
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	18	01/07/96	SMSSVOA101
SVOA XT/SW846 3520	12/28/95	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
Chloromethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Iodomethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Acetone	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Bromomethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Vinyl Chloride	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Chloroethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Freon 113	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Carbon Disulfide	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Acrolein	ND	mg/Kg	0.020	50	12/27/95	SMSVOA342
Methylene Chloride	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
[illegible]Dichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]Dichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]ylonitrile	ND	mg/Kg	0.020	50	12/27/95	SMSVOA342
[illegible]ns-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
[illegible]nloroform	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342

ID: 9512193-07A
Sample ID: U,X,Y (C53-85)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Vinyl Acetate	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
2-Butanone (MEK)	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Bromodichloromethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Dibromomethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Trichloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Chlorodibromomethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Benzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Bromoform	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
Tetrachloroethene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	12/27/95	SMSVOA342
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Toluene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Chlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Ethylbenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
Styrene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
P/M Xylene	ND	mg/Kg	0.0020	50	12/27/95	SMSVOA342
O-Xylene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	12/27/95	SMSVOA342
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	12/27/95	SMSVOA342

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 01/08/96
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 13113 Date 12/19/95

Page 1 of 2

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG S. ..NG
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES Inc

Address: 3500 Trinity Drive C-5

City / State / Zip: Los Alamos NM 87544

Project Name / Number: MDAM

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1984

Fax No.: 662-2036

Samplers: (Signature) Dmo'Connell

Analysis Required

Lab number	Sample identification	Date	Time	Matrix	Preservative	Temperature	No. of Containers	Total VOA	Total S.VOA	Total Metals (RCRA)	RCRP24 Total					Remarks
01A	C-8,17	12/15/95	0800	Soil	8oz glass	4°C	N/A	1	✓	✓	✓	✓				
	Q,S,P (C-65,66,94, 94A,95,96,97,101,															
02A	110,111,112,113)	12/15/95	0900	Soil	8oz glass	4°C	N/A	1	✓	✓	✓	✓				
03A	K,J,F,E,D,C,O (C-105)															
	106,107,102,116,125,															
	134,135,136,137,															
	138,139,141,142)	12/15/95	0900	Soil	8oz glass	4°C	N/A	1	✓	✓	✓	✓				
04A	T,R (C-68,69,83,79, 80,81)	12/15/95	0900	Soil	8oz glass	4°C	N/A	1	✓	✓	✓	✓				

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Dmo'Connell	12/15/95	Signature: [illegible]	Signature: [illegible]	12/15/95	Signature: [illegible]
Printed: DM O'Connell	Time: 12 pm	Printed: Elvin J Ponce	Printed: Elvin J Ponce	Time: 4:30 pm	Printed: SOTI PATI
Company: NES		Company: AAL	Company: AAL		Company: AAL
Reason: testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 12113 Date: 12/15/95

Page 2 of 2

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc

Address: 3500 Trinity Dr C-E

City / State / Zip: Los Alamos, NM 87544

Project Name / Number: MDA M

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1964

Fax No.: 662-2136

Samplers: (Signature) Dm O'Connell

Analysis Required

									No. of Containers	TCLP VOA	TCLP SVOA	TCLP Metals (RCRA)	PCB (Pet Total)						Remarks
06A	BB, CC (C-60, 61, 62, 74, 75, 76, 90, 91)	12/15/95	0800	Soil	8 oz glass	4°C	N/A	1	✓	✓	✓	✓							
06A	Y, Z (C-41, 42, 43)	12/15/95	0800	Soil	8 oz glass	4°C	N/A	1	✓	✓	✓	✓							
07A	U, X, Y (C-53, 54, 55, 56, 57, 67, 71, 85)	12/15/95	0800	Soil	8 oz glass	4°C	N/A	1	✓	✓	✓	✓							

12/15/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Dm O'Connell	12/15/95	Signature: [signature]	Signature: [signature]	12/15/95	Signature: [signature]
Printed: Dm O'Connell	Time: 12 1pm	Printed: Elvin S Chavez	Printed: Elvin S Chavez	Time: 4:30 pm	Printed: Scott Prall
Company: NES		Company: AAL	Company: AAL		Company: AAL
Reason: testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
January 22, 1996 14:15

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9601140
WORK ID : MDAM
CLIENT CODE : NES01
DATE RECEIVED : 01/18/96

Lab ID: 9601140-01A
Sample ID: C-8,17
Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	01/18/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.4	mg/L	0.10	1.0	01/19/96	TF12

Lab ID: 9601140-02A
Sample ID: T,R (C68-81)
Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	01/18/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.1	mg/L	0.10	1.0	01/19/96	TF12

Lab ID: 9601140-03A
Sample ID: BB,CC (C60-91)
Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	01/18/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	01/19/96	TF12

Lab ID: 9601140-04A
Sample ID: U,X,Y (C53-85)
Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				

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Lab ID: 9601140-04A
Sample ID: U,X,Y (C53-85)

Collected: 12/15/95 08:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP EXTRACTION/TCLP 1311	01/18/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.9	mg/L	0.10	1.0	01/19/96	TF12

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : **01/22/96**
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

SAIGAI ALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 12193 Date: 12/18/95

Page 1 of 2

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EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES Inc

Address: 3500 Trinity Drive C-5

City / State / Zip: Los Alamos NM 87544

Project Name / Number: MDAM

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1984

Fax No.: 662-2036

Samplers: (Signature) Dmo'Connell

AAL Transaction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Total VOA	Total S. VOA	Total Metals (Pb,Cd)	PCB/Pest Total						Remarks
01A	C-8,17	12/15/95	0800	Soil	8oz glass	4°C	N/A	1	✓	✓	✓	✓						
"	Q,S,P (C-65,66,94, 94A,95,96,97,101,																	
02A	110,111,112,113)	12/15/95	0800	Soil	8oz glass	4°C	N/A	1	✓	✓	✓	✓						
"																		
03A	K,J,F,E,D,C,O (C-105,																	
"	106,107,102,116,125,																	
"	134,135,136,137,																	
"	138,139,141,142)	12/15/95	0800	Soil	8oz glass	4°C	N/A	1	✓	✓	✓	✓						
"																		
04A	T,R (C-68,69,83,79, 80,81)	12/15/95	0800	Soil	8oz glass	4°C	N/A	1	✓	✓	✓	✓						

Relinquished by: Dmo'Connell
Signature: Dmo'Connell
Printed: Dmo'Connell
Company: NES
Reason: testing
Date: 12/15/95
Time: 12 pm

Received by:
Signature: [illegible]
Printed: Elvin J. Chavez
Company: AAL
Reason: testing

Relinquished by:
Signature: [illegible]
Printed: Elvin J. Chavez
Company: AAL
Reason: testing
Date: 12/15/95
Time: 4:30 pm

Received by:
Signature: [illegible]
Printed: SCOTT PRATT
Company: AAL
Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

LABORATORY

Chain of Custody Record

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7300 JEFFERSON, N.E.
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EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1118

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab Job no.: 12193 Date: 12/18/95

Page 2 of 2

Company: NES, Inc
Address: 3500 Trinity Dr C-5
City / State / Zip: Los Alamos, NM 87544
Project Name / Number: MDA M
Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell
Telephone No.: 662-1981
Fax No.: 662-2036
Samplers: (Signature) Dm O'Connell

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Total VOA	Total SVOA	Total Metals (RCRA)	PCB/Pest Total						Remarks
05A	BB, CC (C-60, 61, 62, 74, 75, 76, 90, 91)	12/15/95	0800	Soil	8 oz g/ss	4°C	N/A	1	✓	✓	✓	✓						
06A	Y, Z (C-41, 42, 43)	12/15/95	0800	Soil	8 oz g/ss	4°C	N/A	1	✓	✓	✓	✓						
07A	U, X, Y (C-53, 54, 55, 56, 57, 67, 71, 85)	12/15/95	0800	Soil	8 oz g/ss	4°C	N/A	1	✓	✓	✓	✓						

JJP 12/15/95

Relinquished by:	Date	Received by:
Signature: Dm O'Connell	12/15/95	Signature: Elvin J. Chavez
Printed: Dm O'Connell	Time: 12:10 pm	Printed: Elvin J. Chavez
Company: NES		Company: AAL
Reason: testing		Reason: testing

Relinquished by:	Date	Received by:
Signature: Elvin J. Chavez	12/15/95	Signature: Scott Pratt
Printed: Elvin J. Chavez	Time: 4:30 PM	Printed: Scott Pratt
Company: AAL		Company: AAL
Reason: testing		Reason:

Method of Shipment:
Shipment No.
Special Instructions:

Comments:

After analysis, samples are to be:
- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

LABORATORY

ASSAIGAI ANALYTICAL LABORATORIES
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Report Generated:
January 23, 1996 15:32

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9601044
WORK ID : TA-9
CLIENT CODE : NES01
DATE RECEIVED : 01/05/96

Lab ID: 9601044-01A
Sample ID: CELLS 14,22,26,45,78,78A
Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ARSENIC (GFAA)/SW846 7060						
Arsenic, As	3.45	mg/Kg	0.25	2.0	01/22/96	SGSI65
CVAA Hg XT/SW846 7471	01/16/96	N/A				
ICP DIG/SW 846 3050	01/09/96	N/A				
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
alpha-BHC	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
beta-BHC	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
gamma-BHC (lindane)	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
delta-BHC	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
Chlordane	ND	mg/Kg	0.030	10	01/18/96	SPEST44/SPCB120
4,4'-DDD	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
4,4'-DDE	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
4,4'-DDT	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
Dieldrin	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
Endosulfan I	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
Endosulfan II	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
Endrin	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
Endrin Aldehyde	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
Heptachlor	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	01/18/96	SPEST44/SPCB120
Methoxychlor	ND	mg/Kg	0.030	10	01/18/96	SPEST44/SPCB120
Endosulfan Sulfate	ND	mg/Kg	0.030	10	01/18/96	SPEST44/SPCB120
Toxaphene	ND	mg/Kg	0.30	10	01/18/96	SPEST44/SPCB120
PCB-1016	ND	mg/Kg	0.0030	2.0	01/18/96	SPEST44/SPCB120
PCB-1221	ND	mg/Kg	0.0030	2.0	01/18/96	SPEST44/SPCB120
PCB-1232	ND	mg/Kg	0.0030	2.0	01/18/96	SPEST44/SPCB120
PCB-1242	ND	mg/Kg	0.0030	2.0	01/18/96	SPEST44/SPCB120
PCB-1248	ND	mg/Kg	0.0030	2.0	01/18/96	SPEST44/SPCB120
PCB-1254	0.16	mg/Kg	0.0030	2.0	01/18/96	SPEST44/SPCB120
PCB-1260	0.13	mg/Kg	0.0030	2.0	01/18/96	SPEST44/SPCB120
PEST/PCB XT/SW846 3520	01/08/96	N/A				
RCRA METALS(ICP)SW846 6010						
Arsenic, As	NT	mg/Kg	5.0			SI65,SCV86
Barium, Ba	1150	mg/Kg	0.50	1.0	01/17/96	SI65,SCV86
Cadmium, Cd	23.8	mg/Kg	0.15	1.0	01/17/96	SI65,SCV86
Chromium, Cr	19.8	mg/Kg	1.0	1.0	01/17/96	SI65,SCV86
Lead, Pb	1860	mg/Kg	1.0	1.0	01/17/96	SI65,SCV86
Mercury, Hg	2.88	mg/Kg	0.15	4.0	01/16/96	SI65,SCV86
Selenium, Se	10.3	mg/Kg	2.5	1.0	01/17/96	SI65,SCV86
Silver, Ag	12.8	mg/Kg	1.0	1.0	01/17/96	SI65,SCV86
SVOA/SW846 8270B						
N-Nitrosodimethylamine	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
Pyridine	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
Aniline	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102

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ID: 9601044-01A
Sample ID: CELLS 14,22,26,45,78,78A

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
2-Chlorophenol	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
1,3-Dichlorobenzene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
1,4-Dichlorobenzene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Phenol	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
1,2-Dichlorobenzene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Benzyl Alcohol	ND	mg/Kg	1.5	1.8	01/21/96	SMSSVOA102
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Hexachloroethane	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Nitrobenzene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Isophorone	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
2-Nitrophenol	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
2,4-Dimethylphenol	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Naphthalene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Benzoic Acid	ND	mg/Kg	3.0	1.8	01/21/96	SMSSVOA102
2,4-Dichlorophenol	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
4-Chloroaniline	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
Hexachlorobutadiene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
2-Methylnaphthalene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
[illegible]hloro-3-methylphenol	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
[illegible]chlorocyclopentadiene	ND	mg/Kg	1.5	1.8	01/21/96	SMSSVOA102
[illegible]6-Trichlorophenol	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
2-Chloronaphthalene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
2-Nitroaniline	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
Acenaphthylene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Dimethylphthalate	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
2,6-Dinitrotoluene	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
Acenaphthene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
3-Nitroaniline	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
Dibenzofuran	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
2,4-Dinitrotoluene	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
Fluorene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Diethylphthalate	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
4-Nitrophenol	ND	mg/Kg	0.60	1.8	01/21/96	SMSSVOA102
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
4-Nitroaniline	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Hexachlorobenzene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Pentachlorophenol	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
2,4-Dinitrophenol	ND	mg/Kg	0.050	1.8	01/21/96	SMSSVOA102
Benzidine	NT	mg/Kg	1.5			SMSSVOA102
Phenanthrene	0.61	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Anthracene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Di-n-butylphthalate	1.9	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
Fluoranthene	0.19	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Pyrene	0.11	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Butylbenzylphthalate	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Benzo(a)anthracene	0.13	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Chrysene	0.23	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
[illegible] 3'-Dichlorobenzidine	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
[illegible]2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
[illegible]-octyl phthalate	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
[illegible]nzo(b)fluoranthene	0.38	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Benzo(k)fluoranthene	SEE NOTE	mg/Kg	0.030			SMSSVOA102
Benzo(a)pyrene	0.13	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102

Lab ID: 9601044-01A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 14,22,26,45,78,78A **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	1.8	01/21/96	SMSSVOA102
Azobenzene	ND	mg/Kg	0.030	1.8	01/21/96	SMSSVOA102
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	1.8	01/21/96	SMSSVOA102
SVOA XT/SW846 3520	01/17/96	N/A				

Lab ID: 9601044-01B **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 14,22,26,45,78,78A **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
Chloromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Iodomethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Acetone	5.2	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Bromomethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Vinyl Chloride	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Chloroethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Freon 113	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Carbon Disulfide	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Acrolein	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
Methylene Chloride	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Acrylonitrile	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chloroform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Vinyl Acetate	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
2-Butanone (MEK)	0.45	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromodichloromethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Dibromomethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Trichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chlorodibromomethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Benzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromoform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Tetrachloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Toluene	0.10	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Ethylbenzene	0.050	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344

Lab ID: 9601044-01B **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 14,22,26,45,78,78A **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Styrene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
P/M Xylene	0.18	mg/Kg	0.0020	50	01/18/96	SMSVOA344
O-Xylene	0.066	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344

Lab ID: 9601044-02A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 39,40,46,47,52,53,.. **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ARSENIC (GFAA)/SW846 7060						
Arsenic, As	3.62	mg/Kg	0.25	2.0	01/22/96	SGSI65
CVAA Hg XT/SW846 7471	01/10/96	N/A				
ICP DIG/SW 846 3050	01/09/96	N/A				
PEST/PCB /SW846 8080A						
[illegible]in	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
[illegible]a-BHC	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
[illegible]ta-BHC	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
gamma-BHC (lindane)	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
delta-BHC	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
Chlordane	ND	mg/Kg	0.030	5.0	01/18/96	SPEST44/SPCB120
4,4'-DDD	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
4,4'-DDE	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
4,4'-DDT	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
Dieldrin	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
Endosulfan I	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
Endosulfan II	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
Endrin	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
Endrin Aldehyde	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
Heptachlor	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
Heptachlor Epoxide	ND	mg/Kg	0.0030	5.0	01/18/96	SPEST44/SPCB120
Methoxychlor	ND	mg/Kg	0.030	5.0	01/18/96	SPEST44/SPCB120
Endosulfan Sulfate	ND	mg/Kg	0.030	5.0	01/18/96	SPEST44/SPCB120
Toxaphene	ND	mg/Kg	0.30	5.0	01/18/96	SPEST44/SPCB120
PCB-1016	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1221	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1232	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1242	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1248	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1254	0.020	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1260	0.012	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PEST/PCB XT/SW846 3520	01/08/96	N/A				
RCRA METALS(ICP)SW846 6010						
Arsenic, As	NT	mg/Kg	5.0			SI65,SCV85
Barium, Ba	810	mg/Kg	0.50	1.0	01/17/96	SI65,SCV85
Cadmium, Cd	3.77	mg/Kg	0.15	1.0	01/17/96	SI65,SCV85
Chromium, Cr	12.8	mg/Kg	1.0	1.0	01/17/96	SI65,SCV85
Lead, Pb	213	mg/Kg	1.0	1.0	01/17/96	SI65,SCV85
Mercury, Hg	ND	mg/Kg	0.15	1.0	01/12/96	SI65,SCV85
[illegible]nium, Se	4.5	mg/Kg	2.5	1.0	01/17/96	SI65,SCV85
[illegible]r, Ag	64.1	mg/Kg	1.0	1.0	01/17/96	SI65,SCV85
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
Pyridine	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102

o ID: 9601044-02A
mple ID: CELLS 39,40,46,47,52,53,..

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Aniline	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
2-Chlorophenol	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
1,3-Dichlorobenzene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
1,4-Dichlorobenzene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Phenol	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
1,2-Dichlorobenzene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Benzyl Alcohol	ND	mg/Kg	1.5	1.6	01/21/96	SMSSVOA102
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Hexachloroethane	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Nitrobenzene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Isophorone	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
2-Nitrophenol	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
2,4-Dimethylphenol	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Naphthalene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Benzoic Acid	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
2,4-Dichlorophenol	ND	mg/Kg	3.0	1.6	01/21/96	SMSSVOA102
4-Chloroaniline	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
Hexachlorobutadiene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
Methylnaphthalene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
hloro-3-methylphenol	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
chlorocyclopentadiene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
o-Trichlorophenol	ND	mg/Kg	1.5	1.6	01/21/96	SMSSVOA102
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
2-Chloronaphthalene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
2-Nitroaniline	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Acenaphthylene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
Dimethylphthalate	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
2,6-Dinitrotoluene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Acenaphthene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
3-Nitroaniline	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Dibenzofuran	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
2,4-Dinitrotoluene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Fluorene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Diethylphthalate	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
4-Nitrophenol	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.60	1.6	01/21/96	SMSSVOA102
n-Nitrosodiphenylamine	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
4-Nitroaniline	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
4-Bromophenyl-phenylether	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
Hexachlorobenzene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Pentachlorophenol	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
2,4-Dinitrophenol	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
Benzidine	ND	mg/Kg	0.050	1.6	01/21/96	SMSSVOA102
Phenanthrene	NT	mg/Kg	1.5			SMSSVOA102
Anthracene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Di-n-butylphthalate	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Fluoranthene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
Pyrene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Butylbenzylphthalate	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Benzo(a)anthracene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Chrysene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
-Dichlorobenzidine	0.11	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
-Ethylhexyl)phthalate	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
ctyl phthalate	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
(b)fluoranthene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
Benzo(k)fluoranthene	0.13	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
	SEE NOTE	mg/Kg	0.030			SMSSVOA102

Lab ID: 9601044-02A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 39,40,46,47,52,53,.. **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Benzo(a)pyrene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	1.6	01/21/96	SMSSVOA102
Azobenzene	ND	mg/Kg	0.030	1.6	01/21/96	SMSSVOA102
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	1.6	01/21/96	SMSSVOA102
SVOA XT/SW846 3520	01/17/96	N/A				

Lab ID: 9601044-02B **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 39,40,46,47,52,53,.. **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
Chloromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Iodomethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Acetone	5.5	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]omomethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]l Chloride	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]oroethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]richlorofluoromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Freon 113	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Carbon Disulfide	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Acrolein	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
Methylene Chloride	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,1-Dichloroethene	0.058	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Acrylonitrile	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
trans-1,2-Dichloroethene	0.14	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chloroform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Vinyl Acetate	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
2-Butanone (MEK)	0.45	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromodichloromethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Dibromomethane	0.066	mg/Kg	0.0010	50	01/18/96	SMSVOA344
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Trichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chlorodibromomethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Benzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromoform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Tetrachloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
[illegible] Dibromoethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
[illegible]xanone (MBK)	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible],1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
[illegible]oluene	0.15	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Ethylbenzene	0.096	mg/Kg	0.0010	50	01/18/96	SMSVOA344

o ID: 9601044-02B
.mple ID: CELLS 39,40,46,47,52,53,..
Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
Styrene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
P/M Xylene	0.36	mg/Kg	0.0020	50	01/18/96	SMSVOA344
O-Xylene	0.13	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344

Lab ID: 9601044-03A
Sample ID: CELLS 58,59,72,73,86,87,..
Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ARSENIC (GFAA)/SW846 7060						
Arsenic, As	3.19	mg/Kg	0.25	2.0	01/22/96	SGSI65
CVAA Hg XT/SW846 7471	01/10/96	N/A				
ICP DIG/SW 846 3050	01/09/96	N/A				
P[illegible]T/PCB /SW846 8080A						
[illegible]rin	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
[illegible]a-BHC	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
[illegible]-BHC	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
gamma-BHC (lindane)	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
delta-BHC	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Chlordane	ND	mg/Kg	0.030	2.0	01/19/96	SPEST44/SPCB120
4,4'-DDD	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
4,4'-DDE	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
4,4'-DDT	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Dieldrin	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Endosulfan I	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Endosulfan II	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Endrin	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Endrin Aldehyde	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Heptachlor	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Heptachlor Epoxide	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Methoxychlor	ND	mg/Kg	0.0030	2.0	01/19/96	SPEST44/SPCB120
Endosulfan Sulfate	ND	mg/Kg	0.030	2.0	01/19/96	SPEST44/SPCB120
Toxaphene	ND	mg/Kg	0.030	2.0	01/19/96	SPEST44/SPCB120
PCB-1016	ND	mg/Kg	0.30	2.0	01/19/96	SPEST44/SPCB120
PCB-1221	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1232	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1242	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1248	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1254	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1260	0.020	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PEST/PCB XT/SW846 3520	0.032	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
RCRA METALS(ICP)SW846 6010	01/08/96	N/A				
Arsenic, As	NT	mg/Kg	5.0			SI65,SCV85
Barium, Ba	576	mg/Kg	0.50	1.0	01/17/96	SI65,SCV85
Cadmium, Cd	4.44	mg/Kg	0.15	1.0	01/17/96	SI65,SCV85
Chromium, Cr	12.3	mg/Kg	1.0	1.0	01/17/96	SI65,SCV85
Lead, Pb	387	mg/Kg	1.0	1.0	01/17/96	SI65,SCV85
[illegible]rcury, Hg	0.43	mg/Kg	0.15	1.0	01/12/96	SI65,SCV85
[illegible]nium, Se	4.6	mg/Kg	2.5	1.0	01/17/96	SI65,SCV85
[illegible] Ag	85.9	mg/Kg	1.0	1.0	01/17/96	SI65,SCV85
[illegible]OA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102

ID: 9601044-03A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 58,59,72,73,86,87,.. **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Pyridine	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Aniline	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
2-Chlorophenol	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Phenol	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
1,2-Dichlorobenzene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Benzyl Alcohol	ND	mg/Kg	1.5	2.0	01/22/96	SMSSVOA102
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Hexachloroethane	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Nitrobenzene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Isophorone	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
2-Nitrophenol	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Naphthalene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Benzoic Acid	ND	mg/Kg	3.0	2.0	01/22/96	SMSSVOA102
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
[illegible]-Chloroaniline	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
[illegible]chlorobutadiene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
[illegible]ethylnaphthalene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	2.0	01/22/96	SMSSVOA102
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
2-Chloronaphthalene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
2-Nitroaniline	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Acenaphthylene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Dimethylphthalate	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
2,6-Dinitrotoluene	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Acenaphthene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
3-Nitroaniline	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Dibenzofuran	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Fluorene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Diethylphthalate	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
4-Nitrophenol	ND	mg/Kg	0.60	2.0	01/22/96	SMSSVOA102
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
4-Nitroaniline	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Hexachlorobenzene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Pentachlorophenol	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
2,4-Dinitrophenol	ND	mg/Kg	0.050	2.0	01/22/96	SMSSVOA102
Benzidine	NT	mg/Kg	1.5			SMSSVOA102
Phenanthrene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Anthracene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Di-n-butylphthalate	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Fluoranthene	0.10	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Pyrene	0.11	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Butylbenzylphthalate	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
[illegible]nzo(a)anthracene	0.12	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
[illegible]sene	0.13	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
[illegible]-Dichlorobenzidine	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Di-n-octyl phthalate	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Benzo(b)fluoranthene	0.39	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102

Lab ID: 9601044-03A
Sample ID: CELLS 58,59,72,73,86,87,..
Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Benzo(k)fluoranthene	SEE NOTE	mg/Kg	0.030			SMSSVOA102
Benzo(a)pyrene	0.23	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	2.0	01/22/96	SMSSVOA102
Azobenzene	ND	mg/Kg	0.030	2.0	01/22/96	SMSSVOA102
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	2.0	01/22/96	SMSSVOA102
SVOA XT/SW846 3520	01/17/96	N/A				

Lab ID: 9601044-03B
Sample ID: CELLS 58,59,72,73,86,87,..
Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
Chloromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Iodomethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Acetone	5.0	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]omomethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]yl Chloride	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]loroethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Freon 113	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Carbon Disulfide	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Acrolein	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
Methylene Chloride	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Acrylonitrile	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
trans-1,2-Dichloroethene	0.060	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chloroform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Vinyl Acetate	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
2-Butanone (MEK)	0.37	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromodichloromethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Dibromomethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Trichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chlorodibromomethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Benzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromoform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Tetrachloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
[illegible]-Dibromoethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
[illegible]exanone (MBK)	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible],1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Toluene	0.12	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344

Lab ID: 9601044-03B
Sample ID: CELLS 58,59,72,73,86,87,..

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Ethylbenzene	0.056	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
Styrene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
P/M Xylene	0.21	mg/Kg	0.0020	50	01/18/96	SMSVOA344
O-Xylene	0.076	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344

Lab ID: 9601044-04A
Sample ID: CELLS 103,104,117,118,119

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ARSENIC (GFAA)/SW846 7060						
Arsenic, As	5.53	mg/Kg	0.25	2.0	01/22/96	SGSI65
CVAA Hg XT/SW846 7471	01/10/96	N/A				
ICP DIG/SW 846 3050	01/09/96	N/A				
PCB /SW846 8080A						
in	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
alpha-BHC	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
beta-BHC	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
gamma-BHC (lindane)	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
delta-BHC	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Chlordane	ND	mg/Kg	0.030	10	01/19/96	SPEST44/SPCB120
4,4'-DDD	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
4,4'-DDE	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
4,4'-DDT	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Dieldrin	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Endosulfan I	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Endosulfan II	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Endrin	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Endrin Aldehyde	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Heptachlor	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Methoxychlor	ND	mg/Kg	0.030	10	01/19/96	SPEST44/SPCB120
Endosulfan Sulfate	ND	mg/Kg	0.030	10	01/19/96	SPEST44/SPCB120
Toxaphene	ND	mg/Kg	0.30	10	01/19/96	SPEST44/SPCB120
PCB-1016	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1221	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1232	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1242	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1248	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1254	0.0080	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1260	0.0057	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PEST/PCB XT/SW846 3520	01/08/96	N/A				
RCRA METALS(ICP)SW846 6010						
Arsenic, As	NT	mg/Kg	5.0	1.0		SI65,SCV85
Barium, Ba	263	mg/Kg	0.50	1.0	01/17/96	SI65,SCV85
Cadmium, Cd	0.88	mg/Kg	0.15	1.0	01/17/96	SI65,SCV85
Chromium, Cr	13.2	mg/Kg	1.0	1.0	01/17/96	SI65,SCV85
ad, Pb	95.8	mg/Kg	1.0	1.0	01/17/96	SI65,SCV85
ury, Hg	ND	mg/Kg	0.15	1.0	01/12/96	SI65,SCV85
ium, Se	7.9	mg/Kg	2.5	1.0	01/17/96	SI65,SCV85
ver, Ag	12.6	mg/Kg	1.0	1.0	01/17/96	SI65,SCV85
SEMI-VOA/SW846 8270B						

ɔ ID: 9601044-04A
Sample ID: CELLS 103,104,117,118,119

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Pyridine	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Aniline	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
2-Chlorophenol	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
1,3-Dichlorobenzene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
1,4-Dichlorobenzene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Phenol	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
1,2-Dichlorobenzene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Benzyl Alcohol	ND	mg/Kg	1.5	1.7	01/22/96	SMSSVOA102
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Hexachloroethane	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Nitrobenzene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Isophorone	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
2-Nitrophenol	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
2,4-Dimethylphenol	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Naphthalene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Benzoic Acid	ND	mg/Kg	3.0	1.7	01/22/96	SMSSVOA102
[illegible]-Dichlorophenol	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
[illegible]loroaniline	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
[illegible]xachlorobutadiene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
2-Methylnaphthalene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	1.7	01/22/96	SMSSVOA102
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
2-Chloronaphthalene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
2-Nitroaniline	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Acenaphthylene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Dimethylphthalate	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
2,6-Dinitrotoluene	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Acenaphthene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
3-Nitroaniline	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Dibenzofuran	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
2,4-Dinitrotoluene	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Fluorene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Diethylphthalate	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
4-Nitrophenol	ND	mg/Kg	0.60	1.7	01/22/96	SMSSVOA102
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
4-Nitroaniline	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Hexachlorobenzene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Pentachlorophenol	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
2,4-Dinitrophenol	ND	mg/Kg	0.050	1.7	01/22/96	SMSSVOA102
Benzidine	NT	mg/Kg	1.5			SMSSVOA102
Phenanthrene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Anthracene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Di-n-butylphthalate	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Fluoranthene	0.057	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Pyrene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
[illegible]ylbenzylphthalate	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
[illegible]zo(a)anthracene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
[illegible]rysene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Di-n-octyl phthalate	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102

o ID: 9601044-04A
Sample ID: CELLS 103,104,117,118,119

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Benzo(b)fluoranthene	0.11	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Benzo(k)fluoranthene	SEE NOTE	mg/Kg	0.030			SMSSVOA102
Benzo(a)pyrene	0.059	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	1.7	01/22/96	SMSSVOA102
Azobenzene	ND	mg/Kg	0.030	1.7	01/22/96	SMSSVOA102
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	1.7	01/22/96	SMSSVOA102
SVOA XT/SW846 3520	01/17/96	N/A				

Lab ID: 9601044-04B
Sample ID: CELLS 103,104,117,118,119

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
Chloromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Iodomethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
etone	3.9	mg/Kg	0.0050	50	01/18/96	SMSVOA344
nomethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
l Chloride	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Chloroethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Freon 113	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Carbon Disulfide	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Acrolein	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Methylene Chloride	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
1,1-Dichloroethene	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Acrylonitrile	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
trans-1,2-Dichloroethene	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
Chloroform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Vinyl Acetate	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
cis-1,2-Dichloroethene	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
2-Butanone (MEK)	0.41	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,1,1-Trichloroethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromodichloromethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Dibromomethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Trichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chlorodibromomethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Ethyl Methacrylate	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,2-Trichloroethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Benzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromoform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Tetrachloroethene	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
bromoethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
anone (MBK)	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,1,2-Tetrachloroethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Toluene	0.10	mg/Kg	0.0010	50	01/18/96	SMSVOA344

ID: 9601044-04B
Sample ID: CELLS 103,104,117,118,119

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Chlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Ethylbenzene	0.089	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
Styrene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
P/M Xylene	0.34	mg/Kg	0.0020	50	01/18/96	SMSVOA344
O-Xylene	0.12	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344

Lab ID: 9601044-05A
Sample ID: CELLS 92,93,108,109-PILEL

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ARSENIC (GFAA)/SW846 7060						
Arsenic, As	5.28	mg/Kg	0.25	2.0	01/22/96	SGSI65
[illegible]AA Hg XT/SW846 7471	01/10/96	N/A				
[illegible]IG/SW 846 3050	01/09/96	N/A				
[illegible]/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
alpha-BHC	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
beta-BHC	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
gamma-BHC (lindane)	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
delta-BHC	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Chlordane	ND	mg/Kg	0.030	10	01/19/96	SPEST44/SPCB120
4,4'-DDD	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
4,4'-DDE	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
4,4'-DDT	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Dieldrin	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Endosulfan I	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Endosulfan II	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Endrin	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Endrin Aldehyde	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Heptachlor	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	01/19/96	SPEST44/SPCB120
Methoxychlor	ND	mg/Kg	0.030	10	01/19/96	SPEST44/SPCB120
Endosulfan Sulfate	ND	mg/Kg	0.030	10	01/19/96	SPEST44/SPCB120
Toxaphene	ND	mg/Kg	0.30	10	01/19/96	SPEST44/SPCB120
PCB-1016	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1221	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1232	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1242	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1248	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1254	0.021	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PCB-1260	ND	mg/Kg	0.0030	1.0	01/18/96	SPEST44/SPCB120
PEST/PCB XT/SW846 3520	01/08/96	N/A				
RCRA METALS(ICP)SW846 6010						
Arsenic, As	NT	mg/Kg	5.0			SI65,SCV86
Barium, Ba	754	mg/Kg	0.50	1.0	01/17/96	SI65,SCV86
Cadmium, Cd	1.27	mg/Kg	0.15	1.0	01/17/96	SI65,SCV86
[illegible]omium, Cr	14.6	mg/Kg	1.0	1.0	01/17/96	SI65,SCV86
[illegible], Pb	151	mg/Kg	1.0	1.0	01/17/96	SI65,SCV86
[illegible]rcury, Hg	ND	mg/Kg	0.15	1.0	01/12/96	SI65,SCV86
Selenium, Se	4.6	mg/Kg	2.5	1.0	01/17/96	SI65,SCV86
Silver, Ag	18.1	mg/Kg	1.0	1.0	01/17/96	SI65,SCV86

ID: 9601044-05A
Sample ID: CELLS 92,93,108,109-PILEL

Collected: 01/04/96 14:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Pyridine	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Aniline	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
2-Chlorophenol	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
1,3-Dichlorobenzene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
1,4-Dichlorobenzene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Phenol	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
1,2-Dichlorobenzene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Benzyl Alcohol	ND	mg/Kg	1.5	1.9	01/22/96	SMSSVOA102
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Hexachloroethane	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Nitrobenzene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Isophorone	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
2-Nitrophenol	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
2,4-Dimethylphenol	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Naphthalene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Benzoic Acid	ND	mg/Kg	3.0	1.9	01/22/96	SMSSVOA102
2,4-Dichlorophenol	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
[illegible]hloroaniline	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
[illegible]achlorobutadiene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
[illegible]Methylnaphthalene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	1.9	01/22/96	SMSSVOA102
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
2-Chloronaphthalene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
2-Nitroaniline	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Acenaphthylene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Dimethylphthalate	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
2,6-Dinitrotoluene	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Acenaphthene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
3-Nitroaniline	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Dibenzofuran	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
2,4-Dinitrotoluene	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Fluorene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Diethylphthalate	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
4-Nitrophenol	ND	mg/Kg	0.60	1.9	01/22/96	SMSSVOA102
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
4-Nitroaniline	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Hexachlorobenzene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Pentachlorophenol	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
2,4-Dinitrophenol	ND	mg/Kg	0.050	1.9	01/22/96	SMSSVOA102
Benzidine	NT	mg/Kg	1.5			SMSSVOA102
Phenanthrene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Anthracene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Di-n-butylphthalate	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Fluoranthene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Pyrene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Butylbenzylphthalate	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
[illegible]zo(a)anthracene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
[illegible]ysene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
[illegible]'-Dichlorobenzidine	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Di-n-octyl phthalate	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102

Lab ID: 9601044-05A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 92,93,108,109-PILEL **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Benzo(b)fluoranthene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Benzo(k)fluoranthene	SEE NOTE	mg/Kg	0.030			SMSSVOA102
Benzo(a)pyrene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	1.9	01/22/96	SMSSVOA102
Azobenzene	ND	mg/Kg	0.030	1.9	01/22/96	SMSSVOA102
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	1.9	01/22/96	SMSSVOA102
SVOA XT/SW846 3520	01/17/96	N/A				

Lab ID: 9601044-05B **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 92,93,108,109-PILEL **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
Chloromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]methane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]one	3.6	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]omomethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]nyl Chloride	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Chloroethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Freon 113	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Carbon Disulfide	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
Acrolein	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
Methylene Chloride	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Acrylonitrile	ND	mg/Kg	0.020	50	01/18/96	SMSVOA344
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chloroform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Vinyl Acetate	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
2-Butanone (MEK)	0.46	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromodichloromethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Dibromomethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Trichloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Chlorodibromomethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Benzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Bromoform	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
[illegible]achloroethene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
[illegible]2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
[illegible]-Dibromoethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
[illegible]-Hexanone (MBK)	ND	mg/Kg	0.0050	50	01/18/96	SMSVOA344
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Toluene	0.054	mg/Kg	0.0010	50	01/18/96	SMSVOA344

ɔ ID: 9601044-05B **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 92,93,108,109-PILEL **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Chlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Ethylbenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
Styrene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
P/M Xylene	ND	mg/Kg	0.0020	50	01/18/96	SMSVOA344
O-Xylene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	01/18/96	SMSVOA344
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/18/96	SMSVOA344

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 01/23/96
WORKORDER: 9601044

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

Please note: Benzo(k)fluoranthene and benzo(b)fluoranthene coelute from the chromatographic column and therefore, are reported together.

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 1041 Date: 1/5/96

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc.

Address: 3500 Trinity Dr Suite C-5

City / State / Zip: Los Alamos, NM 87544

Project Name / Number: TA 9

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie C. Cornell

Telephone No.: 662-1984

Fax No.: 662-3636

Samplers: (Signature) Debbie C. Cornell

Analysis Required

Sample Number	Description	Date	Time	Matrix	Container	Preservative	No. of Containers	TCLP VOA	TCLP SVOA	TCLP Metals (RCRA)	RCB/BAT Total						Remarks
01A-B	Cells 14, 22, 26, 45, 78, 114	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓					
02A-B	Cells 34, 46, 46, 47, 52, 53, 67-Piles M, X	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓					
03A-B	Cells 58, 59, 72, 73, 86, 87, 88, 89-Piles W, V	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓					
04A-B	Cells 103, 104, 117, 118, 119, 120, 121, 130-Piles G, H, I	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓					
05A-B	Cells 92, 98, 108, 109-Pile L	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓					

Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Received by:
Signature: D. L. Vana	1/5/96	Signature: Elvin G. Chavez	Signature: Elvin G. Chavez	1/5/96	Signature: [illegible]
Printed: D. L. Vana	12:15PM	Printed: Elvin G. Chavez	Printed: Elvin G. Chavez	4:00	Printed: [illegible]
Company: NES		Company: AAL	Company: AAL		Company: AAL
Reason: Testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

CO R

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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
January 25, 1996 11:01

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9601159
WORK ID : TA-9
CLIENT CODE : NES01
DATE RECEIVED : 01/22/96

Lab ID: 9601159-01A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 14,22,26,45,78,78A **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	01/23/96	N/A				
TCLP CADMIUM(FA)/1311/7130						
Cadmium, Cd	0.536	mg/L	0.0030	4.0	01/24/96	TF13
TCLP EXTRACTION/TCLP 1311	01/22/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	46.4	mg/L	0.10	25	01/24/96	TF13

Lab ID: 9601159-02A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 39-67 PILES AA,X **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	01/23/96	N/A				
TCLP EXTRACTION/TCLP 1311	01/22/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	5.5	mg/L	0.10	2.0	01/24/96	TF13

Lab ID: 9601159-03A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 58-89 PILES W,V **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	01/23/96	N/A				
TCLP EXTRACTION/TCLP 1311	01/22/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.1	mg/L	0.10	1.0	01/24/96	TF13

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Lab ID: 9601159-04A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 103-130 PILES G,H,I **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	01/23/96	N/A				
TCLP EXTRACTION/TCLP 1311	01/22/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	01/24/96	TF13

Lab ID: 9601159-05A **Collected:** 01/04/96 14:00:00
Sample ID: CELLS 92,93,108,109 PILE L **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	01/23/96	N/A				
TCLP EXTRACTION/TCLP 1311	01/22/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	01/24/96	TF13

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 01/25/96
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

WORKORDER # 1159
(SAME AS NEW WO #)
DATE DUE: 1/25/96

ANALYTICAL REQUEST FORM

DATE OF CHANGE: 1/22/96
CLIENT: NES
CLIENT CONTACT: Debbie O'Connell

REASON: ☒ CHANGE REQUEST ☐ REMOVE SAMPLE FROM "HOLD"

☐ CANCEL REQUEST ☐ INTERNAL WORKORDER

"OLD" WORKORDER # 1044 (PLEASE ATTACH)

"NEW" WORKORDER # 1159 If "old" workorder # unchanged enter here or enter "new" workorder #

ARE SAMPLES STILL WITHIN EPA RECOMMENDED HOLD TIME?
☒ yes. How many days remaining? ~~~ If less than 5, whom in the lab was notified? _____

☐ no. Was client notified? ☐ yes. ☐ no. If no, who at AAL decided to proceed? _____

"NEW" DUE DATE FOR WORKORDER 1/25/96

TEST REQUEST

							TCLP PS	TCLP CD				
Client Sample #	AAL Sample # Old	AAL Sample # New	Date Collected									
	1044-1A	1159-1A	1/4/96				X	X				
	" 2A	-2A					X					
	" 3A	-3A					X					
	" 4A	-4A					X					
	" 5A	↓ -5A	↓				X					

Comments: _____

Changes Made By: _____ (Signature) Date: 1/22/96

Chain of Custody Record

AMERICAN ANALYTICAL LABORATORIES

Lab job no.: 1044 Date: 1/5/96

Page 1 of 1

ALBUQUERQUE, NEW MEXICO 87109
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EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc.

Address: 3500 Trinity Dr Suite C-5

City / State / Zip: Los Alamos, NM 87544

Project Name / Number: TA-9

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1984

Fax No.: 662-2036

Samplers: (Signature) Debbie O'Connell

Analysis Required

AAL Action Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Total VOA	Total SVOA	TCLP Metals (RCRA)	PCB Pest Total						Remarks
01A-B	Cells 14, 22, 26, 45, 78, 78A	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓						
02A-B	Cells 39, 40, 46, 47, 52, 53, 67-Piles AA, X	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓						
03A-B	Cells 58, 59, 72, 73, 86, 87, 88, 89-Piles W, V	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓						
04A-B	Cells 103, 104, 117, 118, 119, 120, 121, 130-Piles G, H, I	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓						
05A-B	Cells 92, 93, 108, 109-Pile L	1/4/96	1400	Soil	8oz-glass	4°C	N/A	1	✓	✓	✓	✓						

Relinquished by:	Date / Time	Received by:	Relinquished by:	Date / Time	Received by:
Signature: D. L. Vann	1/5/96	Signature: Elvin J. Chavez	Signature: Elvin J. Chavez	1/5/96	Signature: Laura M Campbell
Printed: D. L. Vann	Time: 12:15PM	Printed: Elvin J. Chavez	Printed: Elvin J. Chavez	Time: 4:00	Printed: Laura M Campbell
Company: NES		Company: AAL	Company: AAL		Company: AAL
Reason: Testing		Reason: Testing	Reason: Testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

LABORATORY

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Report Generated:
January 31, 1996 14:01

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT NES, INC.
TO: 3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9601126
WORK ID : TA-9 MDAM
CLIENT CODE : NES01
DATE RECEIVED : 01/17/96

Lab ID: 9601126-01A
Sample ID: PILE SA (163,164,165,166)
Collected: 01/12/96 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	01/22/96	N/A				
ICP DIG/SW 846 3050	01/23/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	01/23/96	SC87
METALS by ICP SCAN/6010						
Silver, Ag	ND	mg/Kg	2.0	1.0	01/26/96	SI67
[illegible]minum, Al	NT	mg/Kg	25			SI67
[illegible]enic, As	ND	mg/Kg	5.0	1.0	01/26/96	SI67
[illegible]ron, B	NT	mg/Kg	25			SI67
Barium, Ba	114	mg/Kg	0.50	1.0	01/26/96	SI67
Beryllium, Be	NT	mg/Kg	0.50			SI67
Calcium, Ca	NT	mg/Kg	25			SI67
Cadmium, Cd	ND	mg/Kg	0.50	1.0	01/26/96	SI67
Cobalt, Co	NT	mg/Kg	1.0			SI67
Chromium, Cr	5.5	mg/Kg	2.0	1.0	01/26/96	SI67
Copper, Cu	NT	mg/Kg	1.0			SI67
Iron, Fe	NT	mg/Kg	25			SI67
Potassium, K	NT	mg/Kg	25			SI67
Magnesium, Mg	NT	mg/Kg	25			SI67
Manganese, Mn	NT	mg/Kg	0.50			SI67
Molybdenum, Mo	NT	mg/Kg	20			SI67
Sodium, Na	NT	mg/Kg	25			SI67
Nickel, Ni	NT	mg/Kg	5.0			SI67
Lead, Pb	18.7	mg/Kg	5.0	1.0	01/26/96	SI67
Antimony, Sb	NT	mg/Kg	5.0			SI67
Selenium, Se	ND	mg/Kg	5.0	1.0	01/26/96	SI67
Silica, Se	NT	mg/Kg	50			SI67
Titanium, Ti	NT	mg/Kg	20			SI67
Thallium, Tl	NT	mg/Kg	20			SI67
Vanadium, V	NT	mg/Kg	0.30			SI67
Zinc, Zn	NT	mg/Kg	5.0			SI67
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
alpha-BHC	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
beta-BHC	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
gamma-BHC (lindane)	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
delta-BHC	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
Chlordane	ND	mg/Kg	0.030	5.0	01/27/96	SPEST45/SPCB122
4,4'-DDD	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
4,4'-DDE	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
[illegible]-DDT	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
[illegible]idrin	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
[illegible]ndosulfan I	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
Endosulfan II	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
Endrin	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122

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THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL LABORATORY VOLUNTARY ACCREDITATION PROGRAM.

ID: 9601126-01A
Sample ID: PILE SA (163,164,165,166)

Collected: 01/12/96 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
PEST/PCB /SW846 8080A						
Endrin Aldehyde	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
Heptachlor	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
Heptachlor Epoxide	ND	mg/Kg	0.0030	5.0	01/27/96	SPEST45/SPCB122
Methoxychlor	ND	mg/Kg	0.030	5.0	01/27/96	SPEST45/SPCB122
Endosulfan Sulfate	ND	mg/Kg	0.030	5.0	01/27/96	SPEST45/SPCB122
Toxaphene	ND	mg/Kg	0.30	5.0	01/27/96	SPEST45/SPCB122
PCB-1016	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PCB-1221	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PCB-1232	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PCB-1242	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PCB-1248	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PCB-1254	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PCB-1260	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PEST/PCB XT/SW846 3520	01/24/96	N/A				
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Pyridine	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Aniline	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
2-Chlorophenol	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
1,3-Dichlorobenzene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
1,4-Dichlorobenzene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Phenol	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
[illegible]Dichlorobenzene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
[illegible]yl Alcohol	ND	mg/Kg	1.5	1.7	01/27/96	SMSSVOA103
[illegible](2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
[illegible]-Methylphenol / O-Cresol	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Hexachloroethane	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Nitrobenzene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Isophorone	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
2-Nitrophenol	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
2,4-Dimethylphenol	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Naphthalene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Benzoic Acid	ND	mg/Kg	3.0	1.7	01/27/96	SMSSVOA103
2,4-Dichlorophenol	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
4-Chloroaniline	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Hexachlorobutadiene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
2-Methylnaphthalene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	1.7	01/27/96	SMSSVOA103
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
2-Chloronaphthalene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
2-Nitroaniline	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Acenaphthylene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Dimethylphthalate	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
2,6-Dinitrotoluene	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Acenaphthene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA103
Dibenzofuran	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
2,4-Dinitrotoluene	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Fluorene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
[illegible]thylphthalate	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
[illegible]trophenol	ND	mg/Kg	0.60	1.7	01/27/96	SMSSVOA103
[illegible]-Dinitro-2-methylphenol	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
4-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA103
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103

ID: 9601126-01A
Sample ID: PILE SA (163,164,165,166)

Collected: 01/12/96 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Hexachlorobenzene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Pentachlorophenol	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
2,4-Dinitrophenol	ND	mg/Kg	0.050	1.7	01/27/96	SMSSVOA103
Benzidine	NT	mg/Kg	1.5			SMSSVOA103
Phenanthrene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Anthracene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Di-n-butylphthalate	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Fluoranthene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Pyrene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Butylbenzylphthalate	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Benzo(a)anthracene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Chrysene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
3,3'-Dichlorobenzidine	NT	mg/Kg	0.30			SMSSVOA103
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Di-n-octyl phthalate	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Benzo(b)fluoranthene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Benzo(k)fluoranthene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Benzo(a)pyrene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	1.7	01/27/96	SMSSVOA103
Azobenzene	ND	mg/Kg	0.030	1.7	01/27/96	SMSSVOA103
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	1.7	01/27/96	SMSSVOA103
[illegible]A XT/SW846 3520	01/23/96	N/A				
[illegible]TILES/SW846 8240B						
[illegible]hlorodifluoromethane	ND	mg/Kg	0.010	50	01/24/96	SMSVOA346
[illegible]hloromethane	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Iodomethane	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Acetone	10	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Bromomethane	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Vinyl Chloride	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Chloroethane	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Freon 113	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Carbon Disulfide	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Acrolein	ND	mg/Kg	0.020	50	01/24/96	SMSVOA346
Methylene Chloride	0.58	mg/Kg	0.010	50	01/24/96	SMSVOA346
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Acrylonitrile	ND	mg/Kg	0.020	50	01/24/96	SMSVOA346
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Chloroform	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
1,2-Dichloroethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Vinyl Acetate	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
2-Butanone (MEK)	0.95	mg/Kg	0.0050	50	01/24/96	SMSVOA346
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Bromodichloromethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Dibromomethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Trichloroethene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Chlorodibromomethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
[illegible]zene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
[illegible],3-Dichloropropene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
[illegible]moform	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
Tetrachloroethene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346

ID: 9601126-01A **Collected:** 01/12/96 09:00:00
Sample ID: PILE SA (163,164,165,166) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	01/24/96	SMSVOA346
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Toluene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Chlorobenzene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Ethylbenzene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	01/24/96	SMSVOA346
Styrene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
P/M Xylene	ND	mg/Kg	0.0020	50	01/24/96	SMSVOA346
O-Xylene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	01/24/96	SMSVOA346
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/24/96	SMSVOA346

Lab ID: 9601126-02A **Collected:** 01/12/96 09:00:00
Sample ID: PILE SB (153,156,159,160) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
[illegible]A Hg XT/SW846 7471	01/22/96	N/A				
ICP DIG/SW 846 3050	01/23/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	01/23/96	SC87
METALS by ICP SCAN/6010						
Silver, Ag	ND	mg/Kg	2.0	1.0	01/26/96	SI67
Aluminum, Al	NT	mg/Kg	25			SI67
Arsenic, As	ND	mg/Kg	5.0	1.0	01/26/96	SI67
Boron, B	NT	mg/Kg	25			SI67
Barium, Ba	137	mg/Kg	0.50	1.0	01/26/96	SI67
Beryllium, Be	NT	mg/Kg	0.50			SI67
Calcium, Ca	NT	mg/Kg	25			SI67
Cadmium, Cd	0.48	mg/Kg	0.50	1.0	01/26/96	SI67
Cobalt, Co	NT	mg/Kg	1.0			SI67
Chromium, Cr	7.7	mg/Kg	2.0	1.0	01/26/96	SI67
Copper, Cu	NT	mg/Kg	1.0			SI67
Iron, Fe	NT	mg/Kg	25			SI67
Potassium, K	NT	mg/Kg	25			SI67
Magnesium, Mg	NT	mg/Kg	25			SI67
Manganese, Mn	NT	mg/Kg	0.50			SI67
Molybdenum, Mo	NT	mg/Kg	20			SI67
Sodium, Na	NT	mg/Kg	25			SI67
Nickel, Ni	NT	mg/Kg	5.0			SI67
Lead, Pb	34.4	mg/Kg	5.0	1.0	01/26/96	SI67
Antimony, Sb	NT	mg/Kg	5.0			SI67
Selenium, Se	ND	mg/Kg	5.0	1.0	01/26/96	SI67
Silica, Se	NT	mg/Kg	50			SI67
Titanium, Ti	NT	mg/Kg	20			SI67
Thallium, Tl	NT	mg/Kg	20			SI67
Vanadium, V	NT	mg/Kg	0.30			SI67
Zinc, Zn	NT	mg/Kg	5.0			SI67
PEST/PCB /SW846 8080A						
[illegible]in	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
[illegible]-BHC	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
[illegible]a-BHC	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
gamma-BHC (lindane)	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
delta-BHC	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122

ID: 9601126-02A **Collected:** 01/12/96 09:00:00
Sample ID: PILE SB (153,156,159,160) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
PEST/PCB /SW846 8080A						
Chlordane	ND	mg/Kg	0.030	10	01/27/96	SPEST45/SPCB122
4,4'-DDD	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
4,4'-DDE	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
4,4'-DDT	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Dieldrin	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Endosulfan I	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Endosulfan II	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Endrin	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Endrin Aldehyde	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Heptachlor	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Methoxychlor	ND	mg/Kg	0.030	10	01/27/96	SPEST45/SPCB122
Endosulfan Sulfate	ND	mg/Kg	0.030	10	01/27/96	SPEST45/SPCB122
Toxaphene	ND	mg/Kg	0.30	10	01/27/96	SPEST45/SPCB122
PCB-1016	ND	mg/Kg	0.0030	1.0	01/29/96	SPEST45/SPCB122
PCB-1221	ND	mg/Kg	0.0030	1.0	01/29/96	SPEST45/SPCB122
PCB-1232	ND	mg/Kg	0.0030	1.0	01/29/96	SPEST45/SPCB122
PCB-1242	0.044	mg/Kg	0.0030	1.0	01/29/96	SPEST45/SPCB122
PCB-1248	ND	mg/Kg	0.0030	1.0	01/29/96	SPEST45/SPCB122
PCB-1254	ND	mg/Kg	0.0030	1.0	01/29/96	SPEST45/SPCB122
PCB-1260	0.017	mg/Kg	0.0030	1.0	01/29/96	SPEST45/SPCB122
PEST/PCB XT/SW846 3520	01/24/96	N/A				
SEMI-VOA/SW846 8270B						
[illegible]-Nitrosodimethylamine	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
[illegible]dine	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
[illegible]ine	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
[illegible]s(2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
2-Chlorophenol	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Phenol	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
1,2-Dichlorobenzene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Benzyl Alcohol	ND	mg/Kg	1.5	2.0	01/27/96	SMSSVOA103
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Hexachloroethane	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Nitrobenzene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Isophorone	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
2-Nitrophenol	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Naphthalene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Benzoic Acid	ND	mg/Kg	3.0	2.0	01/27/96	SMSSVOA103
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
4-Chloroaniline	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
Hexachlorobutadiene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
2-Methylnaphthalene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	2.0	01/27/96	SMSSVOA103
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
2-Chloronaphthalene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
2-Nitroaniline	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
Acenaphthylene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
[illegible]Dimethylphthalate	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
[illegible] Dinitrotoluene	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
[illegible]naphthene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
[illegible]-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA103
Dibenzofuran	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103

ID: 9601126-02A **Collected:** 01/12/96 09:00:00
Sample ID: PILE SB (153,156,159,160) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Fluorene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Diethylphthalate	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
4-Nitrophenol	ND	mg/Kg	0.60	2.0	01/27/96	SMSSVOA103
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
4-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA103
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Hexachlorobenzene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Pentachlorophenol	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
2,4-Dinitrophenol	ND	mg/Kg	0.050	2.0	01/27/96	SMSSVOA103
Benzidine	NT	mg/Kg	1.5			SMSSVOA103
Phenanthrene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Anthracene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Di-n-butylphthalate	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
Fluoranthene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Pyrene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Butylbenzylphthalate	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Benzo(a)anthracene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Chrysene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
3,3'-Dichlorobenzidine	NT	mg/Kg	0.30			SMSSVOA103
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
Di-n-octyl phthalate	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
[illegible]zo(b)fluoranthene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
[illegible]zo(k)fluoranthene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
[illegible]izo(a)pyrene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
[illegible]deno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	2.0	01/27/96	SMSSVOA103
Azobenzene	ND	mg/Kg	0.030	2.0	01/27/96	SMSSVOA103
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	2.0	01/27/96	SMSSVOA103
SVOA XT/SW846 3520	01/23/96	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	250	01/26/96	SMSVOA348
Chloromethane	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Iodomethane	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Acetone	50	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Bromomethane	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Vinyl Chloride	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Chloroethane	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Trichlorofluoromethane	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Freon 113	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Carbon Disulfide	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Acrolein	ND	mg/Kg	0.020	250	01/26/96	SMSVOA348
Methylene Chloride	ND	mg/Kg	0.010	250	01/26/96	SMSVOA348
1,1-Dichloroethene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
1,1-Dichloroethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Acrylonitrile	ND	mg/Kg	0.020	250	01/26/96	SMSVOA348
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Chloroform	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
1,2-Dichloroethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Vinyl Acetate	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
2-Butanone (MEK)	5.0	mg/Kg	0.0050	250	01/26/96	SMSVOA348
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Carbon Tetrachloride	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Bromodichloromethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
[illegible]-Dichloropropane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
[illegible]romomethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
[illegible]ns-1,3-Dichloropropene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
[illegible]richloroethene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Chlorodibromomethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Ethyl Methacrylate	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348

Lab ID: 9601126-02A
Sample ID: PILE SB (153,156,159,160)

Collected: 01/12/96 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Benzene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Bromoform	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
Tetrachloroethene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
1,2-Dibromoethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
2-Hexanone (MBK)	ND	mg/Kg	0.0050	250	01/26/96	SMSVOA348
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Toluene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Chlorobenzene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Ethylbenzene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	250	01/26/96	SMSVOA348
Styrene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
P/M Xylene	ND	mg/Kg	0.0020	250	01/26/96	SMSVOA348
O-Xylene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	250	01/26/96	SMSVOA348
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	250	01/26/96	SMSVOA348

Lab ID: 9601126-03A
Sample ID: PILE SC (157,158,161,162)

Collected: 01/12/96 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	01/22/96	N/A				
ICP DIG/SW 846 3050	01/23/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	01/23/96	SC87
METALS by ICP SCAN/6010						
Silver, Ag	ND	mg/Kg	2.0	1.0	01/26/96	SI67
Aluminum, Al	NT	mg/Kg	25			SI67
Arsenic, As	ND	mg/Kg	5.0	1.0	01/26/96	SI67
Boron, B	NT	mg/Kg	25			SI67
Barium, Ba	553	mg/Kg	0.50	1.0	01/26/96	SI67
Beryllium, Be	NT	mg/Kg	0.50			SI67
Calcium, Ca	NT	mg/Kg	25			SI67
Cadmium, Cd	ND	mg/Kg	0.50	1.0	01/26/96	SI67
Cobalt, Co	NT	mg/Kg	1.0			SI67
Chromium, Cr	5.5	mg/Kg	2.0	1.0	01/26/96	SI67
Copper, Cu	NT	mg/Kg	1.0			SI67
Iron, Fe	NT	mg/Kg	25			SI67
Potassium, K	NT	mg/Kg	25			SI67
Magnesium, Mg	NT	mg/Kg	25			SI67
Manganese, Mn	NT	mg/Kg	0.50			SI67
Molybdenum, Mo	NT	mg/Kg	20			SI67
Sodium, Na	NT	mg/Kg	25			SI67
Nickel, Ni	NT	mg/Kg	5.0			SI67
Lead, Pb	26.5	mg/Kg	5.0	1.0	01/26/96	SI67
[illegible]mony, Sb	NT	mg/Kg	5.0			SI67
[illegible]nium, Se	ND	mg/Kg	5.0	1.0	01/26/96	SI67
[illegible]nica, Se	NT	mg/Kg	50			SI67
Titanium, Ti	NT	mg/Kg	20			SI67
Thallium, Tl	NT	mg/Kg	20			SI67

ID: 9601126-03A **Collected:** 01/12/96 09:00:00
Sample ID: PILE SC (157,158,161,162) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
METALS by ICP SCAN/6010						
Vanadium, V	NT	mg/Kg	0.30			SI67
Zinc, Zn	NT	mg/Kg	5.0			SI67
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
alpha-BHC	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
beta-BHC	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
gamma-BHC (lindane)	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
delta-BHC	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
Chlordane	ND	mg/Kg	0.030	1.0	01/27/96	SPEST45/SPCB122
4,4'-DDD	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
4,4'-DDE	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
4,4'-DDT	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
Dieldrin	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
Endosulfan I	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
Endosulfan II	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
Endrin	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
Endrin Aldehyde	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
Heptachlor	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
Heptachlor Epoxide	ND	mg/Kg	0.0030	1.0	01/27/96	SPEST45/SPCB122
Methoxychlor	ND	mg/Kg	0.030	1.0	01/27/96	SPEST45/SPCB122
Endosulfan Sulfate	ND	mg/Kg	0.030	1.0	01/27/96	SPEST45/SPCB122
Toxaphene	ND	mg/Kg	0.30	1.0	01/27/96	SPEST45/SPCB122
PCB-1016	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PCB-1221	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
[illegible]-1232	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
[illegible]-1242	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
[illegible]CB-1248	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PCB-1254	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PCB-1260	ND	mg/Kg	0.0030	1.0	01/26/96	SPEST45/SPCB122
PEST/PCB XT/SW846 3520	01/24/96	N/A				
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Pyridine	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Aniline	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
2-Chlorophenol	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
1,3-Dichlorobenzene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
1,4-Dichlorobenzene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Phenol	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
1,2-Dichlorobenzene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Benzyl Alcohol	ND	mg/Kg	1.5	1.9	01/28/96	SMSSVOA103
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Hexachloroethane	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Nitrobenzene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Isophorone	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
2-Nitrophenol	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
2,4-Dimethylphenol	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Naphthalene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Benzoic Acid	ND	mg/Kg	3.0	1.9	01/28/96	SMSSVOA103
2,4-Dichlorophenol	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
4-Chloroaniline	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Hexachlorobutadiene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
2-Methylnaphthalene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
[illegible]loro-3-methylphenol	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
[illegible]achlorocyclopentadiene	ND	mg/Kg	1.5	1.9	01/28/96	SMSSVOA103
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
2-Chloronaphthalene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103

ID: 9601126-03A **Collected:** 01/12/96 09:00:00
Sample ID: PILE SC (157,158,161,162) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
2-Nitroaniline	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Acenaphthylene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Dimethylphthalate	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
2,6-Dinitrotoluene	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Acenaphthene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA103
Dibenzofuran	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
2,4-Dinitrotoluene	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Fluorene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Diethylphthalate	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
4-Nitrophenol	ND	mg/Kg	0.60	1.9	01/28/96	SMSSVOA103
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
4-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA103
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Hexachlorobenzene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Pentachlorophenol	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
2,4-Dinitrophenol	ND	mg/Kg	0.050	1.9	01/28/96	SMSSVOA103
Benzidine	NT	mg/Kg	1.5			SMSSVOA103
Phenanthrene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Anthracene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Di-n-butylphthalate	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Fluoranthene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
[illegible]ne	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
[illegible]ibenzylphthalate	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
[illegible]nzo(a)anthracene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Chrysene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
3,3'-Dichlorobenzidine	NT	mg/Kg	0.30			SMSSVOA103
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Di-n-octyl phthalate	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Benzo(b)fluoranthene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Benzo(k)fluoranthene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Benzo(a)pyrene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	1.9	01/28/96	SMSSVOA103
Azobenzene	ND	mg/Kg	0.030	1.9	01/28/96	SMSSVOA103
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	1.9	01/28/96	SMSSVOA103
SVOA XT/SW846 3520	01/23/96	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	50	01/25/96	SMSVOA347
Chloromethane	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Iodomethane	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Acetone	4.0	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Bromomethane	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Vinyl Chloride	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Chloroethane	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Trichlorofluoromethane	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Freon 113	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Carbon Disulfide	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Acrolein	ND	mg/Kg	0.020	50	01/25/96	SMSVOA347
Methylene Chloride	0.67	mg/Kg	0.010	50	01/25/96	SMSVOA347
1,1-Dichloroethene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
1,1-Dichloroethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Acrylonitrile	ND	mg/Kg	0.020	50	01/25/96	SMSVOA347
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Chloroform	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
[illegible] Dichloroethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
[illegible] l Acetate	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
[illegible]s-1,2-Dichloroethene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
2-Butanone (MEK)	0.37	mg/Kg	0.0050	50	01/25/96	SMSVOA347
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347

ID: 9601126-03A **Collected:** 01/12/96 09:00:00
Sample ID: PILE SC (157,158,161,162) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Carbon Tetrachloride	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Bromodichloromethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
1,2-Dichloropropane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Dibromomethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Trichloroethene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Chlorodibromomethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Ethyl Methacrylate	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Benzene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Bromoform	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
Tetrachloroethene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
1,2-Dibromoethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
2-Hexanone (MBK)	ND	mg/Kg	0.0050	50	01/25/96	SMSVOA347
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Toluene	0.092	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Chlorobenzene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Ethylbenzene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	50	01/25/96	SMSVOA347
Styrene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
[illegible] Xylene	ND	mg/Kg	0.0020	50	01/25/96	SMSVOA347
[illegible]ylene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
[illegible],3-Trichloropropane	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	50	01/25/96	SMSVOA347
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	50	01/25/96	SMSVOA347

Lab ID: 9601126-04A **Collected:** 01/12/96 09:00:00
Sample ID: PILE SD (151,152,154,155) **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	01/22/96	N/A				
ICP DIG/SW 846 3050	01/23/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	01/23/96	SC87
METALS by ICP SCAN/6010						
Silver, Ag	ND	mg/Kg	2.0	1.0	01/26/96	SI67
Aluminum, Al	NT	mg/Kg	25			SI67
Arsenic, As	ND	mg/Kg	5.0	1.0	01/26/96	SI67
Boron, B	NT	mg/Kg	25			SI67
Barium, Ba	155	mg/Kg	0.50	1.0	01/26/96	SI67
Beryllium, Be	NT	mg/Kg	0.50			SI67
Calcium, Ca	NT	mg/Kg	25			SI67
Cadmium, Cd	0.42	mg/Kg	0.50	1.0	01/26/96	SI67
Cobalt, Co	NT	mg/Kg	1.0			SI67
Chromium, Cr	9.0	mg/Kg	2.0	1.0	01/26/96	SI67
Copper, Cu	NT	mg/Kg	1.0			SI67
[illegible], Fe	NT	mg/Kg	25			SI67
[illegible]ssium, K	NT	mg/Kg	25			SI67
[illegible]agnesium, Mg	NT	mg/Kg	25			SI67
Manganese, Mn	NT	mg/Kg	0.50			SI67
Molybdenum, Mo	NT	mg/Kg	20			SI67

ID: 9601126-04A
Sample ID: PILE SD (151,152,154,155)

Collected: 01/12/96 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
METALS by ICP SCAN/6010						
Sodium, Na	NT	mg/Kg	25			SI67
Nickel, Ni	NT	mg/Kg	5.0			SI67
Lead, Pb	35.0	mg/Kg	5.0	1.0	01/26/96	SI67
Antimony, Sb	NT	mg/Kg	5.0			SI67
Selenium, Se	ND	mg/Kg	5.0	1.0	01/26/96	SI67
Silica, Se	NT	mg/Kg	50			SI67
Titanium, Ti	NT	mg/Kg	20			SI67
Thallium, Tl	NT	mg/Kg	20			SI67
Vanadium, V	NT	mg/Kg	0.30			SI67
Zinc, Zn	NT	mg/Kg	5.0			SI67
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
alpha-BHC	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
beta-BHC	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
gamma-BHC (lindane)	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
delta-BHC	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Chlordane	ND	mg/Kg	0.030	10	01/27/96	SPEST45/SPCB122
4,4'-DDD	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
4,4'-DDE	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
4,4'-DDT	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Dieldrin	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Endosulfan I	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Endosulfan II	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Endrin	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Endrin Aldehyde	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Heptachlor	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	01/27/96	SPEST45/SPCB122
Methoxychlor	ND	mg/Kg	0.030	10	01/27/96	SPEST45/SPCB122
Endosulfan Sulfate	ND	mg/Kg	0.030	10	01/27/96	SPEST45/SPCB122
Toxaphene	ND	mg/Kg	0.30	10	01/27/96	SPEST45/SPCB122
PCB-1016	ND	mg/Kg	0.0030	2.0	01/26/96	SPEST45/SPCB122
PCB-1221	ND	mg/Kg	0.0030	2.0	01/26/96	SPEST45/SPCB122
PCB-1232	ND	mg/Kg	0.0030	2.0	01/26/96	SPEST45/SPCB122
PCB-1242	ND	mg/Kg	0.0030	2.0	01/26/96	SPEST45/SPCB122
PCB-1248	ND	mg/Kg	0.0030	2.0	01/26/96	SPEST45/SPCB122
PCB-1254	ND	mg/Kg	0.0030	2.0	01/26/96	SPEST45/SPCB122
PCB-1260	0.12	mg/Kg	0.0030	2.0	01/26/96	SPEST45/SPCB122
PEST/PCB XT/SW846 3520	01/24/96	N/A				
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Pyridine	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Aniline	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
2-Chlorophenol	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Phenol	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
1,2-Dichlorobenzene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Benzyl Alcohol	ND	mg/Kg	1.5	2.0	01/28/96	SMSSVOA103
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Hexachloroethane	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Nitrobenzene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Isophorone	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
2-Nitrophenol	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Naphthalene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Benzoic Acid	ND	mg/Kg	3.0	2.0	01/28/96	SMSSVOA103
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103

ID: 9601126-04A
Sample ID: PILE SD (151,152,154,155)

Collected: 01/12/96 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
4-Chloroaniline	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Hexachlorobutadiene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
2-Methylnaphthalene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	2.0	01/28/96	SMSSVOA103
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
2-Chloronaphthalene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
2-Nitroaniline	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Acenaphthylene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Dimethylphthalate	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
2,6-Dinitrotoluene	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Acenaphthene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA103
Dibenzofuran	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Fluorene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Diethylphthalate	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
4-Nitrophenol	ND	mg/Kg	0.60	2.0	01/28/96	SMSSVOA103
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
4-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA103
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
[illegible]achlorobenzene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
[illegible]achlorophenol	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
[illegible]4-Dinitrophenol	ND	mg/Kg	0.050	2.0	01/28/96	SMSSVOA103
Benzidine	NT	mg/Kg	1.5			SMSSVOA103
Phenanthrene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Anthracene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Di-n-butylphthalate	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Fluoranthene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Pyrene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Butylbenzylphthalate	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Benzo(a)anthracene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Chrysene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
3,3'-Dichlorobenzidine	NT	mg/Kg	0.30			SMSSVOA103
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Di-n-octyl phthalate	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Benzo(b)fluoranthene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Benzo(k)fluoranthene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Benzo(a)pyrene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	2.0	01/28/96	SMSSVOA103
Azobenzene	ND	mg/Kg	0.030	2.0	01/28/96	SMSSVOA103
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	2.0	01/28/96	SMSSVOA103
SVOA XT/SW846 3520	01/23/96	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	100	01/25/96	SMSVOA347
Chloromethane	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
Iodomethane	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
Acetone	19	mg/Kg	0.0050	100	01/25/96	SMSVOA347
Bromomethane	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
Vinyl Chloride	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
Chloroethane	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
Trichlorofluoromethane	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
Freon 113	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
[illegible]on Disulfide	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
[illegible]lein	ND	mg/Kg	0.020	100	01/25/96	SMSVOA347
[illegible]ethylene Chloride	ND	mg/Kg	0.010	100	01/25/96	SMSVOA347
1,1-Dichloroethene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
1,1-Dichloroethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347

ID: 9601126-04A
Sample ID: PILE SD (151,152,154,155)

Collected: 01/12/96 09:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Acrylonitrile	ND	mg/Kg	0.020	100	01/25/96	SMSVOA347
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Chloroform	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
1,2-Dichloroethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Vinyl Acetate	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
2-Butanone (MEK)	1.4	mg/Kg	0.0050	100	01/25/96	SMSVOA347
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Carbon Tetrachloride	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Bromodichloromethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
1,2-Dichloropropane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Dibromomethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Trichloroethene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Chlorodibromomethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Ethyl Methacrylate	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Benzene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Bromoform	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
Tetrachloroethene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
1,2-Dibromoethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
2-Hexanone (MBK)	ND	mg/Kg	0.0050	100	01/25/96	SMSVOA347
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Toluene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Chlorobenzene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Ethylbenzene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	100	01/25/96	SMSVOA347
Styrene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
P/M Xylene	ND	mg/Kg	0.0020	100	01/25/96	SMSVOA347
O-Xylene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	100	01/25/96	SMSVOA347
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	100	01/25/96	SMSVOA347

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 01/31/96
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 11246 Date 1/12/96

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES

Address: 2500 Trinity Dr Suite 1-5

City / State / Zip: Los Alamos, NM 87544

Project Name / Number: TA-9 MDA M

Contract / Purchase Order / Quote:

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1944

Fax No.: 662-2026

Samplers: (Signature) D.M. O'Connell

								No. of Containers	Total VOA	Total SVOA	Total Metals (RCRA)	Total PCB/Pest						Remarks
01A	Pile SA (Cells 163, 164, 165, 166, 167)	1/12/96	0900	Soil	8 oz glass	4°C	N/A	1	✓	✓	✓	✓						
02A	Pile SB (Cells 153, 156, 154, 160)	1/12/96	0900	Soil	8 oz glass	4°C	N/A	1	✓	✓	✓	✓						
03A	Pile SC (157, 154, 161, 162)	1/12/96	0900	Soil	8 oz glass	4°C	N/A	1	✓	✓	✓	✓						
04A	Pile SD (151, 152, 154, 155)	1/12/96	0900	Soil	8 oz glass	4°C	N/A	1	✓	✓	✓	✓						

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: D.M. O'Connell	1/17/96	Signature: Elvin L. Chase	Signature:		Signature:
Printed: D.M. O'Connell	Time: 1105	Printed: Elvin L. Chase	Printed:	Time:	Printed:
Company: NES		Company: NL	Company:		Company:
Reason: Testing		Reason: testing	Reason:		Reason:

Method of Shipment:

Shipment No.:

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

APPENDIX E

BULK ASBESTOS SAMPLE RESULTS

ASSAGAI
ANALYTICAL LABORATORIES, INC. • 7300 Jefferson, N.E. • Albuquerque, New Mexico 87109
3332 Wedgewood, Suite E-5 , Texas 79925

To: NES, Inc.
Attn: Debbie O'Connell
3500 Trinity, Suite C-5
Los Alamos, NM 87544

Date: 07 December 1995
Work Order No. BB14015
Bulk Asbestos Analysis
No. of Analyses: 01
No. of Samples: 01

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples (EPA-600/M4-82-020) and as cited in 40 CFR Part 763, Subp. F, Appendix A, Section 1, comparing the quantity of non-asbestos material to asbestos fibers. The EPA Preferred Method is the Determination of Asbestos in Bulk Building Materials (EPA-600/R-93/116 July 1993). Detection Limit: 1% of the portion of the sample examined.

Sample Site: **M.D.A.M. - KHB120695A/LANL-TA-9-MDA/M-Cells 70-71**

SAMPLE ID.	*DESCRIPTION*	*ASBESTOS TYPE*	*% ASBESTOS*	*OTHER FIBERS*	*% CONTENT*	*MATRIX*
None Given	*Red Insulation*	*NAD*	-----	*None*	-----	*Pebbles, Carbonate Clay*

NAD = NO ASBESTOS DETECTED

Analyst - David Martinez _____

Pursuant to the Asbestos NESHAP Clarification Regarding Analysis of Multi-layered Systems (Federal Register/Vol. 59, No. 3, Wednesday, January 5, 1994), each layer, in a sample containing one or more distinct layers, has been individually analyzed and reported. These results relate only to the above samples as submitted unless otherwise noted.

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,

Jeffrey M. Mlekush
Asbestos Laboratory Assistant Manager

Member: American Council of Independent Laboratories, Inc.

THIS REPORT MUST NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL LABORATORY VOLUNTARY ACCREDITATION PROGRAM OR ANY OTHER AGENCY OF THE UNITED STATES GOVERNMENT.

NVLAP

ASSAIGAI ANALYTICAL LABORATORIES, INC.

Albuquerque, New Mexico

ASBESTOS ANALYTICAL REQUEST FORM AND CHAIN OF CUSTODY RECORD

DATE 12/6/95

WORK ORDER NO. _____

PURCHASE ORDER NO. NES -

CLIENT NAME NES, Inc.

ADDRESS 3200 Trinity Ste. C-5

Los Alamos NM

CONTACT PERSON Debbie O'Connell TELEPHONE 662-1981

BILLING ADDRESS Same as Above

SAMPLE COLLECTION SITE KHB 120695A / LANL-TA-9-MDA/m-cells 70-71 DATE OF COLLECTION 12/06/95 TIME 1845 BY WHOM Kirk Hodges DATE OF SHIPMENT TO ASSAIGAI 12/6/95

SAMPLE NUMBER	TYPE	SAMPLE VOLUME (LITERS)	CONDITION	ANALYSES REQUESTED

REMARKS: _____

REQUESTED BY _____ DATE _____

RECEIVED & LOGGED IN BY [illegible] DATE 12-7-95

TIME 9:10 [illegible]

ANALYSES COMPLETED BY [illegible] DATE 12 7 95

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: _____ Date 12/06/95

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client NES, Inc.

Address 3500 Trinity Ste. C-5

City / State / Zip LA NM

Project Name / Number M.D.A.M.

Contract / Purchase Order / Quote

Project Manager / Contact Debbie O'Connell

Telephone No. 962-1984

Fax No.

Samplers: (Signature) K B Hodges Kirk B. Hodges

Analysis Required

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Bulk Asbestos									Remarks
	KBH120695A	12/06/95	~~1355~~ 1984	Bulk	Plastic Bag - Double	NA		1	X									
	LANL-TA9 - MDA/M		1245															
	Cells 70-71																	

12/06/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature K B Hodges	12/6/95	Signature Elvin Gallegos	Signature	12-7-95	Signature C. Six
Printed Kirk B Hodges	Time 1:30 PM	Printed Elvin Gallegos	Printed	Time 9:10 AM	Printed C. Six
Company NES/IT		Company AAL	Company		Company AAL
Reason Testing		Reason testing	Reason		Reason ANALYSIS

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

LABORATORY

ASSAIGAI ANALYTICAL LABORATORIES

WORK ORDER
BB 14015

BULK SAMPLES

DATE RECEIVED 12/7/95		ESTIMATED COST
CUSTOMER P.O. NUMBER	TIME RECEIVED 9:10 AM	DUE DATE 12/14/95

ACCOUNT INFORMATION

CUSTOMER'S NAME NES, Inc.	CONTACT Debbie O'Connell
ADDRESS	PHONE NUMBER
	FAX NUMBER
CITY / STATE / ZIP	MOBILE / PAGER NUMBER

PARTY RESPONSIBLE FOR PAYMENT IF OTHER THAN ABOVE

NAME	CONTACT	PAYMENT REC'D.
ADDRESS	PHONE NUMBER	OPEN ACCOUNT ✓
CITY / STATE / ZIP	FAX NUMBER	CASH
SPECIAL BILLING INSTRUCTIONS		CHECK NUMBER

ACCOUNT STATUS

SAMPLE INFORMATION

TYPE OF SAMPLE	NO. OF ~~CASSETTES~~ samples	*TURN AROUND TIME	SAMPLE IDENTIFICATION AND / OR SAMPLE SITE
☑ BULK (PLM) ☐ SOIL (PLM) ☐ CONCRETE ☐ OTHER	1	☐ PRIORITY 1 (2 HRS) ☐ PRIORITY 2 (24 HRS) ☐ PRIORITY 3 (3 WKG DAYS) ☑ PRIORITY 4 (5-10 WKG DAYS) *(SUBJECT TO WORK LOAD)	M.D.A.M. KHB120695A/LANL-TA-9- MDA/M-Cells 70-71

SAMPLE DELIVERED BY — SIGNATURE E. Chavez — DATE 12/7/95

ANALYSIS REQUEST

WORK DESCRIPTION

BILLING: ☐ PICKUP ☐ MAIL

LOGGED IN BY Catherine Lui

9012 Washington NE • Albuquerque, New Mexico 87113 • (505) 822-8061 • FAX (505) 822-8063

CUSTOMER

ASSA[illegible]AL
ANALYTIC[illegible]ATORIES, INC. • 7300 Jefferson, N.E. • Albuquerque, New Mexico 87109

3332 Wedgewood, Suite E-5 • [illegible], Texas 79925

To: NES, Inc.
Attn: Debbie O'Connell
3500 Trinity, Suite C-5
Los Alamos, NM 87544

Date: 14 December 1995
Work Order No. BB14031
Bulk Asbestos Analysis
No. of Analyses: 03
No. of Samples: 03

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples (EPA-600/M4-82-020) and as cited in 40 CFR Part 763, Subp. F, Appendix A, Section 1, comparing the quantity of non-asbestos material to asbestos fibers. The EPA Preferred Method is the Determination of Asbestos in Bulk Building Materials (EPA-600/R-93/116 July 1993). Detection Limit: 1% of the portion of the sample examined.

Sample Site: **MDA/M**

SAMPLE ID.	*DESCRIPTION*	*ASBESTOS TYPE*	*% ASBESTOS*	*OTHER FIBERS*	*% CONTENT*	*MATRIX*
KBH-120895-F	*Dark Gray Insulation*	*Chrysotile*	*> 75*	*None*	-----	*Clay*
KBH-120895-G	*Brown-Gray Insulation*	*Chrysotile*	*> 75*	*None*	-----	*Clay*
KBH-120895-H	*Dark Brown Insulation*	*Chrysotile*	*> 75*	*Plant*	*5 - 10*	*Clay*

NAD = NO ASBESTOS DETECTED

Analyst - George W. Hazlett GW Hazlett

Pursuant to the Asbestos NESHAP Clarification Regarding Analysis of Multi-layered Systems (Federal Register/Vol. 59, No. 3, Wednesday, January 5, 1994), each layer, in a sample containing one or more distinct layers, has been individually analyzed and reported. These results relate only to the above samples as submitted unless otherwise noted.

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,

Jeffrey M. Mlekush

Jeffrey M. Mlekush
Asbestos Laboratory Assistant Manager

Member: American Council of Independent Laboratories, Inc.

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NVLAP

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: _____ Date 12/08/95

Page 1 of 1

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(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES Inc

Address: 3500 Trinity

City / State / Zip: LA NM

Project Name / Number: MDA/M

Contract / Purchase Order / Quote: _____

Project Manager / Contact: D. O'Connell

Telephone No.: 662 - 1984

Fax No.: _____

Samplers: (Signature) K B Hodges
Kirk B Hodges

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Bulk Asbestos	Analysis Required								Remarks
	KBH 120895 F	12/08/95		Bulk	Double Plastic Bag		NA	1	X									Cell 2, South Side of Pile
	KBH 120895 G	1		1	1		1	1	X									Cell 2, Top of Pile
	KBH 120895 H	1		1	1		1	1	X									Cell 7012, North Side of Pile

KBH 12/08/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: K B Hodges	12/08/95	Signature: Dennis O'Connell	Signature: Dennis O'Connell	12/13/95	Signature: Ewin J. Chavez
Printed: Kirk B Hodges	Time: 1545	Printed: Dennis O'Connell	Printed: Dennis O'Connell	Time: 10:45 AM	Printed: Ewin J. Chavez
Company: IT		Company: NES	Company: NES		Company: AAL
Reason: Testing		Reason: Testing	Reason: Testing		Reason: testing

Method of Shipment: _____

Shipment No. _____

Special Instructions: _____

Comments: _____

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

LABORATORY

ASSAIGAI ANALYTICAL LABORATORIES

WORK ORDER
BB 14031

BULK SAMPLES	DATE RECEIVED 12/14/95	ESTIMATED COST
CUSTOMER P.O. NUMBER	TIME RECEIVED 7:35 AM	DUE DATE 12/19/95

ACCOUNT INFORMATION

CUSTOMER'S NAME NES, Inc.	CONTACT Debbie O'Connell
ADDRESS	PHONE NUMBER
	FAX NUMBER
CITY / STATE / ZIP	MOBILE / PAGER NUMBER

PARTY RESPONSIBLE FOR PAYMENT IF OTHER THAN ABOVE

		ACCOUNT STATUS
NAME	CONTACT	PAYMENT REC'D.
ADDRESS	~~PHONE~~ NUMBER	OPEN ACCOUNT ✓
CITY / STATE / ZIP	FAX NUMBER	CASH
SPECIAL BILLING INSTRUCTIONS		CHECK NUMBER

SAMPLE INFORMATION

TYPE OF SAMPLE	NO. OF ~~CASSETTES~~ samples	*TURN AROUND TIME	SAMPLE IDENTIFICATION AND / OR SAMPLE SITE
☑ BULK (PLM) ☐ SOIL (PLM) ☐ CONCRETE ☐ OTHER	3	☐ PRIORITY 1 (2 HRS) ☐ PRIORITY 2 (24 HRS) ☑ PRIORITY 3 (3 WKG DAYS) ☐ PRIORITY 4 (5-10 WKG DAYS) *(SUBJECT TO WORK LOAD)	MDA/M

SAMPLE DELIVERED BY — SIGNATURE Elvin Chavez — DATE 12/14/95

ANALYSIS REQUEST

WORK DESCRIPTION

BILLING: ☐ PICKUP ☐ MAIL

LOGGED IN BY: Catherine Li

9012 Washington NE • Albuquerque, New Mexico 87113 • (505) 822-8061 • FAX (505) 822-8063

CUSTOMER

APPENDIX F

ASBESTOS AND RCRA METAL AIR RESULTS

ASSAGAI
ANALYTICAL
LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

To: NES, Inc.
Attn: Debbie O'Connell
3500 Trinity, Suite C-5
Los Alamos, NM 87544

Date: 14 December 1995
Work Order No. A12497
Asbestos Air Analysis
No. of Analyses: 04
Received: 14 December 1995

Method: Each filter has been analyzed following the NIOSH 7400 method. A wedge from each filter has been examined using a phase contrast microscope. Set "A" counting rules were used.

Location: **MDA/M**

SAMPLE ID.	*FIBER COUNT*		*VOLUME*	*DET. LIMIT*	*COMMENTS*
	(f/cc)	*(f/flds)*	*(liters)*	*(f/cc)*	
KBH121195-E	.....	3/100	Field Blank	.....	
KBH121195-F	.....	3/100	Field Blank	.....	
KBH121195-G	0.13	100/68	536	0.0036	
KBH121195-H	0.11	101/85	516	0.0037	

Analyst - Jeffrey M. Mlekush Jeffrey M. Mlekush

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,

Jeffrey M. Mlekush
Jeffrey M. Mlekush
Asbestos Laboratory Assistant Manager

Member: American Council of Independent Laboratories, Inc.

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ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: _____ Date 12/11/95

Page _____ of _____

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 323.0

Client: NES, Inc.
Address: 3500 Trinity
City / State / Zip: LA, NM
Project Name / Number: MDA/M
Contract / Purchase Order / Quote

Project Manager / Contact: D. O'Connell
Telephone No.: 662-1989
Fax No.:
Samplers: (Signature)

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Pb (Lead)	Chromium	Asbestos							Remarks
	KBH 12/195 A	12/11/95		Air	SKC cassette			1	X	X								Field Blank
	KBH 12/195 B	12/11/95		Air	SKC cassette			1	X	X								Field Blank
	KBH 12/195 C							1	X	X								J. Tucker
	KBH 12/195 D							1	X	X								J. Clements
	KBH 12/195 E				Costar Cassette			1			X							Field Blank
	KBH 12/195 F							1			X							Field Blank
	KBH 12/195 G							1			X							B. Perdosgaty
	KBH 12/195 H							1			X							G. Zona

KBH 12/11/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Kirk B Hodges	12/12/95	Signature: Elvin J Chavez	Signature: Elvin J Chavez	12/14/95	Signature:
Printed: Kirk B Hodges	Time: 0800	Printed: Elvin J Chavez	Printed: Elvin J Chavez	Time: 7:35 AM	Printed:
Company: IT NES		Company: AAL	Company: AAL		Company:
Reason: Testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:
Shipment No.:
Special Instructions:

Comments:

After analysis, samples are to be:
- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

LABORATORY

ASSAIGAI ANALYTICAL LABORATORIES

WORK ORDER
A 12497

AIR SAMPLES	DATE RECEIVED 12/14/95	ESTIMATED COST
CUSTOMER P.O. NUMBER	TIME RECEIVED 7:35 AM	DUE DATE 12/19/95

ACCOUNT INFORMATION

CUSTOMER'S NAME NES, Inc.	CONTACT D. O'Connell
ADDRESS	PHONE NUMBER 662-1989
	FAX NUMBER
CITY / STATE / ZIP	MOBILE / PAGER NUMBER

PARTY RESPONSIBLE FOR PAYMENT IF OTHER THAN ABOVE

		ACCOUNT STATUS
NAME	CONTACT	PAYMENT REC'D.
ADDRESS	PHONE NUMBER	OPEN ACCOUNT ✓
CITY / STATE / ZIP	FAX NUMBER	CASH
SPECIAL BILLING INSTRUCTIONS		CHECK NUMBER

SAMPLE INFORMATION

TYPE OF SAMPLE	NO. OF CASSETTES	*TURN AROUND TIME	SAMPLE IDENTIFICATION AND / OR SAMPLE SITE
☑ PCM NIOSH 7400 "A" ☐ PCM OTHER ☐ TEM ☐ OTHER	4	☐ PRIORITY 1 (2 HRS) ☐ PRIORITY 2 (24 HRS) ☑ PRIORITY 3 (3 WKG DAYS) ☐ PRIORITY 4 (5-10 WKG DAYS) *(SUBJECT TO WORK LOAD)	MDA/M

SAMPLE DELIVERED BY — SIGNATURE Elvin Chavez — DATE 12/14/95

ANALYSIS REQUEST

WORK DESCRIPTION

BILLING: ☐ PICKUP ☐ MAIL

LOGGED IN BY Catherine Vil

9012 Washington NE • Albuquerque, New Mexico 87113 • (505) 822-8061 • FAX (505) 822-8063

ASSAIGAI
ANALYTICAL
LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

To: NES, Inc.
Attn: Debbie O'Connell
3500 Trinity, Suite C-5
Los Alamos, NM 87544

Date: 04 January 1996
Work Order No. A12542
Asbestos Air Analysis
No. of Analyses: 04
Received: 04 January 1996

Method: Each filter has been analyzed following the NIOSH 7400 method. A wedge from each filter has been examined using a phase contrast microscope. Set "A" counting rules were used.

Location: **MDA/M**

SAMPLE ID.	*FIBER COUNT*		*VOLUME*	*DET. LIMIT*	*COMMENTS*
	(f/cc)	*(f/flds)*	*(liters)*	*(f/cc)*	
KBH122195A	.....	2/100	Field Blank	.....	
KBH122195B	.....	0/100	Field Blank	.....	
KBH122195C	0.012	16/100	602	0.0032	
KBH122195D	0.012	8/100	270	0.0071	

Analyst - Jeffrey M. Mlekush Jeffrey M. Mlekush

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,

Jeffrey M. Mlekush
Jeffrey M. Mlekush
Asbestos Laboratory Manager

Member: American Council of Independent Laboratories, Inc.

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ASSAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

7500 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87109
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab job no.: _____ Date 1/7/96

Page 1 of 1

Client: NES Inc

Address: 2500 Trinity

City / State / Zip: L A, NM

Project Name / Number: MDA/M

Contract / Purchase Order / Quote: _____

Project Manager / Contact: D. O'Connell

Telephone No.: 662-1754

Fax No.: 662-2036

Samplers: (Signature) _____

Analysis Required

AAL Fraction Number	Field Sample Number / Location	Date	Time	Type	Container	Total Flow												
	KBH01096 A	01/09/96	NA	Breathing Zone	SKC 3-piece	NA	1	X	X									Field Blank
	KBH01096 B				cassette Lot # H4 HMR01 H112	NA	1	X	X									Field Blank
	KBH01096 C					370 l	1	X	X									R. Pirkle
	KBH01096 D					470 l	1	X	X									G. VanDerpool
	KBH01096 E				Costar 3-piece	NA	1			X								Field Blank
	KBH01096 F				cassette Lot # 3446	NA	1			X								Field Blank
	KBH01096 G					460 l	1			X								T. Jones
	KBH01096 H					470 l	1			X								G. VanDerpool

KBH 1/7/96

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: [illegible]	1/10/96	Signature: [illegible]	Signature: [illegible]	1/10/96	Signature: [illegible]
Printed: Kirk G Hodges	Time: 0500	Printed: [illegible]	Printed: [illegible]	Time: 1:50PM	Printed: C SIX
Company: IT		Company: AAL	Company: AAL		Company: AAL
Reason: Testing		Reason: testing	Reason: testing		Reason: ANALYSIS

Method of Shipment: _____

Shipment No. _____

Special Instructions: _____

Comments: _____

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

CO

ASSAIGAI ANALYTICAL LABORATORIES

WORK ORDER
A 12565

AIR SAMPLES	DATE RECEIVED 1/11/96	ESTIMATED COST
CUSTOMER P.O. NUMBER	TIME RECEIVED 9:00 am	DUE DATE 1/12/96

ACCOUNT INFORMATION

CUSTOMER'S NAME DEC, INC.	CONTACT L. O'Connell
ADDRESS	PHONE NUMBER
	FAX NUMBER
CITY / STATE / ZIP	MOBILE / PAGER NUMBER

PARTY RESPONSIBLE FOR PAYMENT IF OTHER THAN ABOVE

		ACCOUNT STATUS
NAME	CONTACT	PAYMENT REC'D.
ADDRESS	PHONE NUMBER	OPEN ACCOUNT ✓
CITY / STATE / ZIP	FAX NUMBER	CASH
SPECIAL BILLING INSTRUCTIONS		CHECK NUMBER

SAMPLE INFORMATION

TYPE OF SAMPLE	NO. OF CASSETTES	*TURN AROUND TIME	SAMPLE IDENTIFICATION AND / OR SAMPLE SITE
☑ PCM NIOSH 7400 "A" ☐ PCM OTHER ☐ TEM ☐ OTHER	4	☐ PRIORITY 1 (2 HRS) ☑ PRIORITY 2 (24 HRS) ☐ PRIORITY 3 (3 WKG DAYS) ☐ PRIORITY 4 (5-10 WKG DAYS) *(SUBJECT TO WORK LOAD)	Milrim

SAMPLE DELIVERED BY	SIGNATURE	DATE
Elvin J. Chavez	[signature]	1/11/96

ANALYSIS REQUEST

WORK DESCRIPTION

BILLING: ☐ PICKUP ☐ MAIL

LOGGED IN BY Catherine [illegible]

9012 Washington NE • Albuquerque, New Mexico 87113 • (505) 822-8061 • FAX (505) 822-8063

ASSAIGAI
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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

To: NES, Inc.
Attn: Debbie O'Connell
3500 Trinity, Suite C-5
Los Alamos, NM 87544

Date: 12 January 1996
Work Order No. A12565
Asbestos Air Analysis
No. of Analyses: 04
Received: 11 January 1996

Method: Each filter has been analyzed following the NIOSH 7400 method. A wedge from each filter has been examined using a phase contrast microscope. Set "A" counting rules were used.

Location: **MDA/M**

SAMPLE ID.	*FIBER COUNT*		*VOLUME*	*DET. LIMIT*	*COMMENTS*
	(f/cc)	*(f/flds)*	*(liters)*	*(f/cc)*	
KBH010996E	.....	1/100	Field Blank	.....	
KBH010996F	.....	1/100	Field Blank	.....	
KBH010996G	0.0073	8/100	460	0.0042	
KBH010996H	0.0041	5/100	470	0.0041	

Analyst - Jeffrey M. Mlekush Jeffrey M. Mlekush

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,

Jeffrey M. Mlekush
Jeffrey M. Mlekush
Asbestos Laboratory Manager

Member: American Council of Independent Laboratories, Inc.

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ASSAIGAI ANALYTICAL LABORATORIES

WORK ORDER
A 12542

AIR SAMPLES

DATE RECEIVED 1/4/96		ESTIMATED COST
CUSTOMER P.O. NUMBER	TIME RECEIVED 1:05 PM	DUE DATE 1/5/96

ACCOUNT INFORMATION

CUSTOMER'S NAME MES, INC.	CONTACT L. O'Connell
ADDRESS	PHONE NUMBER
	FAX NUMBER
CITY / STATE / ZIP	MOBILE / PAGER NUMBER

PARTY RESPONSIBLE FOR PAYMENT IF OTHER THAN ABOVE

NAME	CONTACT	
ADDRESS	PHONE NUMBER	
CITY / STATE / ZIP	FAX NUMBER	
SPECIAL BILLING INSTRUCTIONS		

ACCOUNT STATUS

PAYMENT REC'D.
OPEN ACCOUNT ✓
CASH
CHECK NUMBER

SAMPLE INFORMATION

TYPE OF SAMPLE	NO. OF CASSETTES	*TURN AROUND TIME	SAMPLE IDENTIFICATION AND / OR SAMPLE SITE
☑ PCM NIOSH 7400 "A" ☐ PCM OTHER ☐ TEM ☐ OTHER	4	☐ PRIORITY 1 (2 HRS) ☑ PRIORITY 2 (24 HRS) ☐ PRIORITY 3 (3 WKG DAYS) ☐ PRIORITY 4 (5-10 WKG DAYS) *(SUBJECT TO WORK LOAD)	MUNIM

SAMPLE DELIVERED BY — SIGNATURE: Elvin Chavez — DATE: 1/4/96

ANALYSIS REQUEST

WORK DESCRIPTION

BILLING: ☐ PICKUP ☐ MAIL

LOGGED IN BY: Catherine Vij

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ASSAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

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EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab job no.: _____ Date 12/21/95

Page 1 of 1

Client: NES, Inc.

Address: 3500 Trinity

City / State / Zip: LA, NM

Project Name / Number: MDA/M

Contract / Purchase Order / Quote: _____

Project Manager / Contact: D. O'Connell

Telephone No.: 662-1984

Fax No.: _____

Samplers: (Signature) _____

Analysis Required: Asbestos-Air

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Asbestos-Air								Remarks
	KPH 122195 A	12/21/95		Bulk	Cortex Cassette		NA	1	X								Field Blank
	KPH 122195 B			Zone			NA	1	X								Field Blank
	KPH 122195 C						602l	1	X								G. Vandorpiel
	KPH 122195 D						270l	1	X								L. Impesoie

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: W B Hodges	12/21/95	Signature: D. L. Vann	Signature: D. L. Vann	1/3/96	Signature: [illegible]
Printed: Wm B Hodges	Time	Printed: D. L. Vann	Printed: D. L. Vann	Time	Printed: Elvin J Baker
Company: 11		Company: NES	Company: NES	11:40	Company: AAL
Reason: Testing		Reason: Testing	Reason: Testing		Reason: testing

Method of Shipment: _____

Shipment No. _____

Special Instructions: _____

Comments: _____

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

ASSAIGAI PROJECT FILE

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To: NES, Inc.
Attn: Debbie O'Connell
3500 Trinity, Suite C-5
Los Alamos, NM 87544

Date: 18 January 1996
Work Order No. A12576
Asbestos Air Analysis
No. of Analyses: 05
Received: 18 January 1996

Method: Each filter has been analyzed following the NIOSH 7400 method. A wedge from each filter has been examined using a phase contrast microscope. Set "A" counting rules were used.

Location: **MDA/M**

SAMPLE ID.	*FIBER COUNT*		*VOLUME*	*DET. LIMIT*	*COMMENTS*
	(f/cc)	*(f/flds)*	*(liters)*	*(f/cc)*	
KBH011296A	.....	2/100	Field Blank	.....	
KBH011296B	.....	1/100	Field Blank	.....	
KBH011296C	0.11	81.5/100	340	0.0056	
KBH011296D	0.0083	7/100	320	0.0060	
KBH011296E	0.0079	6/100	273	0.0070	

Analyst - Kevin J. McCarron _____

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,

Jeffrey M. Mlekush
Asbestos Laboratory Manager

Member: American Council of Independent Laboratories, Inc.

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ASSAIGAI ANALYTICAL LABORATORIES

WORK ORDER
A 12576

AIR SAMPLES	DATE RECEIVED 1/16/96	ESTIMATED COST
CUSTOMER P.O. NUMBER	TIME RECEIVED 1:35 PM	DUE DATE 1/17/96

ACCOUNT INFORMATION

CUSTOMER'S NAME NTS, INC.	CONTACT D. Cornell
ADDRESS	PHONE NUMBER
	FAX NUMBER
CITY / STATE / ZIP	MOBILE / PAGER NUMBER

PARTY RESPONSIBLE FOR PAYMENT IF OTHER THAN ABOVE

		ACCOUNT STATUS
NAME	CONTACT	PAYMENT REC'D.
ADDRESS	PHONE NUMBER	OPEN ACCOUNT ✓
CITY / STATE / ZIP	FAX NUMBER	CASH
SPECIAL BILLING INSTRUCTIONS		CHECK NUMBER

SAMPLE INFORMATION

TYPE OF SAMPLE	NO. OF CASSETTES	*TURN AROUND TIME	SAMPLE IDENTIFICATION AND / OR SAMPLE SITE
☑ PCM NIOSH 7400 "A" ☐ PCM OTHER ☐ TEM ☐ OTHER	5	☐ PRIORITY 1 (2 HRS) ☑ PRIORITY 2 (24 HRS) ☐ PRIORITY 3 (3 WKG DAYS) ☐ PRIORITY 4 (5-10 WKG DAYS) *(SUBJECT TO WORK LOAD)	MDA/M

SAMPLE DELIVERED BY	SIGNATURE	DATE
Elvin Chavez	Elvin J. [illegible]	1/18/96

ANALYSIS REQUEST

WORK DESCRIPTION

BILLING: ☐ PICKUP ☐ MAIL

LOGGED IN BY Catherine Sui

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ASSAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: ______ Date 1/12/96

Page 1 of 1

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MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NE:, Inc

Address: 2500 Trinity

City / State / Zip: LA, NM

Project Name / Number: MDA / M

Contract / Purchase Order / Quote: ______

Project Manager / Contact: D. O'Connell

Telephone No.: 662 - 1954

Fax No.: 662-2036

Samplers: (Signature) [signature]

Analysis Requested

AAL Fraction Number	Field Sample Number / Location	Date	Time	Type	[illegible]	[illegible]	Total Flow		
	KDH Ø11276 A	1/11/96	NA	Breathing zone	Cotton 25mm 3 piece cassette		NA		Field Blank
	KDH Ø11276 B	|	|	|			NA		Field Blank
	KDH Ø11276 C	|	|	|	Lot # 3446		340 l		T. Smith
	KDH Ø11276 D	|	|	|	|		320 l		T. Jones
	KDH Ø11276 E	|	|	|	|		273 l		P. Ross

KDH 1/13/96

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: [signature]	1/15/96	Signature: [signature]	Signature:	1/18/96	Signature: [signature]
Printed: Kirk Hodges	Time	Printed: [illegible]	Printed:	Time	Printed: [illegible]
Company: IT Corp	0800	Company: ITC	Company:	1:35 PM	Company: AAL
Reason: Testing		Reason: [illegible]	Reason:		Reason: Analysis

Method of Shipment: ______

Shipment No. ______

Special Instructions: ______

Comments: ______

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

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To: NES, Inc.
Attn: Debbie O'Connell
3500 Trinity, Suite C-5
Los Alamos, NM 87544

Date: 01 February 1996
Work Order No. A12635
Asbestos Air Analysis
No. of Analyses: 04
Received: 01 February 1996

Method: Each filter has been analyzed following the NIOSH 7400 method. A wedge from each filter has been examined using a phase contrast microscope. Set "A" counting rules were used.

Location: **MDA/M - Los Alamos, NM**

SAMPLE ID.	*FIBER COUNT*		*VOLUME*	*DET. LIMIT*	*COMMENTS*
	(f/cc)	*(f/flds)*	*(liters)*	*(f/cc)*	
KBH013096A	.....	2/100	Field Blank	.....	
KBH013096B	.....	1/100	Field Blank	.....	
KBH013096C	<0.0080	5/100	240	0.0080	
KBH013096D	<0.0083	4.5/100	230	0.0083	

Analyst - Kevin J. McCarron

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,

Jeffrey M. Mlekush
Asbestos Laboratory Manager

Member: American Council of Independent Laboratories, Inc.

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SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: _____ Date 1/30/96

Page 1 of 1

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1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES Inc.
Address: 3500 Trinity
City / State / Zip: Los Alamos, NM
Project Name / Number: MOA / M1
Contract / Purchase Order / Quote: _____

Project Manager / Contact: D. O'Connell
Telephone No.: 662 - 1954
Fax No.: 662-2656
Samplers: (Signature) _____

Analysis Required

AAL Fraction Number	Sample Number	Date	Time	Sampler	Container	Preservative	Total Flow	No. of Containers	Asbestos								Remarks
	KBH 013096 A	01/30/96	NA	Brochu	Cont. 25mm		NA	1	x								Field Blank
	KBH 013096 B	/	/	2 and	3 piece cassette		NA	1	x								Field Blank
	KBH 013096 C	/	/	/	Lot #		2400	1	x								T. Smith
	KBH 013096 D				3446		2300	1	x								G. Zanza

KBH
1/30/96

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Kirk B Hodges	1/31/96	Signature: [illegible]	Signature: [illegible]	2/1/96	Signature: [illegible]
Printed: Kirk B. Hodges	Time: 0500	Printed: Elvia [illegible]	Printed: [illegible]	Time: [illegible]	Printed: K McCarron
Company: IT Corp		Company: AAL	Company: AAL		Company: AAL
Reason: Testing		Reason: testing	Reason:		Reason:

Method of Shipment: _____
Shipment No. _____
Special Instructions: _____

Comments: _____

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

ASSAIGAI ANALYTICAL LABORATORIES

WORK ORDER
A 12635

AIR SAMPLES	DATE RECEIVED 2/1/96	ESTIMATED COST
CUSTOMER P.O. NUMBER	TIME RECEIVED 3 PM	DUE DATE 2/1/96

ACCOUNT INFORMATION

CUSTOMER'S NAME NES, INC	CONTACT D O'CONNELL
ADDRESS	PHONE NUMBER
	FAX NUMBER
CITY / STATE / ZIP	MOBILE / PAGER NUMBER

PARTY RESPONSIBLE FOR PAYMENT IF OTHER THAN ABOVE

		ACCOUNT STATUS
NAME	CONTACT	PAYMENT REC'D.
ADDRESS	PHONE NUMBER	OPEN ACCOUNT
CITY / STATE / ZIP	FAX NUMBER	CASH
SPECIAL BILLING INSTRUCTIONS		CHECK NUMBER

SAMPLE INFORMATION

TYPE OF SAMPLE	NO. OF CASSETTES	*TURN AROUND TIME	SAMPLE IDENTIFICATION AND / OR SAMPLE SITE
☑ PCM NIOSH 7400 "A" ☐ PCM OTHER ☐ TEM ☐ OTHER	4	☐ PRIORITY 1 (2 HRS) ☑ PRIORITY 2 (24 HRS) ☐ PRIORITY 3 (3 WKG DAYS) ☐ PRIORITY 4 (5-10 WKG DAYS) *(SUBJECT TO WORK LOAD)	LOS ALAMOS MWA / M

SAMPLE DELIVERED BY	SIGNATURE	DATE
Elvin Chavez	[signature]	2/1/96

ANALYSIS REQUEST

WORK DESCRIPTION

BILLING: ☐ PICKUP ☐ MAIL

LOGGED IN BY K McCan

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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

To: NES, Inc.
Attn: Debbie O'Connell
3500 Trinity, Suite C-5
Los Alamos, NM 87544

Date: 15 February 1996
Work Order No. A12697
Asbestos Air Analysis
No. of Analyses: 04
Received: 15 February 1996

Method: Each filter has been analyzed following the NIOSH 7400 method. A wedge from each filter has been examined using a phase contrast microscope. Set "A" counting rules were used.

Location: **MDA/M**

SAMPLE ID.	*FIBER COUNT*		*VOLUME*	*DET. LIMIT*	*COMMENTS*
	(f/cc)	*(f/flds)*	*(liters)*	*(f/cc)*	
KBH020996A	.....	1.5/100	Field Blank	.....	
KBH020996B	.....	0/100	Field Blank	.....	
KBH020996C	0.0099	9/100	400	0.0048	
KBH020996D	0.014	12/100	390	0.0049	

Analyst - David A. Martinez D A Mtz

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,

Jeffrey M. Mlekush

Jeffrey M. Mlekush
Asbestos Laboratory Manager

Member: American Council of Independent Laboratories, Inc.

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Chain of Custody Record

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EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab job no.: _____ Date 2/9/96

Page 1 of 1

Client: NES Inc

Address: 3500 Trinity

City / State / Zip: Los Alamos NM

Project Name / Number: MDA/M

Contract / Purchase Order / Quote: _____

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662 - 1989

Fax No.: 662-2036

Samplers: (Signature) Debbie O'Connell

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Asbestos	Lead	Chromium	Cadmium					Remarks
	KBH02096 A	2-9-96	NA	Breathing Zone	Costar 25mm		NA	1	X								Field Blank
	KBH02096 B				3-piece cassette		NA	1	X								Field Blank
	KBH02096 C				Lot # 3446		400l	1	X								D. Vann
	KBH02096 D						390l	1	X								C. Owens
	KBH02096 E				SKC MEC		NA	1		X	X	X					Field Blank
	KBH02096 F				3-piece cassette		NA	1		X	X	X					Field Blank
	KBH02096 G				Lot #		400l	1		X	X	X					D. Vann
	KBH02096 H				HYHMR 21H/12		390l	1		X	X	X					C. Owens
	KBH02096 I						280l	1		X	X	X					L. Impresia

KBH 2/9/96

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Kirk B Hodges	2/12/96	Signature: [illegible]	Signature:	2/15/96	Signature: C Six
Printed: Kirk B. Hodges	Time: 0800	Printed: Ewin J. Chavez	Printed:	Time: 10:00 AM	Printed: C. SIX
Company: IT Corp		Company: AAL	Company:		Company: AAL
Reason: Testing		Reason: testing	Reason:		Reason: ANALYSIS

Method of Shipment: _____

Shipment No. _____

Special Instructions: _____

Comments: _____

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

LABORATORY

ASSAIGAI ANALYTICAL LABORATORIES

WORK ORDER
A 12697

AIR SAMPLES

DATE RECEIVED 2/15/96		ESTIMATED COST
CUSTOMER P.O. NUMBER	TIME RECEIVED 10:00 AM	DUE DATE 2/16/96

ACCOUNT INFORMATION

CUSTOMER'S NAME HLS, INC.	CONTACT L. CONNELL
ADDRESS	PHONE NUMBER
	FAX NUMBER
CITY / STATE / ZIP	MOBILE / PAGER NUMBER

PARTY RESPONSIBLE FOR PAYMENT IF OTHER THAN ABOVE

NAME	CONTACT	
ADDRESS	PHONE NUMBER	
CITY / STATE / ZIP	FAX NUMBER	
SPECIAL BILLING INSTRUCTIONS		

ACCOUNT STATUS

PAYMENT REC'D.
OPEN ACCOUNT ✓
CASH
CHECK NUMBER

SAMPLE INFORMATION

TYPE OF SAMPLE	NO. OF CASSETTES	*TURN AROUND TIME	SAMPLE IDENTIFICATION AND / OR SAMPLE SITE
☑ PCM NIOSH 7400 "A" ☐ PCM OTHER ☐ TEM ☐ OTHER	4	☐ PRIORITY 1 (2 HRS) ☑ PRIORITY 2 (24 HRS) ☐ PRIORITY 3 (3 WKG DAYS) ☐ PRIORITY 4 (5-10 WKG DAYS) *(SUBJECT TO WORK LOAD)	HLS01M

SAMPLE DELIVERED BY	SIGNATURE	DATE
Elvin Chavez	[signature]	2/15/96

ANALYSIS REQUEST

WORK DESCRIPTION

BILLING: ☐ PICKUP ☐ MAIL

LOGGED IN BY Catherine [illegible]

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NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Order #: 95-12-164
Date: 12/21/95 15:29
Work ID: MDA/M
Date Received: 12/14/95
Date Completed: 12/21/95

Purchase Order: 23629
Invoice Number:

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01	KBH121295 A	03	KBH121295 C
02	KBH121295 B	04	KBH121295 D

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

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Received: 12/14/95

REPORT

Results By Test

Work Order # 95-12-164

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)
SMSCXT N/A	12/18/95	12/18/95	12/18/95	12/18/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-164

SAMPLE ID KBH121295 A

FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/12/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-164

SAMPLE ID KBH121295 B

FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/12/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-164

SAMPLE ID KBH121295 C

FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/12/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-164

SAMPLE ID KBH121295 D

FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/12/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

NES, INC.

*Please Note: AAL does not have performance data for chromium in air. AAL utilized NIOSH method 7082 for lead samples and added a chromium spike in the preparation of the sample. These spikes were within acceptable criteria (111% and 106%).

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 12-164 Date 12/12/95

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc

Address: 3500 Trinity

City / State / Zip: LA, NM

Project Name / Number: MDA/M

Contract / Purchase Order / Quote

Project Manager / Contact: D. O'Connell

Telephone No.: 662-1754

Fax No.:

Samplers: (Signature)

Analysis Required

Lab Number	Field Sample Number / Description	Date	Time	Matrix	Type / Size of Container	Preservative Type	Preservative Chemical	No. of Containers	Lead	Chromium								Remarks
01A	KPH 121295 A	12/12/95		Air	SKC Cassette	NA		1	X	X								Field Blank
02A	KPH 121295 B							1	X	X								Field Blank
03A	KPH 121295 C							1	X	X								G.W. Downgradient
04A	KPH 121295 D							1	X	X								R. Cinder

KPH 12/12/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Kirk D Hodges	12/13/95	Signature: [illegible]	Signature: [illegible]		Signature:
Printed: Kirk D Hodges	Time: 1900	Printed: Elvira Chavez	Printed: Elvira Chavez	Time:	Printed:
Company: IT / NES		Company: MC	Company: MC		Company:
Reason: Testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.:

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

February 12, 1996

Ms. Debbie O'Connell
NES, Inc.
3500 Trinity Dr., Suite C-5
Los Alamos, NM 87544

RE: Report Revisions

Dear Ms. O'Connell:

Please find enclosed the four reports you requested to be revised for unit errors or lack of consistency. All report units have been changed to "Total Mg" for the air cassettes NES submitted. The reason for the error appears to be due to another analytical batch for wipes being processed at the same time for the same analytes.

AAL apologizes for any inconvenience this event may have caused. If you have any questions feel free to contact Jim Seely or myself at (505) 345-8964.

Sincerely,

Daniel J. Moore
Project Manager

Member: American Council of Independent Laboratories, Inc.

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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

REVISED
2/12/96

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Order #: 95-12-164
Date: 02/12/96 09:32
Work ID: MDA/M
Date Received: 12/14/95
Date Completed: 12/21/95

Purchase Order: 23629
Invoice Number: 925720

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01	KBH121295 A	03	KBH121295 C
02	KBH121295 B	04	KBH121295 D

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

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Received: 12/14/95

REPORT

Results By Test

Work Order # 95-12-164

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)
SMSCXT N/A	12/18/95	12/18/95	12/18/95	12/18/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-164

SAMPLE ID KBH121295 A

FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/12/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-164

SAMPLE ID KBH121295 B

FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/12/95

Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-164

SAMPLE ID KBH121295 C

FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/12/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-164

SAMPLE ID KBH121295 D

FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/12/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

02/12/96 09:32:08

Work Order # 95-12-164

NES, INC.

*Please Note: AAL does not have performance data for chromium in air. AAL utilized NIOSH method 7082 for lead samples and added a chromium spike in the preparation of the sample. These spikes were within acceptable criteria (111% and 106%).

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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Order #: 95-12-165
Date: 12/21/95 15:17
Work ID: MDA/M
Date Received: 12/14/95
Date Completed: 12/21/95

Purchase Order: 23629
Invoice Number:

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01	KBH121195 A	03	KBH121195 C
02	KBH121195 B	04	KBH121195 D

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

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Received: 12/14/95

REPORT

Results By Test

Work Order # 95-12-165

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)
SMSCXT N/A	12/18/95	12/18/95	12/18/95	12/18/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-165

SAMPLE ID KBH121195 A

FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/11/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-165

SAMPLE ID KBH121195 B

FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/11/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-165

SAMPLE ID KBH121195 C

FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/11/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-165

SAMPLE ID KBH121195 D

FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/11/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	0.001*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

12/21/95 15:54:07

Work Order # 95-12 165

NES, INC.

*Please Note: AAL does not have performance data for chromium in air. AAL utilized NIOSH method 7082 for lead samples and added a chromium spike in the preparation of the sample. These spikes were within acceptable criteria (111% and 106%).

SSAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 12-165 Date 12/11/95

Page ____ of ____

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 8
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG S. ..ING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc.
Address: 3500 Trinity
City / State / Zip: LA, NM
Project Name / Number: MDA/M
Contract / Purchase Order / Quote

Project Manager / Contact: D. O'Connor
Telephone No.: 662-1989
Fax No.:
Samplers: (Signature)

Analysis Required

									No. of Containers	Pb (Lead)	Chromium	Asbestos								Remarks
01A	KBH 12/195 A	12/11/95		Air	SKC cassette				1	X	X									Field Blank
02A	KBH 12 11 95 B	12/11/95		Air	SKC cassette				1	X	X									Field Blank
03A	KBH 12 11 95 C								1	X	X									J. T...
04A	KBH 12 11 95 D								1	X	X									J. ... ts
	KBH 12 11 95 E				Costar Cassette				1			X								Field Blank
Sent to Asbestos Lab	KBH 12 11 95 F								1			X								Field Blank
	KBH 12 11 95 G								1			X								B. Per...
	KBH 12 11 95 H								1			X								G. ...

KBH 12/14/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: K B Hodges	12/12/95	Signature: [illegible]	Signature: [illegible]	12/11/95	Signature: [illegible]
Printed: Kirk B Hodges	Time: 0800	Printed: Elias Rivera	Printed: Elias Rivera	Time: [illegible]	Printed: [illegible]
Company: It NES		Company: AAL	Company: AAL		Company: IA
Reason: Testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:
Shipment No.
Special Instructions:

Comments:

After analysis, samples are to be:
- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

ASSAGAI ANALYTICAL LABORATORIES
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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

REVISED
2/12/96

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Purchase Order: 23629
Invoice Number: 925719

Order #: 95-12-165
Date: 02/12/96 09:33
Work ID: MDA/M
Date Received: 12/14/95
Date Completed: 12/21/95

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	KBH121195 A
02	KBH121195 B
03	KBH121195 C
04	KBH121195 D

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

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Received: 12/14/95

REPORT

Results By Test

Work Order # 95-12-165

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units
SMSCXT N/A	12/18/95	12/18/95	12/18/95	12/18/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-165

SAMPLE ID KBH121195 A

FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/11/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-165

SAMPLE ID KBH121195 B

FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/11/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-165

SAMPLE ID KBH121195 C

FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/11/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-165

SAMPLE ID KBH121195 D

FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/11/95

Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	0.001*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT
02/12/96 09:33:48

Work Order # 95-12-165

NES, INC.

*Please Note: AAL does not have performance data for chromium in air. AAL utilized NIOSH method 7082 for lead samples and added a chromium spike in the preparation of the sample. These spikes were within acceptable criteria (111% and 106%).

ASSAIGAI ANALYTICAL LABORATORIES
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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Order #: 95-12-166
Date: 12/21/95 15:23
Work ID: MDA/M
Date Received: 12/14/95
Date Completed: 12/21/95

Purchase Order: 23629
Invoice Number:

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	KBH120895 A
02	KBH120895 B
03	KBH120895 C
04	KBH120895 D
05	KBH120895 E

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

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Received: 12/14/95

REPORT

Results By Test

Work Order # 95-12-166

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
SMSCXT N/A	12/18/95	12/18/95	12/18/95	12/18/95	12/18/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-166

SAMPLE ID KBH120895 A

FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-166

SAMPLE ID KBH120895 B FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-166

SAMPLE ID KBH120895 C

FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-166

SAMPLE ID KBH120895 D

FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-166

SAMPLE ID KBH120895 E

FRACTION 05A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS mg/WIPE

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT
12/21/95 15:54:13

Work Order # 95-12-166

NES, INC.

*Please Note: AAL does not have performance data for chromium in air. AAL utilized NIOSH method 7082 for lead samples and added a chromium spike in the preparation of the sample. These spikes were within acceptable criteria (111% and 106%).

ASSAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 12-166 Date 12/08/95

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG S...NG
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES Inc

Address: 3500 Trinity

City / State / Zip: LA, NM

Project Name / Number: MDA/M

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1981

Fax No.

Samplers: (Signature) KBH Hodges
Kirk B Hodges

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	Sample Vol.	No. of Containers	Lead	Chromium								Remarks
01A	KBH120895A	12/08/95		Air	SKC MEC 0.8µm				1	x	x								Breathing Zone
	Field Blank				3piece cassette														samples - landfill
02A	KBH120895B				Lot#H4HMB21H		112		1	x	x								roll-off fa
	Field Blank																		
03A	KBH120895C						122l		1	x	x								
	R. Bjarke																		
04A	KBH120895D						206l		1	x	x								
	G. VanDerpool																		
05A	KBH120895E						204l		1	x	x								
	G. Zona																		
																	KBH	12/08/95	

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: KBHodges	12/08/95	Signature: DM O'Connell	Signature: DM O'Connell	12/13/95	Signature: [illegible]
Printed: Kirk B. Hodges	Time: 1415	Printed: DM O'Connell	Printed: DM O'Connell	Time: 10:30 am	Printed: [illegible]
Company: IT		Company: NES	Company: NES		Company: AAL
Reason: Transfer		Reason: testing	Reason: testing		Reason: testing

Method of Shipment:

Shipment No.

Special Instructions:

Comments: Lab [illegible] 12/[illegible]/95 7:5[illegible] [illegible]
Rec'd by [illegible] 12/13/95 7:55AM [illegible]

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

ASSAIGAI PROJECT FILE

ASSAIGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

REVISED
2/12/96

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Order #: 95-12-166
Date: 02/12/96 09:34
Work ID: MDA/M
Date Received: 12/14/95
Date Completed: 12/21/95

Purchase Order: 23629
Invoice Number: 925718

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	KBH120895 A
02	KBH120895 B
03	KBH120895 C
04	KBH120895 D
05	KBH120895 E

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

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Received: 12/14/95

REPORT

Results By Test

Work Order # 95-12-166

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
SMSCXT N/A	12/18/95	12/18/95	12/18/95	12/18/95	12/18/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-166

SAMPLE ID KBH120895 A

FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-166

SAMPLE ID KBH120895 B

FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12 166

SAMPLE ID KBH120895 C

FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-166

SAMPLE ID KBH120895 D

FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-166

SAMPLE ID KBH120895 E

FRACTION 05A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 12/08/95 Category AIR CASSETTE

ANALYTES	RESULT	LIM
LEAD	ND	0.001
CHROMIUM	ND*	0.0002

Notes and Definitions for this Report:

DATE_EXT 12/18/95

DATE_ANAL 12/19/95

ANALYST KH

D_F 1.0

UNITS Total Mg

BATCH_ID SF364

COMMENTS CHROMIUM ANALYZED 12/20/95

NES, INC.

*Please Note: AAL does not have performance data for chromium in air. AAL utilized NIOSH method 7082 for lead samples and added a chromium spike in the preparation of the sample. These spikes were within acceptable criteria (111% and 106%).

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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Order #: 96-01-082
Date: 01/22/96 14:44
Work ID: MDA/M
Date Received: 01/10/96
Date Completed: 01/22/96

Purchase Order: 23629
Invoice Number:

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01	KBH010996 A	03	KBH010996 C
02	KBH010996 B	04	KBH010996 D

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

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Received: 01/10/96

REPORT

Results By Test

Work Order # 96-01-082

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)
A7082X N/A	01/17/96	01/17/96	01/17/96	01/17/96

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 A

FRACTION 01A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 01/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	01/18/96

Notes and Definitions for this Report:

EXTRACTED 01/17/96

ANALYST CD

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 A

FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 01/09/96 Category AIR

ANALYTES	RESULT	LIM
TOTAL CHROMIUM	ND	0.0002

Notes and Definitions for this Report:

DATE_EXT 01/17/96

DATE_ANAL 01/19/96

ANALYST KH

D_F 1.0

UNITS TOTAL/Mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 B FRACTION 02A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 01/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	01/18/96

Notes and Definitions for this Report:

EXTRACTED 01/17/96

ANALYST CD

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 B

FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 01/09/96 Category AIR

ANALYTES	RESULT	LIM
TOTAL CHROMIUM	ND	0.0002

Notes and Definitions for this Report:

DATE_EXT 01/17/96

DATE_ANAL 01/19/96

ANALYST KH

D_F 1.0

UNITS TOTAL/Mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 C

FRACTION 03A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 01/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	01/18/96

Notes and Definitions for this Report:

EXTRACTED 01/17/96

ANALYST CD

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 C

FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 01/09/96 Category AIR

ANALYTES	RESULT	LIM
TOTAL CHROMIUM	ND	0.0002

Notes and Definitions for this Report:

DATE_EXT 01/17/96

DATE_ANAL 01/19/96

ANALYST KH

D_F 1.0

UNITS TOTAL/Mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 D

FRACTION 04A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 01/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	01/18/96

Notes and Definitions for this Report:

EXTRACTED 01/17/96

ANALYST CD

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 D

FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 01/09/96 Category AIR

ANALYTES	RESULT	LIM
TOTAL CHROMIUM	ND	0.0002

Notes and Definitions for this Report:

DATE_EXT 01/17/96

DATE_ANAL 01/19/96

ANALYST KH

D_F 1.0

UNITS TOTAL/Mg

BATCH_ID SF372

COMMENTS

ASSAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: [illegible] Date [illegible]/96

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 8[illegible]
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: [illegible]

Address: [illegible]

City / State / Zip: [illegible]

Project Name / Number: [illegible]

Contract / Purchase Order / Quote:

Project Manager / Contact: D. O'Connell

Telephone No.: 6[illegible]-[illegible]

Fax No.: 662-[illegible]

Samplers: (Signature)

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation: Temp.	Preservation: Chemical	No. of Containers	Lead	Chromium(VI)	Asbestos							Remarks
[illegible]	[illegible] A	01/01/96	NA	Breathing zone	SKC 3-piece cassette		NA	1	x	x								Field Blank
[illegible]	[illegible] B				Lot [illegible]		NA	1	x	x								Field Blank
[illegible]	[illegible] C						370 l	1	x	x								R. Rivera
[illegible]	[illegible] D						470 l	1	x	x								G. VanDerpool
[illegible]	[illegible] E				Costar 25mm 3-piece cassette		NA	1			x							Field Blank
[illegible]	[illegible] F				Lot [illegible]		NA	1			x							Field Blank
[illegible]	[illegible] G						460 l	1			x							T. Jones
[illegible]	[illegible] H						470 l	1			x							G. VanDerpool

Total Flow

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: [illegible]	[illegible]	Signature: [illegible]	Signature: [illegible]	[illegible]	Signature: [illegible]
Printed: [illegible]	Time: [illegible]	Printed: [illegible]	Printed: [illegible]	Time: [illegible]	Printed: [illegible]
Company:		Company: AAL	Company: AAL		Company: AAL
Reason:		Reason: [illegible]	Reason: [illegible]		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

ASSAIGAI PROJECT FILE

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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

REVISED
2/12/96

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Purchase Order: 23629
Invoice Number: 925923

Order #: 96-01-082
Date: 02/12/96 09:28
Work ID: MDA/M
Date Received: 01/10/96
Date Completed: 01/22/96

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	KBH010996 A
02	KBH010996 B
03	KBH010996 C
04	KBH010996 D

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

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Received: 01/10/96

REPORT

Results By Test

Work Order # 96-01-082

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)
A7082X N/A	01/17/96	01/17/96	01/17/96	01/17/96

2

:2.08
:10.00
00
:1000.00
: (CONC/F)*G

[illegible] TIME (M):.30 TIME:08:38:12 DATE:NOV 07,1995
[illegible] NET: [illegible] +/-[illegible] dpm/cm2:[illegible] +/-[illegible]
[illegible] NET: [illegible] +/-1.[illegible] dpm/cm2:[illegible] +/-[illegible]
[illegible] C FACTOR:[illegible]
[illegible] BETA [illegible]E-2 +/- 5.4[illegible]E-2

[illegible] TIME (M):.30 TIME:08:38:37 DATE:NOV 07,1995
[illegible] NET: [illegible] +/-25.[illegible] dpm/cm2:[illegible]
[illegible] NET: [illegible] +/-77.13 dpm/cm2:[illegible]
[illegible] C FACTOR:[illegible]
[illegible] BETA [illegible] +/- [illegible]

[illegible] TIME (M):.30 TIME:08:39:12 DATE:NOV 07,1995
[illegible] NET: [illegible] +/-.39 dpm/cm2:1.22E-2 +/-1.2[illegible]
[illegible] NET: .75 +/-1.38 dpm/cm2:2.03E-2 +/-3.7[illegible]
[illegible] C FACTOR:48002576
[illegible] ALPHA [illegible]E-4 +/-5.82E-4 BETA 9.89E-4 +/-1.81E-3

[illegible] (DPM):.40
[illegible] (DPM):1.90

[illegible] TIME (M):.30 TIME:08:39:37 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1. NET: 3 +/-4.06 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA [illegible] +/-5.82E-4 BETA 0 +/-5.32E-3

SAMPLE #:4. TIME (M):.50 TIME:08:40:41 DATE:NOV 07,1995
ALPHA GROSS: [illegible] NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

SAMPLE #:5. [redacted] TIME:08:41:25 DATE:NOV 07,1995
ALPHA GROSS: [redacted] +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: [redacted] +/-4.06 dpm/cm2:0 +/-.10
GAMMA GROSS: [redacted].0000
CALC: ALPHA [redacted]-4 BETA 0 +/-5.32E-3

SAMPLE #:6 TIME (M):.50 TIME:08:42:09 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1. NET: 0 +/-4.06 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-5.32E-3

SAMPLE #:7 TIME (M):.50 TIME:08:42:54 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 3. NET: 3.10 +/-6.87 dpm/cm2:8.37E-2 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
CALC. ALPHA 0 +/-5.82E-4 BETA 4.06E-3 +/-9.01E-3

SAMPLE #:8. TIME (M):.50 TIME:08:43:38 DATE:NOV 07,1995

C FACTOR:1
+/-5.82E-

TIME (M):.50
NET: 0
NET: 0 +/-4.06 dpm/cm2:0 +/-.10
C FACTOR:1.0000
+/-5.82E-4 BETA 0 +/-5.32E-3

TIME (M):.50 TIME:08:45:58 DATE:NOV 07,1995
+/-.39 dpm/cm2:0 +/-1.20E-2
NET: 3.10 +/-5.87 dpm/cm2:9.37E-2 +/-.18
C FACTOR:1.0000
+/-5.82E-4 BETA 1.06E-3 +/-7.01E-3

TIME (M):.50 TIME:08:46:42 DATE:NOV 07,1995
NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
C FACTOR:70595072
+/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

TIME (M):.50 TIME:08:47:34 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.2
BETA GROSS: 1. NET: 0 +/-4.06 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-5.82E-4 BETA 0 +/-5.32E-3

TIME (M):.50 TIME:08:48:18 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1. NET: 0 +/-4.06 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:70595072
ALPHA 0 +/-5.82E-4 BETA 0 +/-5.32E-3

TIME (M):.50 TIME:08:49:02 DATE:NOV 07,1995
ALPHA GROSS: 1. NET: 1.60 +/-3.93 dpm/cm2:4.90E-2 +/-.12
BETA GROSS: 0 NET: 0 +/-1.23 dpm/cm2:0 +/-3.34E-2
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 2.37E-3 +/-5.85E-3 BETA 0 +/-1.62E-3

TIME:08:49:47 DATE:NOV 07,1995
[redacted] +/-.39 dpm/cm2:0 +/-1.20E-2
[redacted] +/-4.06 dpm/cm2:0 +/-.10
[redacted] .0000
ALPHA [redacted] 4 BETA 0 +/-5.32E-3

TIME (M):.50 TIME:08:50:31 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1. NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

TIME (M):.50 TIME:08:51:15 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1. NET: 0 +/-4.06 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-5.82E-4 BETA 0 +/-5.32E-3

TIME (M):.50 TIME:08:51:59 DATE:NOV 07,1995

4

[illegible] NET: [illegible]
[illegible] 0 C FACTOR:1
[illegible] ALPHA 0 +/-5.82E-4

[illegible] TIME (M):.50
[illegible] 0 NET: 0
[illegible] 3. NET: 3.10 +/-5.87 dpm/cm2:[illegible] +/- [illegible]
[illegible] C FACTOR:1.0000
[illegible] +/-5.82E-4 BETA 4.06E-3 +/- 9.01E-3

[illegible] TIME (M):.50 TIME:[illegible]:54:11 DATE:NOV [illegible],1995
[illegible] GROSS: [illegible] NET: 0 +/-.39 dpm/cm2:0 +/- [illegible]
[illegible] GROSS: [illegible] NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/- [illegible]
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

[illegible] TIME (M):.50 TIME:[illegible]:[illegible]:06 DATE:NOV 07,1995
[illegible] GROSS: [illegible] NET: 1.60 +/-3.73 dpm/cm2:4.90E-2 +/-.12
[illegible] GROSS: [illegible] NET: 8.57 +/-9.68 dpm/cm2:.23 +/-.26
[illegible] C FACTOR:1.0000
[illegible] ALPHA 2.37E-3 +/-5.85E-3 BETA 1.15E-2 +/-1.27E-2

SAMPLE #:[illegible] TIME (M):.50 TIME:08:55:29 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.2[illegible]
BETA GROSS: 4. NET: 3.10 +/-7.91 dpm/cm2:.13 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 6.69E-3 +/-1.03E-2

SAMPLE #:[illegible] TIME (M):.50 TIME:03:56:24 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

SAMPLE #:26. TIME (M):.50 TIME:08:57:08 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

SAMPLE #:27. [redacted] TIME:08:57:52 DATE:NOV 07,1995
ALPHA GROSS: [redacted] +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: [redacted] +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: [redacted] .0000
[illegible] ALPHA [redacted] 4 BETA 1.44E-3 +/-7.40E-3

SAMPLE #:28. TIME (M):.50 TIME:08:58:36 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 4. NET: 3.10 +/-7.91 dpm/cm2:.13 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 6.69E-3 +/-1.03E-2

SAMPLE #:29. TIME (M):.50 TIME:08:59:21 DATE:NOV 07,1995
ALPHA GROSS: [illegible] NET: 1.60 +/-3.93 dpm/cm2:4.90E-2 +/-.12
BETA GROSS: [illegible] NET: 0 +/-4.11 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 2.37E-3 +/-5.85E-3 BETA 0 +/-5.39E-3

SAMPLE #:30. TIME (M):.50 TIME:09:00:04 DATE:NOV 07,1995
[illegible] NET: [illegible]

C FACTOR:1.
+/-5.32E-

TIME (M):.50
NET: 0
NET: 0

TIME (M):.50 TIME:09:01:15 DATE:NOV 07,1995
NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
NET: 0 +/-.06 dpm/cm2:0 +/-.15
C FACTOR:1.0000
+/-5.82E-4 BETA 0 +/-5.32E-3

TIME (M):.50 TIME:09:01:59 DATE:NOV 07,1995
NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
NET: 1.09 +/-5.68 dpm/cm2:2.28E-2 +/-.15
C FACTOR:1.0000
ALPHA 1.17E-3 +/-5.28E-3 BETA 1.07E-3 +/-7.43E-3

TIME (M):.50 TIME:09:03:43 DATE:NOV 07,1995
NET: 0 +/-5.38 dpm/cm2:.11 +/-.17
NET: 0 +/-1.39 dpm/cm2:0 +/-1.7
C FACTOR:1.0000
ALPHA 3.21E-3 BETA 0 +/-1.82E-3

TIME (M):.50 TIME:09:04:26 DATE:NOV 07,1995
NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
C FACTOR:1.0000
ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

TIME (M):.50 TIME:09:05:11 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2 NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
SCALE: ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

TIME (M):.50 TIME:09:05:54 DATE:NOV 07,1995
ALPHA GROSS: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 0 +/-1.05 dpm/cm2:0 +/-2.85E-2
GAMMA GROSS: 0 .0000
SCALE: ALPHA 0 -4 BETA 0 +/-1.38E-3

TIME (M):.50 TIME:09:06:38 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2 NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
SCALE: ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

TIME (M):.50 TIME:09:07:22 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2 NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
SCALE: ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

TIME (M):.50 TIME:09:08:07 DATE:NOV 07,1995

[illegible] C FACTOR:1.[illegible]
[illegible] HA 0 +/-5.82E-4 [illegible]

[illegible] TIME (M):.50 [illegible]
[illegible] NET: 0 [illegible]
[illegible] NET: 3.10 [illegible] cm2:8.37E-2 [illegible]
[illegible] C FACTOR:1.0000
[illegible] +/-5.82E-4 BETA 4.06E-3 [illegible]

[illegible] TIME (M):.50 TIME:09:1[illegible]:17 DATE:NOV 07,1995
[illegible] NET: 0 [illegible] dpm/cm2:0 [illegible]
[illegible] NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 [illegible]
[illegible] FACTOR:1.0000
[illegible] +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

[illegible] TIME (M):.50 TIME:09:11:00 DATE:NOV 07,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: [illegible] C FACTOR:1.0000
[illegible]ALC: ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

[illegible]PLE #:46. TIME (M):.50 TIME:09:11:46 DATE:NOV 07,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20[illegible]
[illegible]ETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
[illegible]AMMA GROSS: [illegible] C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

[illegible] # 47. TIME (M):.50 TIME:09:12:30 DATE:NOV 07,1995
[illegible]LPHA GROSS: 2. NET: 3.60 +/-5.55 dpm/cm2:.11 +/-.17
[illegible]ETA GROSS: 1. NET: 0 +/-4.16 dpm/cm2:0 +/-.11
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]ALC: ALPHA [illegible]3E-3 +/-6.26E-3 BETA 0 +/-5.43E-3

[illegible]PLE #:48. TIME (M):.50 TIME:09:13:15 DATE:NOV 07,1995
[illegible] GROSS: 0 NET: 0 -/-.39 dpm/cm2:0 +/-1.20E-2
[illegible]ETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
[illegible]MMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

[illegible] TIME:09:13:59 DATE:NOV 07,1995
[illegible]LPHA GROSS: [illegible] +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible]ETA GROSS: [illegible] +/-1.05 dpm/cm2:0 +/-2.35E-2
[illegible]AMMA GROSS: [illegible].0000
[illegible]ALC: ALPHA [illegible]4 BETA 0 +/-1.38E-3

[illegible]PLE #:50. TIME (M):.50 TIME:09:14:42 DATE:NOV 07,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible]ETA GROSS: 3. NET: 3.10 +/-6.87 dpm/cm2:8.37E-2 +/-.19
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]CALC: ALPHA 0 +/-5.82E-4 BETA 4.06E-3 +/-9.01E-3

[illegible] #:51. TIME (M):.50 TIME:09:15:27 DATE:NOV 07,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible]ETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]ALC: ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

[illegible]PLE #:52. TIME (M):.50 TIME:09:16:11 DATE:NOV 07,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2

[illegible] NET: [illegible]
[illegible]: 0 C FACTOR:1
[illegible] ALPHA 0 +/-5.82E-[illegible]

[illegible] TIME (M):.50 [illegible]
[illegible] 1. NET: 1.60 [illegible]
[illegible] 1. NET: 0 [illegible]
[illegible] C FACTOR:1.[illegible]
[illegible] ALPHA [illegible] +/-5.85E-[illegible] BETA [illegible] +/-[illegible]

[illegible] TIME [illegible] TIME:[illegible] DATE:NOV 07,1995
[illegible] NET: 1.[illegible] +/-7.[illegible] dpm/cm2:4.[illegible]E-2 +/-[illegible]
[illegible] NET: [illegible] +/-6.[illegible] dpm/cm2:7.[illegible]E-2 +/-[illegible]
[illegible] C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-5.[illegible]E-[illegible] BETA 3.72E-[illegible] +/-9.03E-3

[illegible] TIME (M):.50 TIME:09:19:08 DATE:NOV.07,1995
[illegible] NET: 0 +/-.39 dpm/cm2:0 +/-[illegible]
[illegible] NET: [illegible] +/-5.[illegible] dpm/cm2:2.97E-2 +/-.15
[illegible] FACTOR:1.0000
[illegible] ALPHA [illegible] +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

[illegible] TIME (M):.50 TIME:09:19:53 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 3. NET: 3.10 +/-6.87 dpm/cm2:8.37E-2 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 4.06E-3 +/-9.01E-3

[illegible] #:58. TIME (M):.50 TIME:09:20:37 DATE:NOV 07,1995
ALPHA GROSS: [illegible] NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1. NET: [illegible] +/-4.06 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 0 +/-5.32E-3

[illegible] #:59. TIME (M):.50 TIME:09:21:20 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 0 NET: 0 +/-1.05 dpm/cm2:0 +/-2.85E-2
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 0 +/-1.38E-3

[illegible] #:60. [redacted] TIME:09:22:04 DATE:NOV 07,1995
[illegible] GROSS: [redacted] +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: [redacted] +/-1.05 dpm/cm2:0 +/-2.85E-2
[illegible] GROSS: [redacted] .0000
[illegible] ALPHA [redacted] -4 BETA 0 +/-1.38E-3

[illegible] #:61. TIME (M):.50 TIME:09:22:47 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.97E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 1.44E-3 +/-7.40E-3

[illegible] #:62. TIME (M):.50 TIME:09:23:31 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1. NET: 0 +/-4.06 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 0 +/-5.32E-3

[illegible] #:63. TIME (M):.50 TIME:09:24:15 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2

[illegible] 4. NET: 5.10
[illegible] 0 C FACTOR:1
[illegible]A 0 +/-5.82E-[illegible]

[illegible] TIME (M):.50 [illegible]
[illegible] 1. NET: 1.60 +/-3.93 [illegible]
[illegible] NET: 0 +/-4.11 [illegible] +/-.11
[illegible] C FACTOR:1.0000
[illegible] BETA [illegible] +/-[illegible].37E-3

[illegible] TIME:09:26:[illegible] DATE:NOV 07,1995
[illegible] NET: 0 +/-.39 dpm/cm2:0 +/-1.[illegible]E-2
[illegible] NET: 0 +/-1.05 dpm/cm2:0 +/-[illegible]E-2
[illegible] C FACTOR:1.0000
[illegible] +/-5.82E-4 BETA 0 +/-1.38E-3

[illegible] TIME (M):.50 TIME:09:27:10 DATE:NOV 07,1995
[illegible] GROSS: 0 NET: 0 +/- .39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 0 NET: 0 +/-1.05 dpm/cm2:0 +/-2.85E-2
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 0 +/-1.38E-3

[illegible] TIME (M):.50 TIME:09:27:53 DATE:NOV 07,1995
[illegible] GROSS: 1. NET: 1.60 +/-3.93 dpm/cm2:4.90E-2 +/-.12
[illegible] GROSS: 1 NET: 0 +/-4.11 dpm/cm2:0 +/-.11
[illegible] C FACTOR:1.0000
[illegible] ALPHA 2.37E-3 +/-5.85E-3 BETA 0 +/-5.39E-3

[illegible] TIME (M):.50 TIME:09:28:38 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 0 NET: 0 +/-1.05 dpm/cm2:0 +/-2.85E-2
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.82E-4 BETA 0 +/-1.38E-3

[illegible] #:70. TIME (M):.50 TIME:09:29:21 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 4. NET: 5.10 +/-7.91 dpm/cm2:.13 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.82E-4 BETA 6.69E-3 +/-1.03E-2

[illegible] #:71. [redacted] TIME:09:30:05 DATE:NOV 07,1995
ALPHA GROSS: [redacted] +/-3.93 dpm/cm2:4.90E-2 +/-.12
BETA GROSS: [redacted] +/-5.68 dpm/cm2:2.26E-2 +/-.15
GAMMA GROSS: [redacted] .0000
[illegible]: ALPHA [redacted] BETA 1.09E-3 +/-7.45E-3

[illegible] #:72. TIME (M):.50 TIME:09:30:50 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 0 NET: 0 +/-1.05 dpm/cm2:0 +/-2.85E-2
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.82E-4 BETA 0 +/-1.38E-3

[illegible] #:73. TIME (M):.50 TIME:09:31:33 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 0 NET: 0 +/-1.05 dpm/cm2:0 +/-2.85E-2
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.82E-4 BETA 0 +/-1.38E-3

[illegible] #:74. TIME (M):.50 TIME:09:32:16 DATE:NOV 07,1995
[illegible] NET: [illegible] +/-[illegible] dpm/cm2:[illegible] +/-[illegible]

9

NET: 3.10
0 C FACTOR:1
A 0 +/-5.82E-4

TIME (M):.50
0 NET: 0
1. NET: 0 +/-4.16 dpm/cm2:0 +/-0
C FACTOR:1.0000
ALPHA 0 +/-5.82E-4 BETA 0 +/ 5.32E-3

Air Samples

BEAM 4.2
BET COUNT:100000. BETA
BET TIME (M):10.00
HV VOLTAGE:1300.
SCA WINDOW:450.
START SAMPLE:1.
STOP SAMPLE:100.
SIGMA (SIGMA):1.96
#:0
(%):72.65
CROSTLK (%):16.40
BKGND (CPM):0
STRIP (%):37.00
BKGND (CPM):2.08
TIME (M):10.00
(cm2):100.00
ARM (dpm/V):1000.00
EQUATION: (CONC/F)*G

SAMPLE #:1. TIME (M):10.00 TIME:10:53:45 DATE:NOV 07,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 35. NET: 1.42 +/-1.46 dpm/cm2:3.83E-2 +/-3.95E-2
GAMMA GROSS: 0 [redacted] .0000
CALC: ALPHA 0 [redacted] BETA 1.86E-3 +/-1.92E-3

SAMPLE #:BKGND [redacted] TIME:11:04:00 DATE:NOV 07.1995
ALPHA GROSS: [redacted] +/-.19 dpm/cm2:3.06E-3 +/-6.00E-3
BETA GROSS: 26. [redacted] +/-1.34 dpm/cm2:1.36E-2 +/-3.62E-2
GAMMA GROSS: 0 C FACTOR:48002576
CALC: ALPHA 1.43E-4 +/-2.91E-4 BETA 6.60E-4 +/-1.75E-3

BKGND (CPM):.10
BKGND (CPM):2.59

SAMPLE #:2. TIME (M):10.00 TIME:11:14:16 DATE:NOV 07,1995
ALPHA GROSS: 1. NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 46. NET: 2.00 +/-1.66 dpm/cm2:5.40E-2 +/-4.49E-2
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-4.12E-4 BETA 2.62E-3 +/-2.18E-3

SAMPLE #:3. TIME (M):10.00 TIME:11:24:31 DATE:NOV 07.1995

NET: 1.04
C FACTOR:1.
-A 4.16E-3 +/-1.59E-

TGRAM #:1
EBET COUNT:100000. BETA
ET TIME (M):.50
GH VOLTAGE:1300.
FC WINDOW:450.
ART SAMPLE :1.
OP SAMPLE:100.
NOR (SIGMA):1.96
PEAT #:0
EFFIC (%):32.65.
CROSTLK (%):16.40
BKGND (CPM): .40
FFIC (%):37.
BKGND (CPM):2.
SD TIME (M):
L(cm2):100.00
ARM (dpm/V):1000.
ER EQUATION: (CONC/F)*G

MPLE #:1. TIME (M):.50 TIME:11:54:32 DATE:NOV 08.1995
LPHA GROSS: 544 NET: 1087.60 +/-91.43 dpm/cm2:33.31 +/-2.80
ETA GROSS: 120. NET: 58.73 +/-45.49 dpm/cm2:1.58 +/-1.22
GROSS: 0 C FACTOR:1.0000
D: ALPHA 1.61 +/-.13 BETA 7.70E-2 +/-5.96E-2

MPLE #:2. TIME (M):.50 TIME:11:55:16 DATE:NOV 08.1995
LPHA GROSS: 39. NET: 77.60 +/-24.48 dpm/cm2:2.37 +/-.74
ETA GROSS: 360. NET: 704.37 +/-74.49 dpm/cm2:19.03 +/-2.01
MMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA .11 +/-3.64E-2 BETA .92 +/-9.77E-2

:3.20

TIME (M):.50
NET: 0
NET: 0
C FACTOR:1 [illegible]
+/-5.04E-4 [illegible] +/- [illegible]

[illegible] TIME:12:07:00 DATE:NOV 08,1995
[illegible] +/-.33 dpm/cm2:0 +/- [illegible]
NET: [illegible] +/-5.65 dpm/cm2:2.16E-2 +/- [illegible]
C FACTOR:1.0000
+/-5.04E-4 BETA 1.04E-3 +/-7.41E-3

[illegible] TIME:12:07:45 DATE:NOV 08,1995
[illegible] NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
[illegible] NET: 0 +/-4.07 dpm/cm2:0 +/-.11
[illegible] C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 0 +/-5.34E-3

[illegible] TIME (M):.50 TIME:12:08:29 DATE:NOV 08,1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.0[illegible]
[illegible] GROSS: [illegible] NET: [illegible] +/-5.65 dpm/cm2:2.16E-2 +/-.15[illegible]
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-5.04E-4 BETA 1.04E-3 +/-7.41E-3

[illegible] TIME (M):.50 TIME:12:09:13 DATE:NOV 08,1995
[illegible] GROSS: [illegible] NET: 1.70 +/-3.93 dpm/cm2:5.20E-2 +/-.12
[illegible] GROSS: 0 NET: 0 +/-1.28 dpm/cm2:0 +/-3.46E-2
[illegible] GROSS: [illegible] C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-5.85E-3 BETA 0 +/-1.68E-3

[illegible] TIME (M):.50 TIME:12:09:58 DATE:NOV 08,1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
[illegible] GROSS: 0 NET: 0 +/-1.11 dpm/cm2:0 +/-3.00E-2
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 0 +/-1.45E-3

[illegible] TIME (M):.50 TIME:12:10:42 DATE:NOV 08,1995
[illegible] GROSS: [illegible] +/-3.93 dpm/cm2:5.20E-2 +/-.12
[illegible] GROSS: [illegible] +/-3.67 dpm/cm2:1.40E-2 +/-.12
[illegible] GROSS: 0 [illegible] 1.0000
[illegible] ALPHA [illegible] 3 BETA 6.87E-4 +/-7.46E-3

[illegible] TIME:12:11:26 DATE:NOV 08,1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
[illegible] GROSS: [illegible] NET: 4.80 +/-7.91 dpm/cm2:.12 +/-.21
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 6.29E-3 +/-1.03E-2

[illegible] TIME (M):.50 TIME:12:12:10 DATE:NOV 08,1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
[illegible] GROSS: [illegible] NET: 0 +/-4.07 dpm/cm2:0 +/-.11
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 0 +/-5.34E-3

[illegible] TIME (M):.50 TIME:12:12:54 DATE:NOV 08,1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
[illegible] GROSS: [illegible] NET: [illegible] +/-5.15 [illegible] +/-.15

```
ALPHA 0          +/-5.04E-4

                 TIME (M):.50
                 NET: 1.70
                 NET: .52
                 C FACTOR:1.
                 BETA  3.33E-4 +/-7.46E-3

                 TIME (M):.50        TIME:12:[illegible] DATE:NOV 08,1995
                 NET: 0              +/-.33      dpm/cm2:0
                 NET: .79            +/-3.67     dpm/cm2:2.16E-2
                 C FACTOR:1.0000
                 +/-5.04E-4  BETA  1.04E-3 +/-7.41E-3

SAMPLE #:[illegible]  TIME (M):.50       TIME:12:16:52 DATE:NOV 08,1995
ALPHA GROSS: [illegible]  NET: 0          +/-.33      dpm/cm2:0
BETA GROSS: [illegible]   NET: .79        +/-3.67     dpm/cm2:2.16E-2
GAMMA GROSS: [illegible]  C FACTOR:1.0000
CALC: ALPHA 0  +/-5.04E-4  BETA  1.04E-3 +/-7.41E-3

SAMPLE # 17.  TIME (M):.50       TIME:12:16:36 DATE:NOV 08,1995
ALPHA GROSS: 1.  NET: 1.70        +/-3.97     dpm/cm2:5.20E-2 +/-.12
BETA GROSS: [illegible]  NET: 0   +/-4.12     dpm/cm2:0       +/-.11
GAMMA GROSS: 0   C FACTOR:1.0000
CALC: ALPHA 3.52E-3 +/-3.33E-3  BETA  0  +/-5.41E-3

SAMPLE #:13   TIME (M):.50       TIME:12:17:19 DATE:NOV 08,1995
ALPHA GROSS: 0   NET: 0           +/-.33      dpm/cm2:0       +/-1.03E-2
BETA GROSS: 0    NET: 0           +/-1.11     dpm/cm2:0       +/-3.00E-2
GAMMA GROSS: [illegible]  C FACTOR:1.0000
CALC: ALPHA 0  +/-5.04E-4  BETA  0  +/-1.45E-3

SAMPLE #: 9.  TIME (M):.50       TIME:12:18:03 DATE:NOV 08,1995
ALPHA GROSS: 0   NET: 0           +/-.33      dpm/cm2:0       +/-1.03E-2
BETA GROSS: 1.   NET: 0           +/-4.07     dpm/cm2:0       +/-.11
GAMMA GROSS: 0   C FACTOR:1.0000
CALC: ALPHA 0  +/-5.04E-4  BETA  0  +/-5.34E-3

SAMPLE #:20.  TIME (M):.50       TIME:12:18:46 DATE:NOV 08,1995
ALPHA GROSS: [illegible]  +/-.33      dpm/cm2:0       +/-1.03E-2
BETA GROSS: [illegible]   +/-5.65     dpm/cm2:2.16E-2 +/-.13
GAMMA GROSS: [illegible]  .0000
CALC: ALPHA [illegible]4  BETA  1.04E-3 +/-7.41E-3

SAMPLE #:21.  [illegible]  TIME:12:19:31 DATE:NOV 08,1995
ALPHA GROSS: 0   NET: 0           +/-.33      dpm/cm2:0       +/-1.03E-2
BETA GROSS: 1.   NET: .79         +/-5.65     dpm/cm2:2.16E-2 +/-.13
GAMMA GROSS: 0   C FACTOR:1.0000
CALC: ALPHA 0  +/-5.04E-4  BETA  1.04E-3 +/-7.41E-3

SAMPLE #:22.  TIME (M):.50       TIME:12:20:14 DATE:NOV 08,1995
ALPHA GROSS: 0   NET: 0           +/-.33      dpm/cm2:0       +/-1.03E-2
BETA GROSS: 1.   NET: 0           +/-4.07     dpm/cm2:0       +/-.11
GAMMA GROSS: 0   C FACTOR:1.0000
CALC: ALPHA [illegible]  +/-5.04E-4  BETA  0  +/-5.34E-3

SAMPLE #:23.  TIME (M):.50       TIME:12:20:38 DATE:NOV 08,1995
ALPHA GROSS: 0   NET: 0           +/-.33      dpm/cm2:0       +/-1.03E-2
BETA GROSS: [illegible]  NET: 0   +/-4.07     dpm/cm2:0       +/-.11
```

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-A 2.52E-3 +/-5.85E-3

TIME (M):.50
0 NET: 0
1. NET: 0
0 C FACTOR:1.0000
0 +/-5.04E-4 BETA 0 +/-5.04E-3

TIME (M):.50 TIME:12:23:08 DATE:NOV 08,1995
NET: 0 +/-.33 dpm/cm2:0
NET: 0 +/-1.11 dpm/cm2:0
C FACTOR:1.0000
+/-5.04E-4 BETA 0 +/-1.45E-3

TIME (M):.50 TIME:12:23:50 DATE:NOV 08,1995
GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
GROSS: 1. NET: .77 +/-5.65 dpm/cm2:2.16E-2 +/-.15
GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-5.04E-4 BETA 1.04E-3 +/-7.41E-3

#:28. TIME (M):.50 TIME:12:24:37 DATE:NOV 08,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 2. NET: .77 +/-5.65 dpm/cm2:2.16E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.04E-4 BETA 1.04E-3 +/-7.41E-3

#:29. TIME (M):.50 TIME:12:25:20 DATE:NOV 08,1995
ALPHA GROSS: 1. NET: 1.70 +/-3.93 dpm/cm2:5.20E-2 +/-.12
BETA GROSS: 2. NET: .52 +/-5.69 dpm/cm2:1.40E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 2.52E-3 +/-5.85E-3 BETA 6.83E-4 +/-7.46E-3

#:30. TIME (M):.50 TIME:12:26:05 DATE:NOV 08,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 3. NET: 2.80 +/-6.87 dpm/cm2:7.56E-2 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.04E-4 BETA 3.67E-3 +/-9.02E-3

#:31. TIME (M):.50 TIME:12:26:49 DATE:NOV 08,1995
ALPHA GROSS: [redacted] +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: [redacted] +/-5.65 dpm/cm2:2.16E-2 +/-.15
GAMMA GROSS: [redacted].0000
CALC: ALPHA [redacted]4 BETA 1.04E-3 +/-7.41E-3

#:32. [redacted] TIME:12:27:33 DATE:NOV 08,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 0 NET: 0 +/-1.11 dpm/cm2:0 +/-3.00E-2
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.04E-4 BETA 0 +/-1.45E-3

#:33. TIME (M):.50 TIME:12:28:16 DATE:NOV 08,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 3. NET: 2.80 +/-6.87 dpm/cm2:7.56E-2 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.04E-4 BETA 3.67E-3 +/-9.02E-3

#:34. TIME (M):.50 TIME:12:29:00 DATE:NOV 08,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 0 NET: 0 +/-1.11 dpm/cm2:0 +/-3.00E-2

C FACTOR:1.0000
5.50E-3 +/-8.25E-3 BETA

TIME (M):.50 [illegible] 13,1995
0 NET: 0 [illegible] +/- [illegible]
1. NET: 0 [illegible] +/- 11
0 C FACTOR:1 [illegible]
+/-5.04E-4 BETA [illegible] +/- 5.04E-3

[illegible] (M): .50 TIME:12:31:11 DATE:NOV 08,1995
[illegible] NET: [illegible] +/- .33 dpm/cm2:0 [illegible]
[illegible] NET: 0 +/-1.11 dpm/cm2:0 [illegible]
[illegible] C FACTOR:1.0000
[illegible] +/-5.04E-4 BETA 0 +/-1.45E-3

[illegible] TIME (M): [illegible] TIME:12:31:53 DATE:NOV 08,1995
[illegible] NET: [illegible] +/-3.93 dpm/cm2:3.20E-2 [illegible]
[illegible] NET: [illegible] +/-1.28 dpm/cm2:0 [illegible]
[illegible] C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-5.03E-3 BETA 0 +/-1.68E-3

[illegible] TIME (M): .50 TIME:12:32:38 DATE:NOV 08,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 [illegible]
BETA GROSS: 2. NET: .77 +/-3.65 dpm/cm2:2.16E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-3.04E-4 BETA 1.04E-3 +/-7.41E-3

[illegible] #:40. TIME (M):.50 TIME:12:33:23 DATE:NOV 08,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 4. NET: 3.80 +/-9.66 dpm/cm2:.23 +/-.26
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.04E-4 BETA 1.15E-2 +/-1.26E-2

[illegible] #:41. TIME (M):.50 TIME:12:34:06 DATE:NOV 08,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 0 NET: 0 +/-1.11 dpm/cm2:0 +/-3.00E-2
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.04E-4 BETA 0 +/-1.45E-3

[illegible] #:42 TIME (M):.50 TIME:12:34:50 DATE:NOV 08,1995
[illegible] GROSS: [illegible] +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: [illegible] +/-5.65 dpm/cm2:2.16E-2 +/-.15
GAMMA GROSS: [illegible] .0000
[illegible]: ALPHA [illegible] 4 BETA 1.04E-3 +/-7.41E-3

[illegible] #:43. [illegible] TIME:12:35:33 DATE:NOV 08,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 0 NET: 0 +/-1.11 dpm/cm2:0 +/-3.00E-2
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.04E-4 BETA 0 +/-1.45E-3

[illegible] #:44. TIME (M):.50 TIME:12:36:17 DATE:NOV 08,1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: [illegible] NET: .79 +/-5.65 dpm/cm2:2.16E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-3.04E-4 BETA 1.04E-3 +/-7.41E-3

[illegible] #:45. TIME (M):.50 TIME:12:37:01 DATE:NOV 08,1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2

[illegible] +/-5.04E-4 [illegible]

TIME (M):.50
[illegible] 0 NET: 0
[illegible] 2. NET: .79
[illegible] 0 C FACTOR:1.0000
[illegible] +/-5.04E-4 [illegible]

[illegible] TIME (M):.50 TIME:12:39:[illegible] DATE:NOV 08,1995
[illegible] NET: 1.72 +/-5.03 dpm/cm2:5.03E-2 +/-.15
[illegible] NET: 1.31 +/-5.70 dpm/cm2:4.81E-2 +/-.18
[illegible] C FACTOR:1.0000
[illegible] +/-5.05E-4 BETA [illegible] +/-7.06E-3

[illegible] TIME (M):.50 TIME:12:39:5[illegible] DATE:NOV 08,1995
[illegible] NET: 0 +/-.33 dpm/cm2:0 +/-1.07E-2
[illegible] NET: 0 +/-4.07 dpm/cm2:0 +/-.11
[illegible] C FACTOR:1.0000
[illegible] +/-5.04E-4 BETA 0 +/-5.74E-3

[illegible] TIME (M):.50 TIME:12:40:40 DATE:NOV 08,1995
[illegible] NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
[illegible] NET: 0 +/-1.11 dpm/cm2:0 +/-3.00
[illegible] C FACTOR:1.0000
[illegible] +/-5.04E-4 BETA 0 +/-1.45E-3

[illegible] TIME (M):.50 TIME:12:41:23 DATE:NOV 08,1995
[illegible] NET: 0 +/-.33 dpm/cm2:0 +/-1.07E-2
[illegible] NET: .79 +/-5.65 dpm/cm2:2.16E-2 +/-.15
[illegible] C FACTOR:1.0000
[illegible] +/-5.04E-4 BETA 1.04E-3 +/-7.41E-3

[illegible] #:52. TIME (M):.50 TIME:12:42:08 DATE:NOV 08.1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
[illegible] GROSS: 3. NET: 2.80 +/-6.87 dpm/cm2:7.56E-2 +/-.19
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 3.67E-3 +/-9.02E-3

[illegible] #:53. TIME (M):.50 TIME:12:42:51 DATE:NOV 08.1995
[illegible] GROSS: 0 +/-.33 dpm/cm2:0 +/-1.07E-2
[illegible] GROSS: [illegible] +/-4.07 dpm/cm2:0 +/-.11
[illegible] [illegible].0000
[illegible] ALPHA [illegible] BETA 0 +/-5.74E-3

[illegible] #:54. TIME:12:43:35 DATE:NOV 08.1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.07E-2
[illegible] GROSS: 0 NET: 0 +/-1.11 dpm/cm2:0 +/-3.00E-2
[illegible] C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 0 +/-1.03E-3

[illegible] #:5[illegible] TIME (M):.50 TIME:12:44:24 DATE:NOV 08,1995
[illegible] GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
[illegible] GROSS: 2 NET: .79 +/-5.65 dpm/cm2:2.16E-2 +/-.15
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 1.04E-3 +/-7.41E-3

[illegible]
[illegible] TIME (M):10.00
[illegible] VOLTAGE:1300.
[illegible] WINDOW:450.
[illegible] SAMPLE [illegible].
TOP SAMPLE:100.
[illegible] SIGMA:1.96
[illegible] #:0
[illegible] (%):[illegible]
[illegible] (%):16.40
[illegible] (CPM): 10
[illegible] (%):77.00
[illegible] (CPM):[illegible]
[illegible] TIME (M):10.00
[illegible](cm2):100.00
[illegible] (dpm/W):1000.00
[illegible] EQUATION: (CCNC/F)*G

[illegible]MPLE #:1. TIME (M):10.00 TIME:15:13:33 DATE:NOV 08,1995
[illegible]LPHA GROSS: 2. NET: .10 +/-.33 dpm/cm2:3.06E-3 +/-1.03E-2
[illegible]ETA GROSS: 33. NET: .68 +/-1.50 dpm/cm2:1.84E-2 +/-4.07E-2
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA [illegible]-4 BETA 3.96E-4 +/-1.97E-3

[illegible]MPLE #:2. [illegible] TIME:15:23:48 DATE:NOV 08,1995
[illegible]LPHA GROSS: [illegible] +/-.33 dpm/cm2:3.06E-3 +/-1.03E-2
[illegible]ETA GROSS: [illegible] +/-1.51 dpm/cm2:2.11E-2 +/-4.10E-2
[illegible]AMMA GROSS: 0 [illegible]:1.0000
[illegible]CALC: ALPHA 1.48E-4 +/-5.04E-4 BETA 1.02E-3 +/-1.99E-3

[illegible]MPLE #:3. TIME (M):10.00 TIME:15:34:03 DATE:NOV 08,1995
[illegible]LPHA GROSS: 2. NET: .10 +/-.33 dpm/cm2:3.06E-3 +/-1.03E-2
[illegible]ETA GROSS: 40. NET: 1.38 +/-1.59 dpm/cm2:3.73E-2 +/-4.30E-2
[illegible]A GROSS: 0 C FACTOR:1.0000
[illegible]C: ALPHA 1.48E-4 +/-5.04E-4 BETA 1.81E-3 +/-2.09E-3

[illegible]MPLE #:4. TIME (M):10.00 TIME:15:44:18 DATE:NOV 08,1995
[illegible]LPHA GROSS: 2. NET: .10 +/-.33 dpm/cm2:3.06E-3 +/-1.03E-2
[illegible]ETA GROSS: 23. NET: 0 +/-1.37 dpm/cm2:0 +/-3.71E-2
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]CALC: ALPHA 1.48E-4 +/-5.04E-4 BETA 0 +/-1.80E-3

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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	0	cpm:	0	0
[illegible]	[illegible]	0	cpm:	0	0
[illegible]	[illegible]	0	cpm:	0	0
[illegible]	[illegible]	0	cpm:	0	0
[illegible]	[illegible]	0	cpm:	0	0
[illegible]	[illegible]	0	cpm:	1.00	0
[illegible]	[illegible]		cpm:	0	0
[illegible]	cpm:	[illegible]	cpm:	1.00	0
[illegible]	cpm:	0	cpm:	3.00	0
[illegible]	cpm:	0	cpm:	10.00	0
[illegible]	cpm:	[illegible]	cpm:	2.00	0
[illegible]	cpm:	[illegible]	cpm:	[illegible]	0
[illegible]	cpm:	[illegible]	cpm:	5.00	0
[illegible]	cpm:	0	cpm:	1.00	0
[illegible]	cpm:	0	cpm:	7.00	0
[illegible]	cpm:	0	cpm:	5.00	0
[illegible]	cpm:	0	cpm:	2.00	0
[illegible]	cpm:	0	cpm:	4.00	0
[illegible]	cpm:	0	cpm:	7.00	0
[illegible]	cpm:	0	cpm:	7.00	0
[illegible]	cpm:	0	cpm:	4.00	0
[illegible]	cpm:	0	cpm:	7.00	0
[illegible]	cpm:	0	cpm:	3.00	0
[illegible]	cpm:	0	cpm:	8.00	0
[illegible]	cpm:	0	cpm:	0	0
[illegible]	cpm:	0	cpm:	0	0
[illegible]	cpm:	0	cpm:	0	0
[illegible]	cpm:	[illegible]	cpm:	0	0
.10	cpm:	0	cpm:	0	0
[illegible]	cpm:	7106.07	cpm:	33.75	0
.10	cpm:	0	cpm:	3.00	0
.10	cpm:	0	cpm:	0	0
.10	cpm:	0	cpm:	23.00	0
.10	cpm:	0	cpm:	0	0
.10	cpm:	0	cpm:	0	0
.10	cpm:	0	cpm:	0	0
.10	cpm:	0	cpm:	3.00	0
.10	cpm:	0	cpm:	0	0
.10	cpm:	0	cpm:	0	0
.10	cpm:	[redacted]			
.10	cpm:	[redacted]			
.10	cpm:	[redacted]			
.10	cpm:	[redacted]			
.10	cpm:	[redacted]			
.10	cpm:	[redacted]			

TER PLATEAU VOLTAGE:1300.
SPECTRUM DATA
ISC COUNTS

[illegible] 51.0
[illegible] 3.0
[illegible] 1.0
[illegible] 31.0
[illegible] 5.0
[illegible] 11.0
[illegible] 4.0
[illegible] 15.0
[illegible] 0

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IGRAM #:0
EET COUNT:100000. ALPHA
ET TIME (M):1.50
H- VOLTAGE:1700.
BC WINDOW:450.
T-SQUARE(0=N,1=Y):0
ROR (SIGMA):1.76
EPEAT #:0
EFFIC (%):45.10
[redacted]

IGRAM #:0
EET COUNT:10000. ALPHA
ET TIME (M):900000.0
H VOLTAGE:1300.
BC WINDOW:450.
T-SQUARE(0=N,1=Y):0
ROR (SIGMA):1.76
PEAT #:0
EFFIC (%):45.10
CROSTLK (%):82.10
EXGND (CPM):0

[illegible] CONC F *3

[illegible] TIME (M):7.36 TIME:14:06:26 DATE:[illegible]
[illegible]: [illegible] NET: 1013.90 +/-19.87 pCi: [illegible]
[illegible]: [illegible] NET: 0 +/-21.81 pCi: [illegible]
[illegible] C FACTOR:1.0000
[illegible] +/-.61 BETA: 0 +/-.67

[illegible]
[illegible] COUNT:10000. BETA
[illegible] TIME (M):900000.0
[illegible] VOLTAGE:1300.
[illegible] WINDOW:450.
[illegible]-SQUARE(0=N,1=Y):0
[illegible] (SIGMA):1.96
[illegible] #:0
[illegible] (%):45.10
[illegible] (%):82.10
[illegible] (CPM):0
[illegible] (%):45.10
[illegible] (CPM):0.00
[illegible] TIME (M):1.00
[illegible]):1.00
[illegible] (pCi/V):1000000.
[illegible] EQUATION: (CONC/F)*6

[illegible]
[illegible] COUNT:10000. BETA
[illegible] (M):900000.0
[illegible] VOLTAGE:1300.
[illegible] WINDOW:450.
[illegible]-SQUARE(0=N,1=Y):0
[illegible] (SIGMA):1.96
[illegible] #:0
[illegible] (%):45.10
[illegible] (%):82.10
[illegible] (CPM):0
[illegible] (%):45.10
[illegible] (CPM):30.00
[illegible] TIME (M):1.00
[illegible]):1.00
[illegible] (pCi/V):1000000.
[illegible] EQUATION: (CONC/F)*6

[illegible]
[illegible] COUNT:10000. BETA
[illegible] TIME (M):900000.0
[illegible] VOLTAGE:1300.
[illegible] WINDOW:450.
[illegible]-SQUARE(0=N,1=Y):0
[illegible] (SIGMA):1.96
[illegible] #:0
[illegible] (%):45.10
[illegible] (%):82.10
[illegible] (CPM):0
[illegible] (%):45.10
[illegible] (CPM):30.00
[illegible] TIME (M):1.00
[illegible]):1.00
[illegible] (pCi/V):1000000.
[illegible] EQUATION: (CONC/F)*6

[illegible]

ΞGRAM #:
[illegible]NT:10000. BETA
E[illegible]E (M):90000.0
GH VOLTAGE:1300.
BC WINDOW:450.
I-SQUARE(0=N,1=Y):0
FOR (SIGMA):1.96
PEAT #:0
EFFIC (%):45.10
CROSTLK (%):82.10
BKGND (CPM):0
EFFIC (%):45.10
BKGND (CPM):30.00
BD TIME (M):1.00
L(EA):1.00
ARM (pCi/V):1000000.
ER EQUATION: (CONC/F)*3

MPLE #:1 TIME (M):12.53 TIME:14:04:01 DATE:NOV 17,1995
LPHA GROSS: 607. NET: 50.80 +/-3.94 pCi: 50.74 +/-3.94
ETA GROSS: 10000. NET: 725.88 +/-19.23 pCi: 724.99 +/-19.21
AMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 2.46 +/-.19 BETA 35.19 +/-.93

OGRAM #:0
EGET COUNT:100000. BETA
E[illegible](M):100.00
G[illegible]AGE:1300.
BC WINDOW:450.
I-SQUARE(0=N,1=Y):0
FOR (SIGMA):1.96
PEAT #:0
EFFIC (%):31.15
CROSTLK (%):82.10
BKGND (CPM):0
EFFIC (%):35.19
BKGND (CPM):30.00
BD TIME (M):1.00
L(EA):1.00
ARM (pCi/V):1000000.
ER EQUATION: (CONC/F[redacted]

OGRAM #:0
EGET COUNT:100000. BE[redacted]
ET TIME (M):100.00 [redacted]
GH VOLTAGE:1300.
BC WINDOW:450.
I-SQUARE(0=N,1=Y):0
FOR (SIGMA):1.96
PEAT #:0
EFFIC (%):31.15
CROSTLK (%):82.10
B[illegible]CPM):0
EFFIC (%):35.19
BKGND (CPM):30.00
BD TIME (M):1.00
L(EA):1.00
ARM (pCi/V):1000000.
ER EQUATION: (CONC/F)*5

BETA

MPLE #:*****TIME (M):10.00 TIME:15:00:18 DATE:NOV 17.1995
LPHA GROSS: 1. NET: .10 +/-.19 pCi: .14 +/-.28
ETA GROSS: 56. NET: 0 +/-10.93 pCi: 0 +/-13.97
AMMA GROSS: ^ I FACTOR:70555072
ALC: ALPHA 7.31E-I +/-1.37E-2 BETA 0 +/-.67

GRAM #:0
BET COUNT:100000. BETA
ET TIME (M):10.00
H VOLTAGE:1300.
D WINDOW:450.
-SQUARE(0=N,1=Y):0
CR (SIGMA):1.96
EAT #:0
FFIC (%):31.15
POSTLX (%):82.10
KGND (CPM):0
FFIC (%):35.19
KGND (CPM):30.00
D TIME (M):1.00
(EA):1.00
RM (pCi/V):1000000.
R EQUATION: (CONC/F)*G

PARAM #:0
BET COUNT:100000. BETA
ET TIME (M):10.00
H VOLTAGE:1300.
D WINDOW:450.
-SQUARE(0=N,1=Y):0
CR (SIGMA):1.96
EAT #:0
FFIC (%):31.15
POSTLX (%):82.10
(CPM):0
(%):35.19
KGND (CPM):30.00
D TIME (M):1.00
(EA):1.00
RM (pCi/V):1000000.
R EQUATION: (CONC/F)*G

[illegible]

[illegible] BETA
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
EFFIC [illegible]
[illegible]
[illegible]
EFFIC [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] EQUATION: [illegible] #6

MPLE #:1. TIME (M):.50 TIME:15:28:17 DATE:NOV 17.1995
LPHA GROSS: 546. NET: 1092.00 +/-91.59 pCi: 1090.66 +/-91.48
ETA GROSS: 122. NET: 214.00 +/-44.60 pCi: 213.73 +/-44.55
AMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 52.54 +/-4.44 BETA 10.37 +/-2.16

OGRAM #:0
[illegible]NT:10000. ALPHA
[illegible] (M):90000.00
PM VOLTAGE:1300.
SC WINDOW:450.
I-SQUARE(0=N,1=Y):0
ROR (SIGMA):1.96
PEAT #:0
EFFIC (%):45.10
CROSTLK (%):15.40
BKGND (CPM):0
EFFIC (%):45.10
BKGND (CPM):30.00
BD TIME (M):1.00
AREA):1.00
ARM (pCi/V):1000000.
HF EQUATION: (CONC/F[illegible]

MPLE #:1. TIME (M[illegible]NOV 17.1995
LPHA GROSS: 10000. NE[illegible]1061.44 +/-20.80
ETA GROSS: 2187. NET: 2[illegible]28.09 +/-14.87
AMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 22.63 +/-.64 BETA .86 +/-.45

OGRAM #:0
PRESET COUNT:10000. BETA
ET[illegible] (M):90000.00
[illegible]AGE:1300.
SC WINDOW:450.
I-SQUARE(0=N,1=Y):0
ROR (SIGMA):1.96
PEAT #:0
EFFIC (%):45.10
CROSTLK (%):15.40

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FF EQUATION: (CONC/F)*G

BETA
ET TIME (M):50000.00
GH VOLTAGE:1300.
BD WINDOW:450.
I-SQUARE(0=N,1=Y):0
ROR (SIGMA):1.96
PEAT #:0
EFFIC (%):45.10
CROSTLK (%):16.40
BKGND (CPM):0
EFFIC (%):45.10
BKGND (CPM):30.00
BD TIME (M):1.00
LIEA):1.00
ARM (pCi/V):1000000.
ER EQUATION: (CONC/F)*G

OGRAM #:0
ESET COUNT:10000. BETA
ET TIME (M):50000.00
GH VOLTAGE:1300.
BD WINDOW:450.
I-SQUARE(0=N,1=Y):0
ROR (SIGMA):1.96
PEAT #:0
EFFIC (%):45.10
CROSTLK (%):16.40
BKGND (CPM):0
EFFIC (%):45.10
BKGND (CPM):30.00
BD TIME (M):1.00
LIEA):1.00
ARM (pCi/V):1000000.
ER EQUATION: (CONC/F)*G

MPLE #:1. TIME (M):12.45 TIME:16:04:28 DATE:NOV 17,1995
LPHA GROSS: 721. NET: 57.98 +/-4.22 pCi: 57.81 +/-4.21
ETA GROSS: 10000. NET: 763.31 +/-19.06 pCi: 762.38 +/-19.03
AMMA GROSS: 0 C FA [redacted]
CALC: ALPHA 2.30

OGRAM #:0
ESET COUNT:100000. BE [redacted]
ET TIME (M):10.00
GH VOLTAGE:1300.
BD WINDOW:450.
I-SQUARE(0=N,1=Y):0
ROR (SIGMA):1.96
PEAT #:0
EFFIC (%):32.65
 (%):16.40
BKGND (CPM):0
EFFIC (%):37.00
BKGND (CPM):30.00
BD TIME (M):1.00
LIEA):1.00
ARM (pCi/V):1000000.
ER EQUATION: (CONC/F)*G

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[illegible]

MPLE #:BKGNDTIME (M):1.00 TIME:11:10:02 DATE:NOV 17,1995
LPHA GROSS: 0 NET: 0 +/-0 pCi: 0 +/-0
ETA GROSS: 7 NET: 0 +/-11.03 pCi: 0 +/-13.70
AMMA GROSS: 0 G FACTOR:4800257
PCi/L: ALPHA +/-0 BETA 0 +/-.66

BKGND (CPM):0
BKGND (CPM):7.00

OGRAM #:0
ESET COUNT:100000. BETA
ET TIME (M):10.00
GH VOLTAGE:1300.
SC WINDOW:450.
I-SQUARE(0=N,1=Y):0
FOM (SIGMA):1.96
PEAT #:0
EFFIC (%):32.65
CROSTLK (%):16.40
BKGND (CPM):0
EFFIC (%):37.00
BKGND (CPM):3.00
BG TIME (M):1.00
L(EA):1.00
ARM (pCi/V):1000000.
R EQUATION: (CONC/F)*G

OGRAM #:0
ESET COUNT:100000. BETA
ET TIME (M):10.00
GH VOLTAGE:1300.
SC WINDOW:450.
I-SQUARE(0=N,1=Y):0
FOM (SIGMA):1.96
PEAT #:0
EFFIC (%):32.65
CROSTLK (%):16.40
BKGND (CPM):0
EFFIC (%):37.00
BKGND (CPM):3.00
BG TIME (M):10.00
L(EA):1.00
ARM (pCi/V):1000000.
ER EQUATION: (CONC/F)*G

MPLE #:BKGNDTIME (M):10.00 TIME:16:21:32 DATE:NOV 17,1995
[illegible]

[illegible]

[illegible]

[illegible] TIME (M):1.00 TIME:08:57:45 DATE:NOV [illegible]
[illegible] GROSS: [illegible] NET: 1079.80 +/-64.38 dpm/cm2:[illegible] [illegible]
[illegible] GROSS: [illegible] NET: 38.37 +/-30.97 dpm/cm2:[illegible] [illegible]
[illegible] GROSS: [illegible] C FACTOR:1.0000
[illegible] +/-9.57E-2 BETA 5.03E-2 +/-4.06E-[illegible]

[illegible] TIME (M):[illegible] TIME:[illegible] DATE:NOV [illegible]
[illegible] GROSS: [illegible] NET: [illegible] +/-[illegible] dpm/cm2:[illegible] +/-[illegible]
[illegible] GROSS: [illegible] NET: [illegible] +/-[illegible] dpm/cm2:[illegible] +/-[illegible]
[illegible] GROSS: [illegible] C FACTOR:[illegible]
[illegible] +/-[illegible] BETA [illegible] +/-[illegible]

[illegible]
[illegible] COUNT:[illegible], BETA
[illegible] TIME (M):[illegible]
[illegible] VOLTAGE:[illegible]
[illegible] WINDOW:[illegible]
[illegible] SAMPLE [illegible]
[illegible] SAMPLE:[illegible]
[illegible] (SIGMA):1.96
[illegible] #:0
EFFIC (%):32.65
DROBTLK (%):16.40
BKGND (CPM):.20
EFFIC (%):37.00
[illegible] (CPM):2.70
[illegible] (M):1.00
[illegible] :100.00
[illegible] (dpm/V):1000.00
[illegible] EQUATION: (CONC/F,X6

[illegible]PLE #:1. TIME (M):.30 TIME:10:44:23 DATE:NOV 20,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
[illegible]TA GROSS: 0 NET: 0 +/-3.22 dpm/cm2:0 +/-8.71E-2
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]ALC: ALPHA 0 +/-1.30E-3 BETA 0 +/-4.22E-3

[illegible]MPLE #:2. TIME (M):.30 TIME:10:44:56 DATE:NOV 20,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
[illegible]TA GROSS: 1. NET: [illegible] [illegible].71E-2 +/-.19
[illegible]MMA GROSS: 0 C FACTOR[illegible]
[illegible]ALC: ALPHA 0 [illegible]5E-3

[illegible]PLE #:3. TIME ([illegible] NOV 20,1995
[illegible]LPHA GROSS: 0 NET: [illegible] [illegible]:0 +/-2.68E-2
[illegible]TA GROSS: 1. NET: .63 +/-7.28 dpm/cm2:1.71E-2 +/-.19
[illegible]MMA GROSS: 0 C FACTOR:1.0000
[illegible]ALC: ALPHA 0 +/-1.30E-3 BETA 8.30E-4 +/-9.55E-3

[illegible]PLE #:4. TIME (M):.30 TIME:10:46:01 DATE:NOV 20,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
[illegible] [illegible]SS: 1. NET: .63 +/-7.28 dpm/cm2:1.71E-2 +/-.19
[illegible] [illegible]OSS: 0 C FACTOR:1.0000
[illegible]ALC: ALPHA 0 +/-1.30E-3 BETA 8.30E-4 +/-9.55E-3

[illegible]MPLE #:5. TIME (M):.30 TIME:10:46:33 DATE:NOV 20,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
[illegible]TA GROSS: 0 NET: 0 +/-3.22 dpm/cm2:0 +/-8.71E-2
[illegible]MMA GROSS: 0 C FACTOR:1.0000

[illegible]

[illegible] TIME (M):1.30 TIME:10:47:38 DATE:NOV 20,1995
[illegible] GROSS: 0 NET: 0 +/-.37 dpm/cm2:0 [illegible]
BETA GROSS: 1. NET: .63 +/-7.28 dpm/cm2:1.71E-2 [illegible]
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 8.30E-4 +/-9.55E-3

MPLE #:18. TIME (M):1.30 TIME:10:48:11 DATE:NOV 20,1995
LPHA GROSS: 0 NET: 0 +/-.37 dpm/cm2:0 +/-2.68E-2
ETA GROSS: 1. NET: .63 +/-7.28 dpm/cm2:1.71E-2 +/-.19
AMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 8.30E-4 +/-9.55E-3

MPLE #:19. TIME (M):1.30 TIME:10:48:43 DATE:NOV 20,1995
LPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
ETA GROSS: 1. NET: .63 +/-7.28 dpm/cm2:1.71E-2 +/-.19
AMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 8.30E-4 +/-9.55E-3

MPLE #:20. TIME (M):1.30 TIME:10:49:16 DATE:NOV 20,1995
LPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
ETA GROSS: 0 NET: 0 +/-3.22 dpm/cm2:0 +/-8.71E-2
AMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 0 +/-4.22E-3

MPLE #:11. TIME (M):1.30 TIME:10:49:48 DATE:NOV 20,1995
[illegible] GROSS: 1. NET: 3.13 +/-6.59 dpm/cm2:9.59E-2 +/-.20
[illegible] GROSS: 1. NET: .11 +/-7.36 dpm/cm2:3.22E-3 +/-.19
AMMA GROSS: [illegible] C FACTOR:1.0000
CALC: ALPHA 4.65E-3 +/-[illegible].80E-3 BETA 1.56E-4 +/-9.66E-3

MPLE #:12. TIME (M):1.30 TIME:10:50:21 DATE:NOV 20,1995
LPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
ETA GROSS: 0 NET: 0 +/-3.22 dpm/cm2:0 +/-8.71E-2
AMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 0 +/-4.22E-3

MPLE #:13. TIME (M):1.30 TIME:10:51:01 DATE:NOV 20,1995
LPHA GROSS: 1. NET: 3.13 +/-6.59 dpm/cm2:9.59E-2 +/-.20
ETA GROSS: 2. NET: [illegible] 9.33E-2 +/-.26
AMMA GROSS: 0 C FAC[illegible]
CALC: ALPHA 4.65E-3 +/-[illegible] 29E-2

MPLE #:****TIME (M):[illegible] 20,1995
LPHA GROSS: 0 NET: [illegible] 0 +/-2.68E-2
ETA GROSS: 0 NET: 0 +/-3.22 dpm/cm2:0 +/-8.71E-2
AMMA GROSS: 0 C FACTOR:70595072
CALC: ALPHA 0 +/-1.30E-3 BETA 0 +/-4.22E-3

MPLE #:15. TIME (M):1.30 TIME:10:52:05 DATE:NOV 20,1995
LPHA GROSS: 0 NET: 0 +/-.37 dpm/cm2:0 +/-2.68E-2
[illegible] GROSS: 1. NET: .63 +/-7.28 dpm/cm2:1.71E-2 +/-.19
[illegible] GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 8.30E-4 +/-9.55E-3

MPLE #:16. TIME (M):1.30 TIME:10:52:37 DATE:NOV 20,1995
LPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
ETA GROSS: 1. NET: 3.96 +/-9.79 dpm/cm2:.10 +/-.26
AMMA GROSS: 0 C FACTOR:1.0000

```
[illegible]  TIME [illegible]  TIME [illegible] DATE:NOV [illegible]
[illegible] GROSS:  NET:  +/-.87  dpm/cm2:0  +/-[illegible]
[illegible] GROSS:  NET:  +/-[illegible]  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS:  C FACTOR:[illegible]
CALC:  ALPHA  +/-1.30E-3  BETA  0  +/-4.22E-3

[illegible]  TIME (M):.30  TIME:10:53:41 DATE:NOV [illegible]
ALPHA GROSS:  NET: 0  +/-.87  dpm/cm2:0  +/-[illegible]
BETA  GROSS:  NET: 0  +/-3.22  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS:  C FACTOR:1.0000
CALC:  ALPHA  +/-1.30E-3  BETA  0  +/-4.22E-3

SAMPLE #:[illegible]  TIME (M):.30  TIME:10:54:13 DATE:NOV 20,1995
ALPHA GROSS:  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS:  NET: 0  +/-3.22  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS:  C FACTOR 1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  0  +/-4.22E-3

SAMPLE #:[illegible]  TIME (M):.30  TIME:10:54:46 DATE:NOV 20,1995
ALPHA GROSS:  NET: 7.17  +/-[illegible]  dpm/cm2:9.57E-2 +/-.20
BETA  GROSS:  NET: 3.43  +/-7.84  dpm/cm2:9.33E-2 +/-.22
GAMMA GROSS:  C FACTOR:1.0000
CALC:  ALPHA 4.65E-2 +/-7.31E-2  BETA  4.30E-2 +/-1.29E-2

SAMPLE #:[illegible]  TIME (M):.30  TIME:10:55:17 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 1.  NET: .63  +/-7.28  dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

SAMPLE #:[illegible]  TIME (M):.30  TIME:10:55:50 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 1.  NET: .67  +/-7.28  dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

SAMPLE #:23.  TIME (M):.30  TIME:10:56:22 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 0  NET: 0  +/-3.22  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  0  +/-4.22E-3

SAMPLE #:24.  TIME (M):.30  TIME:10:57:02 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 0  NET: [illegible]  +/-8.71E-2
GAMMA GROSS: 0  C FACT[illegible]
CALC:  ALPHA 0  +/-[illegible]22E-3

SAMPLE #:25.  TIME (M):[illegible]  [illegible]NOV 20,1995
ALPHA GROSS: 0  NET: 0  [illegible]0  +/-2.68E-2
BETA  GROSS: 3.  NET: 7.30  +/-11.76  dpm/cm2:.19  +/-.31
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  9.57E-3 +/-1.54E-2

SAMPLE #:26.  TIME (M):.30  TIME:10:58:06 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 0  NET: 0  +/-3.22  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  0  +/-4.22E-3

SAMPLE #:27.  TIME (M):.30  TIME:10:58:37 DATE:NOV 20,1995
ALPHA GROSS: 1.  NET: 3.13  +/-6.59  dpm/cm2:7.59E-2 +/-.20
BETA  GROSS: 0  NET: 0  +/-3.39  dpm/cm2:0  +/-9.18E-2
GAMMA GROSS: 0  C FACTOR:1.0000
```

[illegible] TIME [illegible] DATE [illegible]
[illegible] GROSS: [illegible] NET: [illegible] +/- [illegible] dpm/cm2: [illegible] +/- [illegible]
[illegible] GROSS: [illegible] NET: [illegible] +/- [illegible] dpm/cm2: [illegible] +/- [illegible]
[illegible] FACTOR: [illegible]
CALC: ALPHA [illegible] +/-1.30E-3 BETA 5.20E-3 +/-1.28E-2

[illegible] TIME (M):.30 TIME:10:59:42 DATE:NOV [illegible]
ALPHA GROSS: [illegible] NET: 0 +/-.87 dpm/cm2:0 +/- [illegible]
BETA GROSS: [illegible] NET: 0 +/-3.22 dpm/cm2:0 +/- [illegible]
GAMMA GROSS: [illegible] C FACTOR:1.0000
CALC: ALPHA [illegible] +/-1.30E-3 BETA 0 +/-4.22E-3

SAMPLE #:32. TIME (M):.30 TIME:11:[illegible]:15 DATE:NOV 20,1995
ALPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
BETA GROSS: [illegible] NET: 3.96 +/-9.78 dpm/cm2:.10 +/-.26
GAMMA GROSS: [illegible] C FACTOR:1.0000
CALC: ALPHA [illegible] +/-1.30E-3 BETA [illegible] +/-1.28E-2

SAMPLE #:33. TIME (M):.30 TIME:11:01:19 DATE:NOV 20,1995
ALPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
BETA GROSS: 0 NET: 0 +/-3.22 dpm/cm2:0 +/-8.71E-2
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 0 +/-4.22E-3

SAMPLE #:33. TIME (M):.30 TIME:11:01:50 DATE:NOV 20,1995
ALPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
BETA GROSS: 0 NET: 0 +/-3.22 dpm/cm2:0 +/-8.71E-2
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 0 +/-4.22E-3

SAMPLE #:34. TIME (M):.30 TIME:11:02:22 DATE:NOV 20,1995
ALPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
BETA GROSS: 0 NET: 0 +/-3.22 dpm/cm2:0 +/-8.71E-2
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 0 +/-4.22E-3

SAMPLE #:35. TIME (M):.30 TIME:11:02:53 DATE:NOV 20,1995
ALPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
BETA GROSS: 0 [illegible] +/-8.71E-2
GAMMA GROSS: 0 [illegible]
CALC: ALPHA 0 [illegible] 22E-3

SAMPLE #:36. TIME (M): [illegible] NOV 20,1995
ALPHA GROSS: 0 NET: [illegible] +/-2.68E-2
BETA GROSS: 2. NET: 3.96 +/-9.78 dpm/cm2:.10 +/-.26
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 5.20E-3 +/-1.28E-2

SAMPLE #:37. TIME (M):.30 TIME:11:03:58 DATE:NOV 20,1995
ALPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
BETA GROSS: 0 NET: 0 +/-3.22 dpm/cm2:0 +/-8.71E-2
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-1.30E-3 BETA 0 +/-4.22E-3

SAMPLE #:38. TIME (M):.30 TIME:11:04:30 DATE:NOV 20,1995
ALPHA GROSS: 0 NET: 0 +/-.87 dpm/cm2:0 +/-2.68E-2
BETA GROSS: 1. NET: .63 +/-7.28 dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: [illegible] C FACTOR: [illegible]

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[illegible]
[illegible] GROSS:  [illegible]  NET:  [illegible]  +/-.87  dpm/cm2:0  +/-2.68E-2
[illegible] GROSS:  [illegible]  NET:  [illegible]  +/-3.22  dpm/cm2:0  +/-8.71E-2
[illegible] GROSS:  [illegible]  C FACTOR:[illegible]
CALC:  ALPHA  [illegible]  +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

[illegible]  TIME (M):.30  TIME:11:05:34 DATE:NOV 20,1995
ALPHA GROSS:  [illegible]  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS:  [illegible]  NET: 0  +/-3.22  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS:  [illegible]  C FACTOR:1.0000
CALC:  ALPHA  [illegible]  -/-1.30E-3  BETA  0  +/-4.22E-3

SAMPLE #:41.  TIME (M):.30  TIME:11:06:07 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 0  NET: 0  +/-3.22  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS:  [illegible]  C FACTOR:1.0000
CALC:  ALPHA 0  -/-1.30E-3  BETA  0  +/-4.22E-3

SAMPLE #:42  TIME (M):.30  TIME:11:06:38 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 1.  NET: .63  +/-7.28  dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

SAMPLE #:43.  TIME (M):.30  TIME:11:07:11 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 0  NET: 0  +/-3.22  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  0  +/-4.22E-3

SAMPLE #:44.  TIME (M):.30  TIME:11:07:42 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 0  NET: 0  +/-3.22  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  0  +/-4.22E-3

SAMPLE #:45.  TIME (M):.30  TIME:11:08:14 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 1.  NET: .63  +/-7.28  dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

SAMPLE #:46.  TIME (M):.30  TIME:11:08:46 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 0  NET: [illegible]  +/-8.71E-2
GAMMA GROSS: 0  C [illegible]
CALC:  ALPHA 0  [illegible]22E-3

SAMPLE #:47.  TIME (M):.3[illegible]  [illegible]NOV 20,1995
ALPHA GROSS: 1.  NET: 3.1[illegible]  [illegible]9.59E-2 +/-.20
BETA  GROSS: 0  NET: 0  +/-3.39  dpm/cm2:0  +/-9.18E-2
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 4.65E-3 +/-9.80E-3  BETA  0  +/-4.45E-3

SAMPLE #:48.  TIME (M):.30  TIME:11:09:49 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 0  NET: 0  +/-3.22  dpm/cm2:0  +/-8.71E-2
GAMMA GROSS: 0  C FACTOR:1.0000
CALC:  ALPHA 0  +/-1.30E-3  BETA  0  +/-4.22E-3

SAMPLE #:49.  TIME (M):.30  TIME:11:10:22 DATE:NOV 20,1995
ALPHA GROSS: 0  NET: 0  +/-.87  dpm/cm2:0  +/-2.68E-2
BETA  GROSS: 1.  NET: .63  +/-7.28  dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS:  [illegible]  C FACTOR:1.0000
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[illegible] #[illegible]      TIME [illegible]      TIME:[illegible] DATE:NOV [illegible]
[illegible] GROSS: [illegible]      NET: [illegible]      +/-[illegible]      dpm/cm2:[illegible]      +/-[illegible]
[illegible] GROSS: [illegible]      NET: [illegible]      +/-[illegible]      dpm/cm2:[illegible]      +/-[illegible]
[illegible] GROSS: [illegible]      C FACTOR:[illegible]
[illegible] ALPHA [illegible]      +/-1.30E-3  BETA  0      +/-4.22E-3

[illegible] #:51.      TIME (M):.30      TIME:11:11:25 DATE:NOV [illegible]
ALPHA GROSS: 0      NET: 0      +/-.87      dpm/cm2:0      +/-2.68E-2
BETA  GROSS: 7.     NET: 7.30   +/-11.76   dpm/cm2:.1[illegible]      +/-.71
GAMMA GROSS:        C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  9.57E-3 +/-1.54E-2

SAMPLE #:52.      TIME (M):.30      TIME:11:11:58 DATE:NOV 20,1995
ALPHA GROSS: 0      NET: 0      +/-.87      dpm/cm2:0      +/-2.68E-2
BETA  GROSS: 2.     NET: 2.76   +/-9.76    dpm/cm2:.10    +/-.26
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-3 +/-1.28E-2

SAMPLE #:53.      TIME (M):.30      TIME:11:12:30 DATE:NOV 20,1995
ALPHA GROSS: 0      NET: 0      +/-.87      dpm/cm2:0      +/-2.68E-2
BETA  GROSS: 1.     NET: .63    +/-7.28     dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

SAMPLE #:54.      TIME (M):.30      TIME:11:13:03 DATE:NOV 20,1995
ALPHA GROSS: 0      NET: 0      +/-.87      dpm/cm2:0      +/-2.68E-2
BETA  GROSS: 1.     NET: .63    +/-7.28     dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

SAMPLE #:55.      TIME (M):.30      TIME:11:13:34 DATE:NOV 20,1995
ALPHA GROSS: 0      NET: 0      +/-.87      dpm/cm2:0      +/-2.68E-2
BETA  GROSS: 0      NET: 0      +/-3.22     dpm/cm2:0      +/-8.71E-2
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  0      +/-4.22E-3

SAMPLE #:56.      TIME (M):.30      TIME:11:14:05 DATE:NOV 20,1995
ALPHA GROSS: 0      NET: 0      +/-.87      dpm/cm2:0      +/-2.68E-2
BETA  GROSS: 1.     NET: .63    +/-7.28     dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

SAMPLE #:57.      TIME (M):.30      TIME:11:14:38 DATE:NOV 20,1995
ALPHA GROSS: 0      NET: 0      +/-.87      dpm/cm2:0      +/-2.68E-2
BETA  GROSS: 2.     NET: [illegible]10      -/-.26
GAMMA GROSS: 0      C[illegible]
CALC:  ALPHA 0      +/[illegible]28E-2

SAMPLE #:58.      TIME (M[illegible]      [illegible]NOV 20,1995
ALPHA GROSS: 0      NET: 0[illegible]0      +/-2.68E-2
BETA  GROSS: 1.     NET: .63    +/-7.28     dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

SAMPLE #:59.      TIME (M):.30      TIME:11:15:42 DATE:NOV 20,1995
[illegible] GROSS: 0      NET: 0      +/-.87      dpm/cm2:0      +/-2.68E-2
[illegible] GROSS: 0      NET: 0      +/-3.22     dpm/cm2:0      +/-8.71E-2
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  0      +/-4.22E-3

SAMPLE #:60.      TIME (M):.30      TIME:11:16:13 DATE:NOV 20,1995
ALPHA GROSS: 0      NET: 0      +/-.87      dpm/cm2:0      +/-2.68E-2
BETA  GROSS: 0      NET: 0      +/-3.22     dpm/cm2:0      +/-8.71E-2
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FILE #:[illegible]      TIME (M):[illegible]      TIME:[illegible] DATE:NOV [illegible]
ALPHA GROSS:            NET:                +/-.87      dpm/cm2:0          +/-[illegible]
BETA  GROSS: [illegible]  NET: [illegible]  +/-[illegible]  dpm/cm2:[illegible]  +/-[illegible]
GAMMA GROSS: [illegible]  C FACTOR:[illegible]
CALC:  ALPHA [illegible]  +/-1.30E-3  BETA [illegible]  +/-4.22E-3

FILE #:[illegible]      TIME (M):.30      TIME:11:17:17 DATE:NOV [illegible]
ALPHA GROSS:            NET: 0            +/-.87      dpm/cm2:0          +/-[illegible]
BETA  GROSS: [illegible]  NET: .63  +/-7.28   dpm/cm2:1.71E-2 +/-[illegible]
GAMMA GROSS: [illegible]  C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

FILE #:[illegible]      TIME (M):[illegible]      TIME:11:17:48 DATE:NOV 20,1995
ALPHA GROSS:            NET: 0            +/-.87      dpm/cm2:0          +/-2.68E-2
BETA  GROSS: [illegible]  NET: [illegible]  +/-[illegible]  dpm/cm2:0          +/-8.71E-2
GAMMA GROSS: [illegible]  C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  0       +/-4.22E-3

FILE #:[illegible]      TIME (M):.30      TIME:11:18:20 DATE:NOV 20,1995
ALPHA GROSS: [illegible]  NET: 0            +/-.87      dpm/cm2:0          +/-2.68E-2
BETA  GROSS: 0      NET: 0            +/-7.32     dpm/cm2:0          +/-8.71E-2
GAMMA GROSS: [illegible]  C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  0       +/-4.22E-3

FILE #:[illegible]      TIME (M):.30      TIME:11:18:51 DATE:NOV 20,1995
ALPHA GROSS: 0      NET:                +/-.87      dpm/cm2:0          +/-2.68E-2
BETA  GROSS: 1.     NET: .63  +/-7.28   dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

FILE #:[illegible]      TIME (M):.30      TIME:11:19:23 DATE:NOV 20,1995
ALPHA GROSS: 0      NET: 0            +/-.87      dpm/cm2:0          +/-2.68E-2
BETA  GROSS: 2.     NET: 2.[illegible]  +/-9.72   dpm/cm2:.10      +/-.26
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  5.20E-3 +/-1.28E-2

FILE #:[illegible]      TIME (M):.30      TIME:11:19:55 DATE:NOV 20,1995
ALPHA GROSS: 0      NET: 0            +/-.87      dpm/cm2:0          +/-2.68E-2
BETA  GROSS: 1.     NET: .63  +/-7.28   dpm/cm2:1.71E-2 +/-.19
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

FILE #:[illegible]      TIME (M):.30      TIME:11:20:27 DATE:NOV 20,1995
ALPHA GROSS: 1.     NET: 3.13   +/-6.59   dpm/cm2:9.59E-2 +/-.20
BETA  GROSS: 3.     NET: 6.7[illegible]  [illegible].18      +/-.31
GAMMA GROSS: 0      C FACTOR:[illegible]
CALC:  ALPHA 4.65E-3 +/-[illegible]  [illegible]55E-2

FILE #:[illegible]      TIME (M):[illegible]  [illegible]NOV 20,1995
ALPHA GROSS: 0      NET: 0[illegible]  [illegible]0      +/-2.65E-2
BETA  GROSS: [illegible]  NET: 0      +/-3.22     dpm/cm2:0          +/-8.71E-2
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  0       +/-4.22E-3

FILE #:[illegible]      TIME (M):.30      TIME:11:21:01 DATE:NOV 20,1995
[illegible] GROSS: [illegible]  NET: 0            +/-.87      dpm/cm2:0          +/-2.68E-2
[illegible] GROSS: [illegible]  NET: [illegible]  +/-7.22     dpm/cm2:0          +/-8.71E-2
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  0       +/-4.22E-3

FILE #:[illegible]      TIME (M):.30      TIME:11:22:03 DATE:NOV 20,1995
ALPHA GROSS: [illegible]  NET: 3.13   +/-6.59   dpm/cm2:9.59E-2 +/-.20
BETA  GROSS: 1.     NET: .11  +/-7.36   dpm/cm2:3.22E-3 +/-.19
GAMMA GROSS: [illegible]  C FACTOR:1.0000
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PLE #:77.     TIME (M):.30      TIME:11:23:08 DATE:NOV 20,1995
LPHA GROSS: 0      NET: 0      +/-.87     dpm/cm2:0      +/-2.68E-2
ETA  GROSS: 2.     NET: 3.96   +/-9.78    dpm/cm2:.10    +/-.26
AMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  5.20E-3 +/-1.28E-2

PLE #:74.     TIME (M):.30      TIME:11:22:40 DATE:NOV 20,1995
LPHA GROSS: 0      NET: 0      +/-.87     dpm/cm2:0      +/-2.68E-2
ETA  GROSS: 2.     NET: .69    +/-7.28    dpm/cm2:1.71E-2 +/-.19
AMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

PLE #:75.     TIME (M):.30      TIME:11:24:11 DATE:NOV 20,1995
LPHA GROSS: 0      NET: 0      +/-.87     dpm/cm2:0      +/-2.68E-2
ETA  GROSS: 2.     NET: 3.96   +/-9.78    dpm/cm2:.10    +/-.26
AMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  5.20E-3 +/-1.28E-2

PLE #:76.     TIME (M):.30      TIME:11:24:43 DATE:NOV 20,1995
LPHA GROSS: 0      NET: 0      +/-.87     dpm/cm2:0      +/-2.68E-2
ETA  GROSS: 0      NET: 0      +/-3.22    dpm/cm2:0      +/-8.71E-2
AMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  0      +/-4.22E-3

PLE #:77.     TIME (M):.30      TIME:11:25:15 DATE:NOV 20,1995
LPHA GROSS: 0      NET: 0      +/-.87     dpm/cm2:0      +/-2.68E-2
ETA  GROSS: 2.     NET: .69    +/-7.28    dpm/cm2:1.71E-2 +/-.19
AMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  8.30E-4 +/-9.55E-3

PLE #:78.     TIME (M):.30      TIME:11:25:46 DATE:NOV 20,1995
LPHA GROSS: 0      NET: 0      +/-.87     dpm/cm2:0      +/-2.68E-2
ETA  GROSS: 0      NET: 0      +/-3.22    dpm/cm2:0      +/-8.71E-2
AMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  0      +/-4.22E-3

PLE #:79.     TIME (M):.30      TIME:11:26:18 DATE:NOV 20,1995
LPHA GROSS: 0      NET: 0      +/-.87     dpm/cm2:0      +/-2.68E-2
ETA  GROSS: 2.     NET: 3.[illegible]10     +/-.26
AMMA GROSS: 0      C [illegible]
CALC:  ALPHA 0      +/-1.[illegible]28E-2

MPLE #:80.    TIME (M):.30      [illegible]NOV 20,1995
LPHA GROSS: 0      NET: 0      [illegible]0      +/-2.68E-2
ETA  GROSS: 2.     NET: 3.96   +/-9.78    dpm/cm2:.10    +/-.26
AMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  5.20E-3 +/-1.28E-2

PLE #:81.     TIME (M):.30      TIME:11:27:21 DATE:NOV 20,1995
LPHA GROSS: 0      NET: 0      +/-.87     dpm/cm2:0      +/-2.68E-2
ETA  GROSS: 0      NET: 0      +/-3.22    dpm/cm2:0      +/-8.71E-2
AMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-1.30E-3  BETA  0      +/-4.22E-3

MPLE #:82.    TIME (M):.30      TIME:11:27:53 DATE:NOV 20,1995
LPHA GROSS: 0      NET: 0      +/-.87     dpm/cm2:0      +/-2.68E-2
ETA  GROSS: 0      NET: 0      +/-3.22    dpm/cm2:0      +/-8.71E-2
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[illegible]
[illegible]  NET:  [illegible]   [illegible]   dpm/cm2:[illegible]   [illegible]
[illegible]  NET:  [illegible]   [illegible]   dpm/cm2:[illegible]   [illegible]
[illegible]  C FACTOR:[illegible]
[illegible]  +/-[illegible]E-3  BETA [illegible]   +/-4.[illegible]E-[illegible]

[illegible]  TIME (M):.30   TIME:11:29:04 DATE:NO[illegible]
[illegible]  NET: 0   +/-.87   dpm/cm2:0   +/-[illegible]
[illegible]  NET: .63   +/-7.28   dpm/cm2:1.[illegible]E-2 +/-.[illegible]
[illegible]  C FACTOR:1.0000
[illegible]  +/-1.30E-3  BETA 8.30E-4 +/-9.55E-[illegible]

[illegible]  TIME (M):.30   TIME:11:29:35 DATE:NOV 20,1995
[illegible]  NET: 0   +/-.87   dpm/cm2:0   +/-2.68E-2
[illegible]  NET: 7.30   +/-11.76   dpm/cm2:.19   +/-.31
[illegible]  C FACTOR:[illegible]
[illegible]  +/-1.30E-3  BETA [illegible]E-3 +/-1.54E-2

[illegible]  TIME (M):.30   TIME:11:30:07 DATE:NOV 20,1995
[illegible]  NET: 0   +/-.87   dpm/cm2:0   +/-2.68E-2
[illegible]  NET: .63   +/-7.28   dpm/cm2:1.71E-2 +/-.19
[illegible]  C FACTOR:1.0000
[illegible]  +/-1.30E-3  BETA 8.30E-4 +/-9.55E-3

[illegible]  TIME (M):.30   TIME:11:30:39 DATE:NOV 20,1995
[illegible]  GROSS: 0   NET: 0   +/-.87   dpm/cm2:0   +/-2.68E-2
[illegible]  GROSS: 7.   NET: 7.30   +/-11.76   dpm/cm2:.19   -/-.31
[illegible]  GROSS: 0   C FACTOR:1.0000
[illegible]  ALPHA 0   +/-1.30E-3  BETA 9.57E-3 +/-1.54E-2

[illegible]  TIME (M):.30   TIME:11:31:10 DATE:NOV 20,1995
[illegible]  GROSS: 0   NET: 0   +/-.87   dpm/cm2:0   +/-2.68E-2
[illegible]  GROSS: 1.   NET: .63   +/-7.28   dpm/cm2:1.71E-2 -/-.19
[illegible]  GROSS: 0   C FACTOR:1.0000
[illegible]  ALPHA 0   +/-1.30E-3  BETA 8.30E-4 -/-9.55E-3

[illegible]  TIME (M):.30   TIME:11:31:42 DATE:NOV 20,1995
[illegible]  GROSS: 0   NET: 0   +/-.87   dpm/cm2:0   +/-2.68E-2
[illegible]  GROSS: 0   NET: 0   +/-3.22   dpm/cm2:0   +/-8.71E-2
[illegible]  C FACTOR:1.0000
[illegible]  ALPHA 0   +/-1.30E-3  BETA 0   +/-4.22E-3

[illegible]  TIME (M):.30   TIME:11:32:21 DATE:NOV 20,1995
[illegible]  GROSS: 0   NET: 0   +/-.87   dpm/cm2:0   +/-2.68E-2
[illegible]  GROSS: 2.   NET: [illegible]10   +/-.26
[illegible]  GROSS: 0   C[illegible]
[illegible]  ALPHA 0   [illegible]28E-2
[illegible]
[illegible]BEAM:4:0
[illegible]BET COUNT:100000.  BETA [illegible]
[illegible]T TIME (M):1.00
[illegible]H VOLTAGE:1300.
[illegible]C WINDOW:450.
[illegible]I-SQUARE(0=N,1=Y):0
[illegible]FOR (SIGMA):1.96
[illegible] 0
[illegible] (%):32.65
[illegible]ROSSTLK (%):16.40
[illegible]BKGND (CPM):.26
[illegible]EFFIC (%):37.00
[illegible]GND (CPM):2.70
[illegible]GD TIME (M):10.00
[illegible]LEA ):1.00
```

BKg

H/20

2 σ

10 min

36

[illegible]

[illegible] ALPHA [illegible] +/-[illegible]E-[illegible] BETA 0 +/-[illegible]E-[illegible]

[illegible]

[illegible]

[illegible] BETA

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]:16.40

[illegible]

[illegible]

[illegible]

[illegible]:10.00

[illegible]

[illegible]:1000000.

[illegible] EQUATION: (CONC/F)#8

[illegible]GRAM #:1
PRESET COUNT:100000. BETA
SET TIME (M):10.00
[illegible]TAGE:1300.
[illegible]OW:450.
CHI-SQUARE(0=N,1=Y):0
ROR (SIGMA):1.96
REAT #:0
EFFIC (%):32.65
CROSTLK %):16.40
BKGND (CPM):1.20
EFFIC (%):37.00
BKGND (CPM):2.70
BD TIME (M):10.00
AREA ():1.00
ARM (pCi/V):1000000.
ER EQUATION: (CONC/F)#8

FILE #:BKGNDTIME (M):10.[redacted] 20,1995
ALPHA GROSS: 770. NE[redacted]105.95 +/-7.51
BETA GROSS: 1254. N[redacted]134.04 +/-8.60
GAMMA GROSS: 0 C [redacted]
CALC: ALPHA 5.14 +[redacted].41

BKGND (CPM):77.00
BKGND (CPM):125.40

POWER RESET

Air sample 11/20

POWER RESET

PROGRAM #:1
PRESET COUNT:100000. BETA
SET TIME (M):10.00
[illegible] VOLTAGE:1300.
[illegible] WINDOW:450.

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:10.00
1000000.
: (CONC/F)*G
TIME (M):.1

[illegible]

[illegible]
[illegible] BETA
[illegible] TIME [illegible]
[illegible] VOLTAGE:[illegible]
[illegible] WINDOW:[illegible]
[illegible] SAMPLE [illegible]
[illegible] SPMP [illegible]
[illegible] SIGMA:[illegible]
FEAT #:[illegible]
EFFIC (%):[illegible]
GROSTLE (%):16.40
BKGND (CPM):.20
EFFIC (%):37.00
BKGND (CPM):2.70
[illegible]TIME (M):10.00
[illegible]:100.00
[illegible] (dpm/V):1000.00
[illegible] EQUATION: (CONC/F)*G

[illegible]PLE #:1. TIME (M):.50 TIME:11:13:56 DATE:NOV 21,1995
[illegible]LPHA GROSS: 490. NET: 979.30 +/-86.77 dpm/cm2:30.00 +/-2.65
[illegible]ETA GROSS: 113. NET: 62.61 +/-44.04 dpm/cm2:1.69 +/-1.19
[illegible]MMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 1.45 +/-.12 BETA 8.21E-2 +/-5.77E-2

Pu-239 response check

[illegible]MPLE #:2. TIME (M):.50 TIME:11:14:40 DATE:NOV 21,1995
[illegible]LPHA GROSS: 39. NET: 77.80 +/-24.48 dpm/cm2:2.38 +/-.74
[illegible]ETA GROSS: 351. NET: 686.54 +/-73.95 dpm/cm2:18.55 +/-1.98
[illegible]MMA GROSS: 0 [illegible].0000
[illegible] ALPHA [illegible]2 BETA [illegible]90 +/-9.65E-2

Tc-99 response check

[illegible]MPLE #:3. [illegible] TIME:11:15:24 DATE:NOV 21,1995
[illegible]LPHA GROSS: [illegible] +/-.27 dpm/cm2:0 +/-8.48E-3
[illegible]ETA GROSS: 2. [illegible] +/-5.63 dpm/cm2:3.51E-2 +/-.15
[illegible]MMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-4.12E-4 BETA 1.70E-3 +/-7.39E-3

[illegible]MPLE #:4. TIME (M):.50 TIME:11:16:04 DATE:NOV 21,1995
[illegible]LPHA GROSS: 1 NET: 1.80 +/-3.92 dpm/cm2:5.51E-2 +/-.12
[illegible]ETA GROSS: 3. NET: 3.00 +/-6.89 dpm/cm2:8.12E-2 +/-.18
[illegible]A GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 2.67E-3 +/-8.84E-3 BETA 3.94E-3 +/-9.04E-3

[illegible]PLE #:5 TIME (M):.50 TIME:11:16:53 DATE:NOV 21,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
[illegible]ETA GROSS: 3. NET: 3.30 +/-6.86 dpm/cm2:8.91E-2 +/-.18
[illegible]MMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-4.12E-4 BETA 1.32E-3 +/-5.00E-3

TIME (M):.50
1. NET: 1.80
3. NET: 3.00
0 C FACTOR:1.
-A 2.67E-3 +/-5.84E-3

[illegible] #18 TIME (M): [illegible] TIME:[illegible] DATE:NOV [illegible]
ALPHA [illegible] NET: 0 +/-.27 dpm/cm2:0 +/-[illegible]
BETA GROSS: 0 NET: 0 +/-1.01 dpm/cm2: +/-2.[illegible]
GAMMA GROSS: C FACTOR:1.0000
[illegible] ALPHA +/-4.12E-4 BETA [illegible] +/-1.[illegible]

[illegible] TIME (M):.50 TIME:11:19:53 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.[illegible]
BETA GROSS: [illegible] NET: 1.2[illegible] +/-3.[illegible] dpm/cm2:3.[illegible]E-1 +/-.1[illegible]
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA +/-4.12E-4 BETA 1.70E-3 +/-7.39E-3

[illegible] #:10 TIME (M):.50 TIME:11:20:35 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: [illegible] NET: 5.30 +/-7.90 dpm/cm2:.14 +/-.21
GAMMA GROSS: C C FACTOR:1.0000
CALC: ALPHA 0 +/-4.12E-4 BETA 6.95E-3 +/-1.03E-2

SAMPLE #:11. TIME (M):.50 TIME:11:21:19 DATE:NOV 21,1995
ALPHA GROSS: 1. NET: 1.80 +/-3.92 dpm/cm2:5.51E-2 +/-.12
BETA GROSS: 4. NET: 5.00 +/-7.92 dpm/cm2:.13 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 2.67E-3 +/-5.84E-3 BETA 6.56E-3 +/-1.04E-2

SAMPLE #:12. TIME (M):.50 TIME:11:22:03 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 0 NET: 0 +/-1.01 dpm/cm2:0 +/-2.75E-2
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-4.12E-4 BETA 0 +/-1.33E-2

SAMPLE #:13. TIME (M):.50 TIME:11:22:47 DATE:NOV 21,1995
ALPHA GROSS: 1. NET: 1.80 +/-3.92 dpm/cm2:5.51E-2 +/-.12
BETA GROSS: 3. NET: 3.00 +/-6.8[illegible] dpm/cm2:8.12E-2 +/-.18
GAMMA GROSS: 0 [illegible].0000
[illegible] ALPHA [illegible] BETA 7.94E-3 +/-9.04E-3

SAMPLE #:14. [illegible] TIME:11:23:31 DATE:NOV 21,1995
ALPHA GROSS: [illegible] +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 2. [illegible] +/-5.63 dpm/cm2:3.51E-2 +/-.1[illegible]
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-4.12E-4 BETA 1.70E-3 +/-7.39E-3

SAMPLE #:15. TIME (M):.50 TIME:11:24:15 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 2. NET: 1.29 +/-5.63 dpm/cm2:3.51E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-4.12E-4 BETA 1.70E-3 +/-7.39E-3

SAMPLE #:16. TIME (M):.50 TIME:11:24:59 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 3. NET: 3.30 +/-6.86 dpm/cm2:8.91E-2 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-4.12E-4 BETA 4.25E-3 +/-9.00E-3

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[illegible]        TIME (M):.50
[illegible]  0        NET: 0
[illegible]  1.       NET: 0
[illegible]  0        C FACTOR:1.[illegible]
[illegible] ALPHA 0   +/-4.12E-4  [illegible]

[illegible]        TIME (M):.50        TIME:[illegible]:27:12 DATE:NOV 21,19[illegible]
[illegible] GROSS: [illegible]   NET: 0        +/-.27      dpm/cm2:0        +/-[illegible]
[illegible] GROSS: 1.    NET: 0        +/-4.05     dpm/cm2:0        +/-.10
[illegible] GROSS: 0     C FACTOR:1.0000
[illegible] ALPHA [illegible]  +/-4.12E-4  BETA  0        +/-5.31E-3

[illegible]        TIME (M):.50        TIME:11:27:56 DATE:NOV 21,19[illegible]
[illegible] GROSS: [illegible]   NET: 0        +/-.27      dpm/cm2:0        +/-[illegible]
[illegible] GROSS: [illegible]   NET: 0        +/-1.01     dpm/cm2:0        [illegible]
[illegible] GROSS: 0     C FACTOR:1.0000
[illegible] ALPHA 0   +/-4.12E-4  BETA  0        +/-1.33E-3

[illegible]        TIME (M):.50        TIME:11:28:40 DATE:NOV 21,1995
[illegible] GROSS: 0     NET: 0        +/-.27      dpm/cm2:0        +/-8.48E-3
[illegible] GROSS: 0     NET: 0        +/-1.01     dpm/cm2:0        +/-2.75E-2
[illegible] GROSS: 0     C FACTOR:1.0000
[illegible] ALPHA 0   +/-4.12E-4  BETA  0        +/-1.33E-3

[illegible]        TIME (M):.50        TIME:11:29:24 DATE:NOV 21,1995
[illegible] GROSS: 0     NET: 0        +/-.27      dpm/cm2:0        +/-8.48E-3
[illegible] GROSS: 1.    NET: 0        +/-4.05     dpm/cm2:0        +/-.10
[illegible] GROSS: [illegible]   C FACTOR:1.0000
[illegible] ALPHA 0   +/-4.12E-4  BETA  0        +/-5.31E-3

[illegible]        TIME (M):.50        TIME:11:30:08 DATE:NOV 21,1995
ALPHA GROSS: 0     NET: 0        +/-.27      dpm/cm2:0        +/-8.48E-3
BETA  GROSS: 2.    NET: 1.29     +/-5.63     dpm/cm2:3.51E-2 +/-.15
GAMMA GROSS: 0     C FACTOR:1.0000
[illegible] ALPHA 0   +/-4.12E-4  BETA  1.70E-3 +/-7.39E-3

[illegible]        TIME (M):.50        TIME:11:30:52 DATE:NOV 21,1995
ALPHA GROSS: 0     NET: 0        +/-.27      dpm/cm2:0        +/-8.48E-3
BETA  GROSS: 2.    NET: 1.29     +/-5.63     dpm/cm2:3.51E-2 +/-.15
GAMMA GROSS: 0     [illegible].0000
[illegible] ALPHA [illegible]4  BETA  1.70E-3 +/-7.39E-3

[illegible]        [illegible]         TIME:11:31:36 DATE:NOV 21,1995
ALPHA GROSS: [illegible]  +/-.27      dpm/cm2:0        +/-8.48E-3
BETA  GROSS: [illegible]  +/-1.01     dpm/cm2:0        +/-2.75E-2
GAMMA GROSS: 0     C FACTOR:1.0000
[illegible] ALPHA 0   +/-4.12E-4  BETA  0        +/-1.33E-3

[illegible]        TIME (M):.50        TIME:11:32:20 DATE:NOV 21,1995
ALPHA GROSS: 1.    NET: 1.80     +/-3.92     dpm/cm2:5.31E-2 +/-.12
BETA  GROSS: 0     NET: 0        +/-1.20     dpm/cm2:0        +/-3.25E-2
[illegible] GROSS: 0     C FACTOR:1.0000
[illegible] ALPHA 2.67E-3 +/-5.84E-3  BETA  0        +/-1.58E-3

[illegible]        TIME (M):.50        TIME:11:33:04 DATE:NOV 21,1995
ALPHA GROSS: 0     NET: 0        +/-.27      dpm/cm2:0        +/-8.48E-3
BETA  GROSS: 1.    NET: 0        +/-4.05     dpm/cm2:0        +/-.10
GAMMA GROSS: 0     C FACTOR:1.0000
[illegible] ALPHA 0   +/-4.12E-4  BETA  0        +/-5.31E-3
```

TIME (M):.50
NET: 0
NET: 0
C FACTOR:1.
+/-4.12E-4

TIME (M):.50 TIME:11:33:17 DATE:NOV 21,1995
NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
NET: 0 +/-4.05 dpm/cm2:0 +/-.10
C FACTOR:1.0000
+/-4.12E-4 BETA 0 +/-5.31E-3

TIME (M):.50 TIME:11:36:00 DATE:NOV 21,1995
NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
NET: 0 +/-1.01 dpm/cm2:0 +/-2.78E-2
C FACTOR:1.0000
+/-4.12E-4 BETA 0 +/-1.33E-3

SAMPLE #:T1. TIME (M):.50 TIME:11:36:44 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 4. NET: 5.30 +/-7.90 dpm/cm2:.14 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
DALD: ALPHA 0 +/-4.12E-4 BETA 6.95E-3 +/-1.03E-2

SAMPLE #:33. TIME (M):.50 TIME:11:37:29 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 1. NET: 0 +/-4.05 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
DALD: ALPHA 0 +/-4.12E-4 BETA 0 +/-5.31E-3

SAMPLE #:T4. TIME (M):.50 TIME:11:38:12 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 1. NET: 0 +/-4.05 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
DALD: ALPHA 0 +/-4.12E-4 BETA 0 +/-5.31E-3

SAMPLE #:35. TIME (M):.50 TIME:11:38:56 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 0 NET: 0 +/-1.01 dpm/cm2:0 +/-2.70E-2
GAMMA GROSS: [illegible] .0000
DALD: ALPHA [illegible] 4 BETA 0 +/-1.33E-3

SAMPLE #:36. [illegible] TIME:11:39:40 DATE:NOV 21,1995
ALPHA GROSS: [illegible] +/-5.55 dpm/cm2:.11 +/-.17
BETA GROSS: 0 [illegible] +/-1.36 dpm/cm2:0 +/-3.69E-2
GAMMA GROSS: 0 C FACTOR:1.0000
DALD: ALPHA 5.64E-3 +/-8.25E-3 BETA 0 +/-1.79E-3

SAMPLE #:37. TIME (M):.50 TIME:11:40:24 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 1. NET: 0 +/-4.05 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
DALD: ALPHA 0 +/-4.12E-4 BETA 0 +/-5.31E-3

SAMPLE #:38. TIME (M):.50 TIME:11:41:09 DATE:NOV 21,1995
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-8.48E-3
BETA GROSS: 1. NET: 0 +/-4.05 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

TIME (M):.50
0 NET: 0
1. NET: 0
C FACTOR:1.
A 0 +/-4.12E-4 BETA

TIME (M):.50 TIME:11:46:04 DATE:NOV
NET: 0 +/-.27 dpm/mg:0
NET: 30 +/-7.80 dpm ct2:.04
C FACTOR:1.000
+/-4.12E-4 BETA 6.78E-7 +/-1.2E-2

TIME (M):.50 TIME:11:46:04 DATE:NOV
NET: 0 +/-.27 dpm/mg:0
NET: 0 +/-4.08 dpm/mg:0
C FACTOR:1.000
+/-4.12E-4 BETA 0 +/-8.31E-7

EBIT EFF: +/-2.0% BETA
SET TIME (M):10.00
H VOLTAGE:1700
SC WINDOW:450.
I-SQUARE(0=N,1=Y):0
ROR (SIGMA):1.96
TEAT #:0
FFIC (%):32.65
DETLK (%):16.40
BKGND (CPM):17.00
EFFIC (%):37.00
BKGND (CPM):17.00
SE TIME (M):10.00
LPHA (%):1.00
AFM (DI/V):1000000.
DF EQUATION: (CCMC/F)*G

FILE #:BKGNDTIME (M):10.00 TIME:11:56:05 DATE:NOV 21,1995
LPHA GROSS: 1. NET: 0 +/-5.44 pCi: 0 +/-7.50
ETA GROSS: 30.. NET: 0 +/-3.51 pCi: 0 +/-4.27
AMMA GROSS: 0.1[redacted]8002576
ONLC: ALPHA [redacted] BETA 0 +/-.20

BKGND (CPM):[redacted]
BKGND (CPM):[redacted]

DDPAM #:0
RESET COUNT:100000. BETA
SET TIME (M):15.00
SH VOLTAGE:1300.
SC WINDOW:450.
I-SQUARE(0=N,1=Y):0
(SIGMA):1.96
T #:0
FFIC (%):32.65
DETLK (%):16.40
BKGND (CPM):.10
EFFIC (%):37.00
BKGND (CPM):3.00
RD TIME (M):10.00

Bkg
air
sample

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[illegible]

[illegible] NET: [illegible]

[illegible] NET: 1403. [illegible]

[illegible] 0 C FACTOR:1.

[illegible]-A 55.17 [illegible]/-.97

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[illegible]

[illegible]

[illegible] TIME (M):[illegible]

[illegible] WIN-DOW:[illegible]

[illegible] SAMPLE [illegible]

[illegible] SAMPLE:17

[illegible] TIME (M):[illegible]

[illegible] #:0

[illegible] (A):[illegible]

[illegible] (%):[illegible]

[illegible] (DPM):[illegible]

[illegible]

[illegible] (DPM):[illegible]

[illegible] TIME (M):[illegible]

[illegible]

[illegible] (dpm/V):1000.00

[illegible] EQUATION: [illegible]CONC/F[illegible]*G

[illegible] #[illegible] TIME (M):.50 TIME:08:40:50 DATE:NOV 22.1995

[illegible]FHA GROSS [illegible] NET: 1143.80 +/-73.75 dpm/cm2:35.03 +/-2.27

[illegible]TA GROSS: 131. NET: 71.71 +/-47.43 dpm/cm2:1.92 +/-1.58

[illegible]MMA GROSS: 0 C FACTOR:1.0000

[illegible] ALPHA 1.[illegible] BETA [illegible] 40E-2 +/-6.22E-2

[illegible] TIME:08:41:34 DATE:NOV 22.1995

[illegible] GROSS: [illegible] +/-21.47 dpm/cm2:1.83 +/-.65

[illegible]TA GROSS: [illegible]9 +/-76.30 dpm/cm2:20.04 +/-2.05

[illegible]MMA GROSS: [illegible].0000

[illegible] ALPHA 8.39E-2 +/-3.19E-2 BETA [illegible].97 +/-9.99E-2

[illegible] #:BKGNDTIME (M):10.00 TIME:08:51:50 DATE:NOV 22.1995

ALPHA GROSS: 7. NET: .10 +/-.43 dpm/cm2:7.06E-3 +/-1.34E-2

BETA GROSS: 35. NET: 0 +/-1.41 dpm/cm2:0 +/-3.87E-2

GAMMA GROSS: 0 C FACTOR:48002576

[illegible] ALPHA 1.48E-4 +/-6.51E-4 BETA 0 +/-1.85E-3

BKGND (DPM):.30

BKGND (DPM):3.30

[illegible] #:3. TIME (M):.50 TIME:08:52:34 DATE:NOV 22.1995

ALPHA GROSS: [illegible] NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2

[illegible]

```
                                  +/-5.04E-4
                TIME (M):.50
                NET: 0
                NET: 0
                C FACTOR:1
                                  +/-5.04E-4  BETA

                                  TIME:08:54:47 DATE:NOV 22,1995
                NET: 0            +/-.33      dpm/cm2:0
                NET: 0            +/-4.04     dpm/cm2:0
                C FACTOR:1.0000
                +/-5.04E-4  BETA  0           +/-5.30E-3

                                  TIME:08:55:32 DATE:NOV 22,1995
                NET: 0            +/-.33      dpm/cm2:0
                NET: 0            +/-4.04     dpm/cm2:0
                C FACTOR:1.0000
                -5.04E-4  BETA  0             +/-5.30E-3

                TIME (M):.50      TIME:08:56:16 DATE:NOV 22,1995
                NET: 0            +/-.33      dpm/cm2:0
                NET: 1.50         +/-5.62     dpm/cm2:4.05E-2 +/-.15
                C FACTOR:1.0000
                +/-5.04E-4  BETA  1.96E-3 +/-7.38E-3

                TIME (M):.50      TIME:08:57:00 DATE:NOV 22,1995
                NET: 0            +/-.33      dpm/cm2:0       +/-1.03E-2
                NET: 0            +/-4.04     dpm/cm2:0       +/-.10
                C FACTOR:1.0000
                +/-5.04E-4  BETA  0           +/-5.30E-3

TIME (M):.50    TIME:08:57:45 DATE:NOV 22,1995
NET: 0          +/-.33      dpm/cm2:0       +/-1.03E-2
NET: 3.50       +/-6.86     dpm/cm2:9.45E-2 +/-.18
C FACTOR:1.0000
+/-5.04E-4  BETA  4.59E-3 +/-9.00E-3

TIME (M):.50    TIME:08:58:29 DATE:NOV 22,1995
NET: 0          +/-.33      dpm/cm2:0       +/-1.03E-2
NET: 3.50       +/-6.86     dpm/cm2:9.45E-2 +/-.18
C FACTOR:1.0000
+/-5.04E-4  BETA  4.59E-3 +/-9.00E-3

                                  TIME:08:59:14 DATE:NOV 22,1995
NET: 0          +/-.33      dpm/cm2:0       +/-1.03E-2
NET: 0          +/-4.04     dpm/cm2:0       +/-.10
C FACTOR:1.0000
+/-5.04E-4  BETA  0           +/-5.30E-3

TIME (M):.50    TIME:08:59:58 DATE:NOV 22,1995
NET: 0          +/-.33      dpm/cm2:0       +/-1.03E-2
NET: 0          +/-4.04     dpm/cm2:0       +/-.10
C FACTOR:1.0000
+/-5.04E-4  BETA  0           +/-5.30E-3

TIME (M):.50    TIME:09:00:42 DATE:NOV 22,1995
NET: 0          +/-.33      dpm/cm2:0       +/-1.03E-2
```

```
-4 2.02E-3 +/-5.85E-7

TIME (M):.50
0      NET: 0
5.     NET: 7.50
C FACTOR:1
-5.04E-4  BETA  7.50E-7

50      TIME:09:03:07 DATE:NOV 22,1995
NET: 5.70     +/-3.72     dpm/cm2:5.70E-3
NET: 7.72     +/-6.69     dpm/cm2:2.76E-2
C FACTOR:1.0000
-2.02E-3 +/-7.85E-7  BETA  .72E-7 +/-9.53E-7
```

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```
PROGRAM #:1
PRESET COUNT:100000.  BETA
PRESET TIME (M):.50
HIGH VOLTAGE:1300
WINDOW:450.
SAMPLE:12.
TOP SAMPLE:37.
MDA (SIGMA):1.96
PRESET #:0
EFFIC (%):32.65
CROSSTLK (%):16.40
BKGND (CPM):.30
EFFIC (%):37.00
BKGND (CPM):2.50
BKGD TIME (M):10.00
VOL(cm2):100.00
DPM (dpm/V):1000.00
USER EQUATION:
```

```
SAMPLE #:1.                          TIME:15:37:05 DATE:NOV 27,1995
ALPHA GROSS:                  +/-87.47    dpm/cm2:30.49    +/-2.67
BETA  GROSS:                  +/-44.60    dpm/cm2:1.78     +/-1.20
GAMMA GROSS:                  .0000
CALC:  ALPHA 1.48  +/-.13     BETA  3.68E-2 +/-5.85E-2
```

```
SAMPLE #:2.      TIME (M):.50      TIME:15:37:50 DATE:NOV 27,1995
ALPHA GROSS: 49.     NET: 97.70    +/-27.44    dpm/cm2:2.99     +/-.34
BETA  GROSS: 379.    NET: 739.47   +/-76.45    dpm/cm2:19.98    +/-2.06
GAMMA GROSS: 0       C FACTOR:1.0000
CALC:  ALPHA .14     +/-4.08E-2  BETA  .97     +/-.10
```

```
SAMPLE #:BKGNDTIME (M):10.00    TIME:15:48:06 DATE:NOV 27,1995
ALPHA GROSS: 4.      NET: 9.99E-2 +/-.51     dpm/cm2:3.06E-3 +/-1.58E-2
BETA  GROSS: 34.     NET: .88     +/-1.50    dpm/cm2:2.38E-2 +/-4.07E-2
GAMMA GROSS: 0       C FACTOR:48002576
CALC:  ALPHA 1.48E-4 +/-7.71E-4  BETA  1.15E-3 +/-1.97E-3
```

```
[illegible] 2.37E-3 +/-5.85E-[illegible]

[illegible]  TIME (M):.50
[illegible] 0  NET: 0
[illegible] GROSS: 3.  NET: [illegible].59
[illegible] GROSS: 0  C FACTOR:1.
[illegible] ALPHA 0  +/-5.82E-4  BETA  3.41E-3 +/-9.03E-3

[illegible]  TIME:15:50:17 DATE:NOV 27,1995
[illegible] GROSS: [illegible]  NET: 3.60  +/-3.55  dpm/cm2:.11  +/-.17
[illegible] GROSS: [illegible]  NET: 0  +/-4.18  dpm/cm2:0  +/-.1[illegible]
[illegible] GROSS: 0  C FACTOR:1.0000
[illegible] ALPHA [illegible]3E-3 +/-8.26E-[illegible]  BETA  0  +/-5.46E-3

[illegible]  TIME (M):.50  TIME:15:51:03 DATE:NOV 27,1995
[illegible] GROSS: 2.  NET: 3.60  +/-3.55  dpm/cm2:.11  +/-.17
[illegible] GROSS: 2  NET: 9.69E-3 +/-5.73  dpm/cm2:2.58E-4 +/-.1[illegible]
[illegible] GROSS: [illegible]  C FACTOR:1.0000
[illegible]: ALPHA 5.33E-[illegible] +/-3.36E-3  BETA  1.25E-5 +/-7.52E-3

[illegible] #:7.  TIME (M):.50  TIME:15:51:48 DATE:NOV 27,1995
ALPHA GROSS: 0  NET: 0  +/-.39  dpm/cm2:0  +/-1.20[illegible]
BETA GROSS: 2.  NET: .59  +/-5.66  dpm/cm2:1.62E-2 +/-.15
GAMMA GROSS: 0  C FACTOR:1.0000
[illegible]: ALPHA 0  +/-5.82E-4  BETA  7.87E-4 +/-7.42E-3

[illegible] #:8.  TIME (M):.50  TIME:15:52:32 DATE:NOV 27,1995
[illegible] GROSS: 0  NET: 0  +/-.39  dpm/cm2:0  +/-1.20E-2
BETA GROSS: 3.  NET: 2.59  +/-6.88  dpm/cm2:7.02E-2 +/-.18
GAMMA GROSS: 0  C FACTOR:1.0000
[illegible]: ALPHA 0  +/-5.82E-4  BETA  3.41E-3 +/-9.03E-3

[illegible] #:9.  TIME (M):.50  TIME:15:53:17 DATE:NOV 27,1995
ALPHA GROSS: 1.  NET: 1.60  +/-3.93  dpm/cm2:4.90E-2 +/-.12
BETA GROSS: 2.  NET: .33  +/-5.69  dpm/cm2:9.12E-3 +/-.15
GAMMA GROSS: 0  C FACTOR:1.0000
[illegible]: ALPHA 2.37E-3 +/-5.85E-3  BETA  4.42E-4 +/-7.47E-3

[illegible] #:10.  TIME (M):.50  TIME:15:54:01 DATE:NOV 27,1995
[illegible] GROSS: [illegible]  +/-.39  dpm/cm2:0  +/-1.20E-2
[illegible] GROSS: [illegible]  +/-4.08  dpm/cm2:0  +/-.11
[illegible] GROSS: [illegible].0000
[illegible]: ALPHA [illegible]4  BETA  0  +/-5.35E-3

[illegible] #:11.  [illegible]  TIME:15:54:46 DATE:NOV 27,1995
ALPHA GROSS: 1.  NET: 1.60  +/-3.93  dpm/cm2:4.90E-2 +/-.12
BETA GROSS: 2.  NET: .33  +/-5.69  dpm/cm2:7.12E-3 +/-.15
GAMMA GROSS: 0  C FACTOR:1.0000
[illegible]: ALPHA 2.37E-3 +/-5.85E-3  BETA  4.42E-4 +/-7.47E-3

[illegible] #:12.  TIME (M):.50  TIME:15:55:29 DATE:NOV 27,1995
[illegible] GROSS: 0  NET: 0  +/-.39  dpm/cm2:0  +/-1.20E-2
[illegible] GROSS: 4.  NET: 4.60  +/-7.92  dpm/cm2:.12  +/-.21
GAMMA GROSS: 0  C FACTOR:1.0000
[illegible]: ALPHA 0  +/-5.82E-4  BETA  6.03E-3 +/-1.03E-2

[illegible] #:13.  TIME (M):.50  TIME:15:56:14 DATE:NOV 27,1995
ALPHA GROSS: 0  NET: 0  +/-.39  dpm/cm2:0  +/-1.20E-2
BETA GROSS: 3.  NET: 2.59  +/-6.88  dpm/cm2:7.02E-2 +/-.18
```

#6

C FACTOR:1.

A 2.37E-3 +/-5.85E-

TIME (M):.50

0 NET: 0

1. NET: 0

C FACTOR:1.0000

+/- 5.82E-4 BETA 0

TIME (M):.50 TIME:15:55:37 DATE:NOV 27,1995

1. NET: 1.60 +/-3.93 dpm/cm2:4.90E-2 +/-.12

NET: 4.77 +/-7.94 dpm/cm2:

C FACTOR:1.0000

ALPHA 2.37E-3 +/-5.85E-3 BETA 3.49E-3 +/-1.04E-2

TIME (M):.50 TIME 17:57:11 DATE:NOV 27,1995

NET: 1.60 +/-3.93 dpm/cm2:4.90E-2 +/-.12

NET: .37 +/-3.67 dpm/cm2:9.12E-3 +/-.15

C FACTOR:1.0000

ALPHA BETA 4.02E-4 +/-7.47E-3

#: 3. TIME (M): .50 TIME:15:59:55 DATE:NOV 27,1995

GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2

GROSS: 1. NET: 4.60 +/-7.92 dpm/cm2:.12 +/-.21

GROSS: 0 C FACTOR:1.0000

ALPHA 0 +/-3.82E-4 BETA 6.03E-3 +/-1.03E-2

#:19. TIME (M):.50 TIME:16:00:40 DATE:NOV 27,1995

GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2

GROSS: 1. NET: .59 +/-5.66 dpm/cm2:1.62E-2 +/-.15

GROSS: 0 C FACTOR:1.0000

ALPHA 0 +/-3.82E-4 BETA 7.87E-4 +/-7.42E-3

#:20 TIME (M):.50 TIME:16:01:23 DATE:NOV 27,1995

GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2

GROSS: 1. NET: 0 +/-4.08 dpm/cm2:0 +/-.11

GROSS: 0 C FACTOR:1.0000

ALPHA 0 +/-5.82E-4 BETA 0 +/-5.35E-3

#:21. TIME (M):.50 TIME:16:02:07 DATE:NOV 27,1995

GROSS: 1. +/-3.93 dpm/cm2:4.90E-2 +/-.12

GROSS: 1. +/-4.13 dpm/cm2:0 +/-.11

GROSS: 0 .0000

ALPHA 3 BETA 0 +/-5.42E-3

#:22. TIME:16:02:51 DATE:NOV 27,1995

GROSS: 1. NET: 1.60 +/-3.93 dpm/cm2:4.90E-2 +/-.12

GROSS: 0 NET: 0 +/-1.31 dpm/cm2:0 +/-3.54E-3

GROSS: 0 C FACTOR:1.0000

ALPHA 2.37E-3 +/-5.85E-3 BETA 0 +/-1.72E-3

#:23. TIME (M):.50 TIME:16:03:36 DATE:NOV 27,1995

GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2

GROSS: 3. NET: 2.39 +/-6.38 dpm/cm2:7.02E-2 +/-.18

GROSS: 0 C FACTOR:1.0000

ALPHA 0 +/-5.82E-4 BETA 3.41E-3 +/-9.03E-3

#:24. TIME (M):.50 TIME:16:04:20 DATE:NOV 27,1995

GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2

```
                                  C FACTOR:1.0000
ALPHA 0          +/-5.82E-4  BETA  [illegible]

                 TIME (M):.50
ALPHA GROSS: 0     NET: 0
BETA  GROSS: 3.    NET: 2.59
GAMMA GROSS: 0     C FACTOR:1.0000
CALC:  ALPHA 0     +/-5.82E-4  BETA  3.41E-3 +/-9.03E-3

                 TIME (M):.50      TIME:16:06:[illegible] DATE NOV 27,1995
ALPHA GROSS: 0     NET: 0      +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 0     NET: 0      +/-4.08     dpm/cm2:0        +/-.11
GAMMA GROSS: 0     C FACTOR:1.0000
CALC:  ALPHA 0     +/-5.82E-4  BETA  0        +/-5.35E-3

SAMPLE #:28.     TIME (M):.50      TIME:16:07:14 DATE:NOV 27,1995
ALPHA GROSS: 0     NET: 0      +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 0     NET: 0      +/-4.08     dpm/cm2:0        +/-.11
GAMMA GROSS: 0     C FACTOR:1.0000
CALC:  ALPHA 0     +/-5.82E-4  BETA  0        +/-5.35E-3

SAMPLE #:29.     TIME (M):.50      TIME:16:07:59 DATE:NOV 27,1995
ALPHA GROSS: 0     NET: 0      +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 3.    NET: .59    +/-5.66     dpm/cm2:1.62E-2  +/-.15
GAMMA GROSS: 0     C FACTOR:1.0000
CALC:  ALPHA 0     +/-5.82E-4  BETA  7.87E-4 +/-7.42E-3

SAMPLE #:30.     TIME (M):.50      TIME:16:08:43 DATE:NOV 27,1995
ALPHA GROSS: 0     NET: 0      +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 0     NET: 0      +/-4.08     dpm/cm2:0        +/-.11
GAMMA GROSS: 0     C FACTOR:1.0000
CALC:  ALPHA 0     +/-5.82E-4  BETA  0        +/-5.35E-3

SAMPLE #:31.     TIME (M):.50      TIME:16:09:26 DATE:NOV 27,1995
ALPHA GROSS: 0     NET: 0      +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 0     NET: 0      +/-1.14     dpm/cm2:0        +/-3.09E-2
GAMMA GROSS: 0     C FACTOR:1.0000
CALC:  ALPHA 0     +/-5.82E-4  BETA  0        +/-1.50E-3

SAMPLE #:32.     TIME (M):.50      TIME:16:10:10 DATE:NOV 27,1995
ALPHA GROSS: 0     [illegible] +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: [illegible] +/-1.14     dpm/cm2:0        +/-3.09E-2
GAMMA GROSS: [illegible].0000
CALC:  ALPHA [illegible]4  BETA  0        +/-1.50E-3

SAMPLE #:33.     [illegible]       TIME:16:10:53 DATE:NOV 27,1995
ALPHA GROSS: 0     NET: 0      +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 3.    NET: 2.59   +/-6.86    dpm/cm2:7.02E-2  +/-.18
GAMMA GROSS: 0     C FACTOR:1.0000
CALC:  ALPHA 0     +/-5.82E-4  BETA  3.41E-3 +/-9.03E-3

SAMPLE #:34.     TIME (M):.50      TIME:16:11:38 DATE:NOV 27,1995
ALPHA GROSS: 0     NET: 0      +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 0     NET: 0      +/-1.14     dpm/cm2:0        +/-3.09E-2
GAMMA GROSS: 0     C FACTOR:1.0000
CALC:  ALPHA 0     +/-5.82E-4  BETA  0        +/-1.50E-3

SAMPLE #:35.     TIME (M):.50      TIME:1[illegible]:12:22 DATE:NOV 27,1995
ALPHA GROSS: 0     NET: 0      +/-.39      dpm/cm2:0        +/-1.20E-2
[illegible]
```

:.40
7.00
:3.40
:10.00
00
:1000.00

TIME (M):1.30 TIME:14:10:42 DATE:NOV 30,1995
NET: 746.80 +/-55.23 dpm/cm2:39.96 +/-2.81
NET: 31.37 +/-40.79 dpm/cm2:.25 +/-1.62
C FACTOR:1.0000
.12 BETA 1.17E-2 +/-5.34E-2

A

TIME (M):1.30 TIME:14:01:27 DATE:NOV 30,1995
NET: 77.60 +/-24.79 dpm/cm2:0.43 +/-.72
NET: 729.94 +/-75.32 dpm/cm2:17.71 +/-2.04
C FACTOR:1.0000
+/-3.68E-2 BETA .75 +/-9.94E-2

B

TIME (M):10.00 TIME:14:11:42 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.51 dpm/cm2:0 +/-1.5[illegible]
BETA GROSS: 0 NET: 0 +/-1.59 dpm/cm2:0 +/-4.3[illegible]
GAMMA GROSS: 0 C FACTOR:48002576
DALC: ALPHA 0 +/-7.71E-4 BETA 0 +/-2.09E-3

TIME (M):1.30
(DP1 17.20)

TIME (M): .50 TIME:14:12:27 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.[illegible]E-2
BETA GROSS: 0 NET: 0 +/-1.11 dpm/cm2:0 +/-3.00E-2
GAMMA GROSS: 0 C FACTOR:1.0000
DALC: ALPHA 0 +/-5.04E-4 BETA 0 +/-1.45E-3

SAMPLE #:1. TIME (M):.50 TIME:14:13:11 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 1. NET: 0 +/-4.07 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
DALC: ALPHA 0 [illegible]4 BETA 0 +/-5.34E-3

SAMPLE #:3. TIME:14:13:56 DATE:NOV 30,1995
ALPHA GROSS: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 2. +/-5.65 dpm/cm2:2.16E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
DALC: ALPHA 0 +/-5.04E-4 BETA 1.04E-3 +/-7.41E-3

SAMPLE #:4. TIME (M):.50 TIME:14:14:40 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 1. NET: 0 +/-4.07 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
DALC: ALPHA 0 +/-5.04E-4 BETA 0 +/-5.34E-3

SAMPLE #:5. TIME (M):.50 TIME:14:15:25 DATE:NOV 30,1995
ALPHA GROSS: 1. NET: 1.70 +/-3.93 dpm/cm2:5.20E-2 +/-.12
BETA GROSS: 5. NET: .32 +/-5.69 dpm/cm2:1.40E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
DALC: ALPHA 2.52E-3 +/-5.85E-3 BETA 6.33E-4 +/-7.46E-3

```
                    NET: 0
                1.  NET: 0
                    C FACTOR:1.
                    +/-5.04E-4
                TIME (M):.50        TIME:1 :17:7 DATE:NOV 30,1995
                    NET: 0          +/-.33      dpm/cm2:0
                    NET: 2.80       +/-6.87     dpm/cm2:7.56E-2
                    C FACTOR:1.0000
                    +/-5.04E-4  BETA  3.67E-3 +/-9.02E-3

                TIME (M):.50        TIME:14:18:23 DATE:NOV 30,1995
                    NET: 0          +/-.33      dpm/cm2:0
                    NET: 0          +/-1.11     dpm/cm2:0
                    C FACTOR:1.0000
                    +/-5.04E-4  BETA  0         +/-1.45E-3

SAMPLE #:17         TIME (M):.50        TIME:14:19:08 DATE:NOV 30,1995
ALPHA GROSS:        NET: 1.70       +/-3.93     dpm/cm2:5.20E-2 +/-.12
BETA  GROSS: 1.     NET: .52        +/-5.69     dpm/cm2:1.40E-2 +/-.15
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 2.82E-3 +/-5.85E-3  BETA  6.83E-4 +/-7.46E-3

SAMPLE #:18         TIME (M):.50        TIME:14:20:00 DATE:NOV 30,1995
ALPHA GROSS: 0      NET: 0          +/-.33      dpm/cm2:0          +/-1.03
BETA  GROSS: 3.     NET: 2.80       +/-6.87     dpm/cm2:7.56E-2 +/-.18
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-5.04E-4  BETA  3.67E-3 +/-9.02E-3

SAMPLE #:19**TIME (M):.50       TIME:14:20:45 DATE:NOV 30,1995
ALPHA GROSS: 0      NET: 0          +/-.33      dpm/cm2:0          +/-1.03E-2
BETA  GROSS: 3.     NET: 2.80       +/-6.87     dpm/cm2:7.56E-2 +/-.18
GAMMA GROSS: 0      C FACTOR:70595072
CALC:  ALPHA 0      +/-5.04E-4  BETA  3.67E-3 +/-9.02E-3

SAMPLE #:15         TIME (M):.50        TIME:14:21:30 DATE:NOV 30,1995
ALPHA GROSS: 1.     NET: 1.70       +/-3.93     dpm/cm2:5.20E-2 +/-.12
BETA  GROSS: 1.     NET: .52        +/-5.69     dpm/cm2:1.40E-2 +/-.15
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA [redacted]3  BETA  6.83E-4 +/-7.46E-3

SAMPLE #:16.        [redacted]          TIME:14:22:14 DATE:NOV 30,1995
ALPHA GROSS: 0      [redacted]          +/-.33      dpm/cm2:0          +/-1.03E-2
BETA  GROSS: [redacted]         +/-4.07     dpm/cm2:0          +/-.11
GAMMA GROSS: 0      [redacted].0000
CALC:  ALPHA 0      +/-5.04E-4  BETA  0         +/-5.34E-3

SAMPLE #:17         TIME (M):.50        TIME:14:22:39 DATE:NOV 30,1995
ALPHA GROSS: 0      NET: 0          +/-.33      dpm/cm2:0          +/-1.03E-2
BETA  GROSS: 0      NET: 0          +/-1.11     dpm/cm2:0          +/-3.00E-2
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-5.04E-4  BETA  0         +/-1.45E-3

SAMPLE #:18.        TIME (M):.50        TIME:14:23:43 DATE:NOV 30,1995
ALPHA GROSS: 1.     NET: 1.70       +/-3.93     dpm/cm2:5.20E-2 +/-.12
BETA  GROSS: 0      NET: 0          +/-1.28     dpm/cm2:0          +/-3.46E-2
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 2.82E-3 +/-5.85E-3  BETA  0         +/-1.68E-3
```

NET: 0
NET: .79
C FACTOR:1
+/-5.04E-4

TIME (M): .50 TIME:14:20:47 DATE:NOV 30,1995
NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
NET: [illegible] +/-[illegible] dpm/cm2:[illegible] +/-[illegible]
C FACTOR:1.0000
+/-5.04E-4 BETA [illegible] +/-[illegible]E-3

TIME:14:21:41 DATE:NOV 30,1995
NET: 1.70 +/-3.93 dpm/cm2:5.20E-2 +/-.12
NET: [illegible] +/-4.12 dpm/cm2:0 +/-.11
C FACTOR:1.0000
+/-5.04E-4 BETA 0 +/-5.41E-3

TIME:14:27:36 DATE:NOV 30,1995
NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
NET: [illegible] +/-4.07 dpm/cm2:7.56E-2 +/-.18
C FACTOR:1.0000
+/-5.04E-4 BETA 3.67E-3 +/-9.02E-3

SAMPLE #:24. TIME (M): .50 TIME:14:28:10 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 2. NET: .79 +/-5.65 dpm/cm2:2.16E-2 +/-.15
GAMMA GROSS: [illegible] C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-5.04E-4 BETA 1.04E-3 +/-7.41E-3

SAMPLE #:25. TIME (M): .50 TIME:14:28:35 DATE:NOV 30,1995
ALPHA GROSS: 0. NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 1. NET: 0 +/-4.07 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 0 +/-5.34E-3

SAMPLE #:26. TIME (M): .50 TIME:14:29:39 DATE:NOV 30,1995
ALPHA GROSS: 1. NET: 1.70 +/-3.93 dpm/cm2:5.20E-2 +/-.12
BETA GROSS: 1. NET: 0 +/-4.12 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA [illegible] +/-[illegible]E-3 BETA 0 +/-5.41E-3

[illegible] TIME:14:30:14 DATE:NOV 30,1995
ALPHA GROSS: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 1. +/-4.07 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 [illegible] 1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 0 +/-5.34E-3

SAMPLE # 23 TIME (M): .50 TIME:14:31:08 DATE:NOV 30,1995
ALPHA GROSS: [illegible] NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 1. NET: 0 +/-4.07 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.04E-4 BETA 0 +/-5.34E-3

SAMPLE # 24. TIME (M): .50 TIME:14:31:52 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 2. NET: .79 +/-5.65 dpm/cm2:2.16E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.04E-4 BETA 1.04E-3 +/-7.41E-3

```
        0        NET: 0
        4.       NET: 4.80
        0        C FACTOR:1.
      A 0         +/-5.04E-
                 TIME (M):.50          TIME:14:[illegible] DATE:NOV [illegible]
                 NET: 0          +/-.37      dpm/cm2:0          +/-1.[illegible]
                 NET:            + -1.11     dpm/cm2:0          +/-3.[illegible]
                 C FACTOR:1.0000
                  +/-5.04E-4  BETA  0          +/-1.45E-3

                 TIME (M):.50          TIME:14:34:50 DATE:NOV 30,1995
                 NET: 0          +/-.33      dpm/cm2:0          +/-1.[illegible]
                 NET: 2.84       +/-6.87     dpm/cm2:7.86E-2 +/-.[illegible]
                 C FACTOR:1.0000
                  +/-5.04E-4  BETA  3.67E-3 +/-9.02E-3

                 TIME (M):.50          TIME:14:35:33 DATE:NOV 30,1995
                 NET: 0          +/-.33      cpm/cm2:0          +/-1.03E-2
                 NET: 0          +/-4.07     cpm/cm2:0          +/-.11
                 C FACTOR:1.0000
                  +/-5.04E-4  BETA  0          +/-5.34E-3

                 TIME (M):.50          TIME:14:36:18 DATE:NOV 30,1995
                 NET: 0          +/-.33      dpm/cm2:0          +/-1.0[illegible]
                 NET: 0          +/-4.07     dpm/cm2:0          +/-.11
                 C FACTOR:1.0000
                  +/-5.04E-4  BETA  0          +/-5.34E-3

                 TIME (M):.50          TIME:14:37:02 DATE:NOV 30,1995
                 NET: 0          +/-.33      dpm/cm2:0          +/-1.03E-2
                 NET: 0          +/-1.11     dpm/cm2:0          +/-3.00E-2
                 C FACTOR:1.0000
                  +/-5.04E-4  BETA  0          +/-1.45E-3

                 TIME (M):.50          TIME:14:37:47 DATE:NOV 30,1995
                 NET: 0          +/-.33      dpm/cm2:0          +/-1.03E-2
                 NET: .79        +/-5.65     dpm/cm2:2.16E-2 +/-.15
                 C FACTOR:1.0000
                  +/-5.04E-4  BETA  1.04E-3 +/-7.41E-3

                 TIME (M):.50          TIME:14:38:31 DATE:NOV 30,1995
                 NET: 0          +/-.33      dpm/cm2:0          +/-1.03E-2
                 NET: .79        +/-5.65     dpm/cm2:2.16E-2 +/-.15
                 C FACTOR:1.0000
                  +/-5.04E-4  BETA  1.04E-3 +/-7.41E-3

                 TIME (M):.50          TIME:14:39:16 DATE:NOV 30,1995
                 NET: 0          +/-.33      dpm/cm2:0          +/-1.03E-2
                 NET: 2.80       +/-6.87     dpm/cm2:7.56E-2 +/-.18
                 C FACTOR:1.0000
                  +/-5.04E-4  BETA  3.67E-3 +/-9.02E-3

                 TIME (M):.50          TIME:14:40:00 DATE:NOV 30,1995
                 NET: 0          +/-.33      dpm/cm2:0          +/-1.03E-2
                 NET: .79        +/-5.65     dpm/cm2:2.16E-2 +/-.15
                 C FACTOR:1.0000
                  +/-5.04E-4  BETA  1.04E-3 +/-7.41E-3
```

NET: 0
NET: 0
C FACTOR:1.
+/-5.04E-

TIME (M):.50
NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-
+/-4.07 dpm/cm2:0 +/-.11
C FACTOR:1.0000
+/-5.04E-4 BETA 0 +/-5.34E-3

TIME (M): .50 TIME:14:41:57 DATE:NOV 30,1995
NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
NET: 0 +/-4.07 dpm/cm2:0 +/-.11
C FACTOR:1.0000
+/-5.04E-4 BETA 0 +/-5.34E-3

TIME (M): .50 TIME:14:43:41 DATE:NOV 30,1995
NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
NET: 0 +/-1.11 dpm/cm2:0 +/-3.00E-2
C FACTOR:1.0000
+/-5.04E-4 BETA 0 +/-1.43E-3

TIME (M):.50 TIME:14:44:25 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 4. NET: 4.80 +/-7.91 dpm/cm2:.12 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
+/-5.04E-4 BETA 6.29E-3 +/-1.03E-2

TIME (M):.50 TIME:14:45:10 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 0 NET: 0 +/-1.11 dpm/cm2:0 +/-3.00E-2
GAMMA GROSS: 0 C FACTOR:1.0000
+/-5.04E-4 BETA 0 +/-1.43E-3

TIME (M):.50 TIME:14:45:53 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 4. NET: 4.80 +/-7.91 dpm/cm2:.12 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 0 [redacted] 4 BETA 6.29E-3 +/-1.03E-2

TIME:14:46:38 DATE:NOV 30,1995
ALPHA GROSS: 0 [redacted] +/-.33 dpm/cm2:0 +/-1.03E-2
BETA GROSS: 0 [redacted] +/-1.11 dpm/cm2:0 +/-3.00E-2
GAMMA GROSS: 0 [redacted] .0000
ALPHA 0 +/-5.04E-4 BETA 0 +/-1.43E-3

TIME (M):.50 TIME:14:47:29 DATE:NOV 30,1995
ALPHA GROSS: 0 NET: 0 +/-.33 dpm/cm2:0. +/-1.03E-2
BETA GROSS: 1. NET: 0 +/-4.07 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-5.04E-4 BETA 0 +/-5.34E-3

RESET COUNT:100000. BETA
TIME (M):.50
HIGH VOLTAGE:1300.
WINDOW:450.
SAMPLE :1.

12/5

:3.20
:10.00
00
:1000.00
: (CONC/F)*G

TIME (M):.50 TIME:10:23:09 DATE:DEC 05,1995
GROSS: 21. NET: 1,599.70 +/-90.24 dpm/cm2:32.49 +/-2.7[illegible]
GROSS: 21. NET: 3.00 +/-10.27 dpm/cm2:.13 +/-1.02
GROSS: 0 C FACTOR:1.0000
ALPHA 77 +/-.17 BETA 3.57E-3 +/-5.27E-2

TIME (M):.50 TIME:10:23:54 DATE:DEC 05,1995
GROSS: 57. NET: 93.70 +/-26.87 dpm/cm2:2.86 +/-.8[illegible]
GROSS: 731. NET: 717.43 +/-74.82 dpm/cm2:19.11 +/-3.[illegible]
GROSS: 0 C FACTOR:1.0000
ALPHA .[illegible] +/-7.99E-3 BETA .92 +/-9.81E-2

TIME (M):.50 TIME:10:34:09 DATE:DEC 05,1995
GROSS: 0 NET: 0 +/-.33 dpm/cm2:0 +/-1.0[illegible]
GROSS: 21. NET: 0 +/-1.42 dpm/cm2:0 +/-3.8[illegible]
GROSS: 0 C FACTOR:48002576
ALPHA 0 +/-6.04E-4 BETA 0 +/-1.87E-3

BKGND (CPM):0
BKGND (CPM):2.09

#:3. TIME (M):.50 TIME:10:34:54 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.02 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-0 BETA 0 +/-5.27E-3

#:4. TIME (M):.50 TIME:10:35:37 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.02 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-0 BETA 0 +/-5.27E-3

#:5. TIME (M):[illegible] TIME:10:36:20 DATE:DEC 05,1995
ALPHA GROSS: [illegible] +/-0 dpm/cm2:0 +/-0
BETA GROSS: [illegible] +/-.89 dpm/cm2:0 +/-2.42E-2
GAMMA GROSS: [illegible] 1.0000
ALPHA [illegible] BETA 0 +/-1.17E-3

#:6. TIME (M):.50 TIME:10:37:05 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 4. NET: 5.90 +/-7.89 dpm/cm2:.15 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-0 BETA 7.74E-3 +/-1.03E-2

#:7. TIME (M):.50 TIME:10:37:49 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 0 NET: 0 +/-.89 dpm/cm2:0 +/-2.42E-2
GAMMA GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-0 BETA 0 +/-1.17E-3

#:9. TIME (M):.50 TIME:10:38:32 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0

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[illegible] 0 C FACTOR:[illegible]
[illegible] ALPHA 0 +/-0

[illegible] TIME (M):.50 [illegible]
[illegible] NET: 0 [illegible]
[illegible] 2. NET: 1.90 +/-5.61 [illegible] dpm/cm2:5.13E-2 +/-.15
[illegible] C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-0 BETA 2.49E-3 +/-7.36E-3

[illegible] TIME (M):.50 TIME:10:40:43 DATE:DEC 05,1995
[illegible] NET: 2.00 +/-3.92 dpm/cm2:6.12E-2 +/-.12
[illegible] NET: 1.37 +/-5.65 dpm/cm2:4.24E-2 +/-.1[illegible]
[illegible] C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-5.82E-3 BETA 3.06E-3 +/-7.41E-3

[illegible] TIME (M):.50 TIME:10:41:28 DATE:DEC 05,1995
[illegible] NET: 0 +/-0 dpm/cm2:0 +/-0
[illegible] NET: 3.90 +/-6.84 dpm/cm2:.10 +/-.18
[illegible] C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-0 BETA 5.11E-3 +/-8.98E-3

[illegible] TIME (M):.50 TIME:10:42:20 DATE:DEC 05,1995
ALPHA GROSS: 2. NET: 4.00 +/-5.54 dpm/cm2:.12 +/-.16
BETA GROSS: 3. NET: 3.24 +/-6.90 dpm/cm2:8.76E-2 +/-.18
GAMMA GROSS: 0 C FACTOR 1.0000
[illegible] ALPHA 3.94E-3 +/-8.24E-3 BETA 4.25E-3 +/-9.06E-3

[illegible] #:**** TIME (M):.50 TIME:10:43:04 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-2.42E-2
GAMMA GROSS: 0 C FACTOR:70595072
CALC: ALPHA 0 +/-0 BETA 0 +/-1.17E-3

[illegible] #:15. TIME (M):.50 TIME:10:43:47 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.02 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-0 BETA 0 +/-5.27E-3

[illegible] #:16. [illegible] TIME:10:44:31 DATE:DEC 05,1995
[illegible] GROSS: [illegible] +/-0 dpm/cm2:0 +/-0
[illegible] GROSS: [illegible] +/-.39 dpm/cm2:0 +/-2.42E-2
[illegible] GROSS: [illegible] .0000
[illegible] ALPHA [illegible] BETA 0 +/-1.17E-3

[illegible] #:17. TIME (M):.50 TIME:10:45:14 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.90 +/-5.61 dpm/cm2:5.13E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-0 BETA 2.49E-3 +/-7.36E-3

[illegible] #:18. TIME (M):.50 TIME:10:45:57 DATE:DEC 05,1995
ALPHA GROSS: 1. NET: 2.00 +/-3.92 dpm/cm2:6.12E-2 +/-.12
BETA GROSS: 0 NET: 0 +/-1.10 dpm/cm2:0 +/-2.98E-2
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 2.97E-3 +/-5.82E-3 BETA 0 +/-1.44E-3

[illegible] #:19. TIME (M):.50 TIME:10:46:42 DATE:DEC 05,1995

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[illegible]                                  TIME: [illegible]
[illegible]                                  [illegible]
[illegible] NET: [illegible]                 [illegible]
[illegible] 0          C FACTOR:1
[illegible] ALPHA 0     +/-0                 BETA [illegible]

[illegible]        TIME (M):.50              [illegible]
[illegible] 1.     NET: 2.00                 [illegible]  dpm/cm2:[illegible]E-2 +/-.12
[illegible] 3.     NET: 3.57                 [illegible]  dpm/cm2:[illegible]E-2 +/-.18
[illegible]        C FACTOR:[illegible]
[illegible] ALPHA [illegible]  +/-[illegible]E-[illegible]  BETA [illegible]E-[illegible] +/-[illegible]E-[illegible]

[illegible]        TIME (M):.50              TIME:10:48:54 DATE:DEC 05,1995
[illegible] 0      NET: 0          +/-0      dpm/cm2:0          +/-0
[illegible] 0      NET: 0          +/-.89    dpm/cm2:0          +/-[illegible]
[illegible]        C FACTOR:1.0000
[illegible] ALPHA 0     +/-0                 BETA 0             +/-1.17E-3

[illegible]        TIME (M):.50              TIME:10:49:38 DATE:DEC 05,1995
[illegible] 0      NET: 0          +/-0      dpm/cm2:0          +/-0
[illegible] 3.     NET: 3.90       +/-[illegible]  dpm/cm2:.10  +/-.18
[illegible] 0      C FACTOR:1.0000
[illegible] ALPHA 0     +/-0                 BETA 5.11E-3 +/-8.[illegible]E-3

[illegible]        TIME (M):.50              TIME:10:50:21 DATE:DEC 05,1995
[illegible] 0      NET: 0          +/-0      dpm/cm2:0          +/-0
[illegible] 1.     NET: 0          +/-4.02   dpm/cm2:0          +/-.10
[illegible] 0      C FACTOR:1.0000
[illegible] ALPHA 0     +/-0                 BETA 0             +/-5.27E-3

[illegible]        TIME (M):.50              TIME:10:51:04 DATE:DEC 05,1995
[illegible] 0      NET: 0          +/-0      dpm/cm2:0          +/-0
[illegible] 1.     NET: 1.90       +/-5.61   dpm/cm2:5.13E-2 +/-.15
[illegible] 0      C FACTOR:1.0000
[illegible] ALPHA 0     +/-0                 BETA 2.49E-3 +/-7.36E-3

[illegible]        TIME (M):.50              TIME:10:51:48 DATE:DEC 05,1995
[illegible] 0      NET: 0          +/-0      dpm/cm2:0          +/-0
[illegible] 0      NET: 0          +/-.89    dpm/cm2:0          +/-2.42E-2
[illegible] 0      C FACTOR:1.0000
[illegible] ALPHA 0     +/-0                 BETA 0             +/-1.17E-3

[illegible]                                  TIME:10:52:31 DATE:DEC 05,1995
[illegible] 0                                +/-0      dpm/cm2:0          +/-0
[illegible] 1.                               +/-4.02   dpm/cm2:0          +/-.10
[illegible] 0                                [illegible].0000
[illegible] ALPHA [illegible]                BETA 0             +/-5.27E-3

[illegible]        TIME (M):.50              TIME:10:53:15 DATE:DEC 05,1995
[illegible] 0      NET: 0          +/-0      dpm/cm2:0          +/-0
[illegible] 1.     NET: 0          +/-4.02   dpm/cm2:0          +/-.10
[illegible] 0      C FACTOR:1.0000
[illegible] ALPHA 0     +/-0                 BETA 0             +/-5.27E-3

[illegible]        TIME (M):.50              TIME:10:53:58 DATE:DEC 05,1995
[illegible] 0      NET: 0          +/-0      dpm/cm2:0          +/-0
[illegible] 0      NET: 0          +/-.89    dpm/cm2:0          +/-2.42E-2
[illegible] 0      C FACTOR:1.0000
[illegible] ALPHA 0     +/-0                 BETA 0             +/-1.17E-3

[illegible]        TIME (M):.50              TIME:10:54:42 DATE:DEC 05,1995
[illegible]        NET: [illegible]          [illegible]
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[illegible] 0 C FACTOR:1.[illegible]
[illegible]HA 2.97E-3 +/-5.82E-3 [illegible]

[illegible] TIME (M):.50 [illegible]
[illegible] NET: 0 [illegible]
[illegible] NET: 3.90 +/-6.84 dpm/cm2:[illegible] +/- [illegible]
[illegible] C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-[illegible] BETA 5.11E-3 +/-8.98E-3

[illegible] #:[illegible] TIME (M):.50 TIME:10:56:52 DATE:DEC 05,1995
[illegible] GROSS: [illegible] NET: 0 +/-0 dpm/cm2:0 +/-0
[illegible] GROSS: 2. NET: 1.90 +/-5.61 dpm/cm2:5.13E-2 +/-.15
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 2.49E-3 +/-7.36E-3

[illegible] #:34. TIME (M):.50 TIME:10:57:35 DATE:DEC 05,1995
[illegible] GROSS: [illegible] NET: 2.00 +/-3.92 dpm/cm2:6.12E-2 +/-.12
[illegible] GROSS: [illegible] NET: 0 +/-4.07 dpm/cm2:0 +/-.11
[illegible] GROSS: [illegible] C FACTOR:1.0000
[illegible] ALPHA 2.97E-3 +/-5.82E-3 BETA 0 +/-5.34E-3

[illegible] #:35. TIME (M):.50 TIME:10:58:19 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.90 +/-5.61 dpm/cm2:5.13E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 2.49E-3 +/-7.36E-3

[illegible] #:36. TIME (M):.50 TIME:10:59:02 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 3. NET: 3.90 +/-6.84 dpm/cm2:.10 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 5.11E-3 +/-8.98E-3

[illegible] #:37. TIME (M):.50 TIME:10:59:46 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.02 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 0 +/-5.27E-3

[illegible] #:38. [illegible] TIME:11:00:29 DATE:DEC 05,1995
ALPHA GROSS: [illegible] +/-0 dpm/cm2:0 +/-0
BETA GROSS: [illegible] +/-5.61 dpm/cm2:5.13E-2 +/-.15
GAMMA GROSS: [illegible] .0000
[illegible] ALPHA [illegible] BETA 2.49E-3 +/-7.36E-3

[illegible] #:39. TIME (M):.50 TIME:11:01:13 DATE:DEC 05,1995
ALPHA GROSS: 1. NET: 2.00 +/-3.92 dpm/cm2:6.12E-2 +/-.12
BETA GROSS: 0 NET: 0 +/-1.10 dpm/cm2:0 +/-2.98E-2
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 2.97E-3 +/-5.82E-3 BETA 0 +/-1.44E-3

[illegible] #:40. TIME (M):.50 TIME:11:01:56 DATE:DEC 05,1995
[illegible] GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.02 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 0 +/-5.27E-3

[illegible] #:41. TIME (M):.50 TIME:11:02:40 DATE:DEC 05,1995
[illegible] GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0

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[illegible]                    NET: [illegible]                    [illegible] dpm/cm2 [illegible]
[illegible]                    C FACTOR:1.
[illegible] ALPHA 0             +/-0                    [illegible]

[illegible]                TIME (M):.50                [illegible] DATE [illegible] 1995
[illegible] GROSS: 0           NET: 0                  +/-0            dpm/cm2:0          +/-
[illegible] GROSS: 1.          NET: 0                  +/-4.02         dpm/cm2:0          +/- 1.
[illegible] GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA 0             +/-0                   BETA  0          +/-5.27E-3

[illegible] # [illegible]      TIME (M):.50            TIME:11:04:50 DATE:DEC 05 1995
[illegible] GROSS: 0           NET: 0                  +/-0            dpm/cm2:0          +/-
[illegible] GROSS: [illegible] NET: 3.90               +/-5.94         dpm/cm2:.10        +/-.1
[illegible] GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA               +/-0                   BETA  5.11E-3 +/-8.98E-3

[illegible] #:47.              TIME (M):.50            TIME:11:05:34 DATE:DEC 05,1995
ALPHA GROSS: 0                 NET: 0                  +/-0            dpm/cm2:0          +/-0
BETA  GROSS: 1.                NET: 0                  +/-4.02         dpm/cm2:0          +/-.10
GAMMA GROSS: 0                 C FACTOR:1.0000
[illegible]: ALPHA 0            +/-0                   BETA  0          +/-5.27E-3

AMPLE #:48.                    TIME (M):.50            TIME:11:06:17 DATE:DEC 05,1995
ALPHA GROSS: 0                 NET: 0                  +/-0            dpm/cm2:0          +/-0
BETA  GROSS: 0                 NET: 0                  +/-.89          dpm/cm2:0          +/-2.4
GAMMA GROSS: 0                 C FACTOR:1.0000
[illegible]: ALPHA 0            +/-0                   BETA  0          +/-1.17E-3

[illegible]PLE # 47.           TIME (M):.50            TIME:11:07:01 DATE:DEC 05,1995
ALPHA GROSS: 1                 NET: 2.00               +/-3.92         dpm/cm2:6.12E-2 +/-.12
BETA  GROSS: 2.                NET: 1.57               +/-5.65         dpm/cm2:4.24E-2 +/-.15
GAMMA GROSS: 0                 C FACTOR:1.0000
[illegible]: ALPHA 2.97E-3 +/-5.82E-3  BETA  2.06E-3 +/-7.41E-3

MPLE #:49.                     TIME (M):.50            TIME:11:07:44 DATE:DEC 05,1995
ALPHA GROSS: 0                 NET: 0                  +/-0            dpm/cm2:0          +/-0
BETA  GROSS: 1.                NET: 0                  +/-4.02         dpm/cm2:0          +/-.10
GAMMA GROSS: 0                 C FACTOR:1.0000
CALC:  ALPHA 0                  +/-0                   BETA  0          +/-5.27E-3

MPLE #:49.                     [redacted]              TIME:11:08:28 DATE:DEC 05,1995
ALPHA GROSS: [redacted]                                +/-0            dpm/cm2:0          +/-0
BETA  GROSS: [redacted]                                +/-4.02         dpm/cm2:0          +/-.10
GAMMA GROSS: [redacted]                                .0000
CALC:  ALPHA [redacted]                                BETA  0          +/-5.27E-3

MPLE #:50.                     TIME (M):.50            TIME:11:09:11 DATE:DEC 05,1995
ALPHA GROSS: 1.                NET: 2.00               +/-3.92         dpm/cm2:6.12E-2 +/-.12
BETA  GROSS: 1.                NET: 0                  +/-4.07         dpm/cm2:0          +/-.11
GAMMA GROSS: 0                 C FACTOR:1.0000
CALC:  ALPHA 2.97E-3 +/-5.82E-3  BETA  0                +/-5.34E-3

    #:51.                      TIME (M):.50            TIME:11:09:55 DATE:DEC 05,1995
ALPHA GROSS: 0                 NET: 0                  +/-0            dpm/cm2:0          +/-0
BETA  GROSS: 2.                NET: 1.90               +/-5.61         dpm/cm2:5.13E-2 +/-.15
GAMMA GROSS: 0                 C FACTOR:1.0000
CALC:  ALPHA 0                  -/-0                   BETA  2.49E-3 +/-7.36E-3

AMPLE #:52.                    TIME (M):.50            TIME:11:10:38 DATE:DEC 05,1995
ALPHA GROSS: 0                 NET: 0                  +/-0            dpm/cm2:0          +/-0
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[illegible]
[illegible] NET: [illegible]
[illegible] 0 C FACTOR:1.[illegible]
[illegible]-A 0 +/-0 [illegible]

[illegible] TIME (M):.50 [illegible]
[illegible]: 0 NET: 0 [illegible]
[illegible] GROSS: 0 NET: 0 +/- [illegible] dpm/cm2:0 +/-2.42E-2
[illegible] 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 0 +/-1.17E-3

[illegible] TIME (M):.50 TIME:11:12:49 DATE:DEC 05,1995
[illegible] GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
[illegible] 0 NET: 7.90 +/-8.81 dpm/cm2:.21 +/-[illegible]
[illegible] 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 1.03E-2 +/-1.15E-2

[illegible] TIME (M):.50 TIME:11:13:32 DATE:DEC 05,1995
[illegible] GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
[illegible] GROSS: 0 NET: 0 +/-4.02 dpm/cm2:0 +/-.10
[illegible] 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 0 +/-5.27E-3

[illegible] TIME (M):.50 TIME:11:14:16 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.02 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 0 +/-5.27E-3

[illegible] TIME (M):.50 TIME:11:14:59 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 0 NET: 0 +/-.89 dpm/cm2:0 +/-2.42E-2
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 0 +/-1.17E-3

[illegible] TIME (M):.50 TIME:11:15:43 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 3. NET: 3.90 +/-6.84 dpm/cm2:.10 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-0 BETA 5.11E-3 +/-8.99E-3

[illegible] TIME [redacted] TIME:11:16:26 DATE:DEC 05,1995
[illegible] GROSS: 0 [redacted] +/-0 dpm/cm2:0 +/-0
[illegible] GROSS: 1 [redacted] +/-4.02 dpm/cm2:0 +/-.10
[illegible] GROSS: 0 [redacted] .0000
[illegible] ALPHA [redacted] BETA 0 +/-5.27E-3

[illegible] TIME (M):.50 TIME:11:17:10 DATE:DEC 05,1995
ALPHA GROSS: 1. NET: 2.00 +/-3.92 dpm/cm2:5.12E-2 +/-.12
BETA GROSS: 0 NET: 0 +/-1.10 dpm/cm2:0 +/-2.98E-2
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]ALC: ALPHA 2.97E-3 +/-3.82E-3 BETA 0 +/-1.44E-3

[illegible] #:62. TIME (M):.50 TIME:11:17:53 DATE:DEC 05,1995
[illegible] GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 3. NET: 3.90 +/-6.84 dpm/cm2:.10 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]ALC: ALPHA 0 +/-0 BETA 5.11E-3 +/-8.98E-3

[illegible] #:63. TIME (M):.50 TIME:11:18:37 DATE:DEC 05,1995
[illegible] GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0

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C FACTOR:1.
+/-0

TIME (M):.50
NET: 2.00
NET: 0
C FACTOR:1.0000

MPLE #:66. TIME (M):.50 TIME:11:20:47 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 3. NET: 3.90 +/-6.84 dpm/cm2:.10 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-0 BETA 5.11E-3 +/-8.98E-3

MPLE #:67. TIME (M):.50 TIME:11:21:31 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 3. NET: 3.90 +/-6.84 dpm/cm2:.10 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-0 BETA 5.11E-3 +/-8.98E-3

MPLE #:68. TIME (M):.50 TIME:11:22:14 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 3. NET: 3.90 +/-6.84 dpm/cm2:.10 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-0 BETA 5.11E-3 +/-8.98E-3

MPLE #:69. TIME (M):.50 TIME:11:22:58 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1 NET: 0 +/-4.02 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-0 BETA 0 +/-5.27E-3

MPLE #:70. TIME (M):.50 TIME:11:23:42 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.90 +/-5.61 dpm/cm2:5.13E-2 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-0 BETA 2.49E-3 +/-7.36E-3

MPLE #:71. [redacted] TIME:11:24:25 DATE:DEC 05,1995
ALPHA GROSS: [redacted] +/-0 dpm/cm2:0 +/-0
BETA GROSS: [redacted] +/-5.61 dpm/cm2:5.13E-2 +/-.15
GAMMA GROSS: [redacted] .0000
DCALC: ALPHA [redacted] BETA 2.49E-3 +/-7.36E-3

MPLE #:72. TIME (M):.50 TIME:11:25:17 DATE:DEC 05,1995
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.02 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-0 BETA 0 +/-5.27E-3

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[illegible] TIME:08:[illegible] DATE:DEC 13,1993
[illegible] NET: [illegible] +/-103.92 dpm/cm2:[illegible] [illegible]
[illegible] NET: 26.77 +/-54.41 dpm/cm2:2.07 [illegible]
[illegible] C FACTOR:1.0000
[illegible] .15 BETA .10 +/-7.16E-2

[illegible] #:
[illegible] POINT:100300 BETA
[illegible] TIME (M):.5[illegible]
[illegible] VOLTAGE:1[illegible]
[illegible] WINDOW:[illegible]
[illegible] SAMPLE:1.
[illegible] OF SAMPLE:100.
[illegible] OF [illegible]:1.96
TREAT #:0
EFFIC (%):32.65
PROBSTLK (%):16.40
BKGND (CPM):.30
EFFIC (%):37.00
BKGND (CPM):3.20
[illegible] TIME (M):10.00
[illegible]:[illegible]
[illegible]:1000.00
[illegible] RELATION: (CONC/F)*G

[illegible]PLE #:1. TIME (M):.50 TIME:08:37:41 DATE:DEC 13,1993
ALPHA GROSS: 520. NET: 1039.70 +/-39.39 dpm/cm2:31.84 +/-2.73
BETA GROSS: 105. NET: 36.28 +/-42.77 dpm/cm2:1.93 +/-1.15
GAMMA GROSS: 0 C FACTOR:1.0000
SCALE: ALPHA 1.54 +/-.13 BETA 4.76E-2 +/-5.61E-2

[illegible]E #:2. TIME (M):.50 TIME:08:38:26 DATE:DEC 13,1993
[illegible] GROSS: 42. NET: 83.70 +/-25.40 dpm/cm2:2.56 +/-.77
[illegible] GROSS: 362. NET: 707.07 +/-74.70 dpm/cm2:19.11 +/-2.01
GAMMA GROSS: 0 C FACTOR:1.0000

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                                  C FACTOR:1.0000
[illegible]-4 1.43E-4 +/-7.71E-[illegible]

[illegible] :.40
[illegible] :3.90 [illegible]

[illegible]          TIME (M):.50        TIME:[illegible] DATE:DEC 13,1995
[illegible] GROSS: [illegible]   NET: 0          +/-.39      dpm/cm2:[illegible]
[illegible] GROSS: [illegible]   NET: [illegible]  +/-4.10      dpm/cm2:[illegible]
[illegible] GROSS: 0             C FACTOR:1.0000
[illegible] ALPHA [illegible]      +/-5.82E-4  BETA  0         +/-5.38E-3

[illegible]          TIME (M):.50        TIME:08:50:[illegible] DATE:DEC 13,1995
[illegible] GROSS: [illegible]   NET: 0          +/-.39      dpm/cm2:0          +/-[illegible]
[illegible] GROSS: [illegible]   NET: 0          +/-4.1[illegible]  dpm/cm2:0          [illegible]
[illegible] GROSS: 0             C FACTOR:1.0000
[illegible] ALPHA [illegible]      +/-5.82E-4  BETA  0         +/-5.38E-3

[illegible]          TIME (M):.50        TIME:08:50:57 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
BETA  GROSS: [illegible]   NET: 0          +/-4.10     dpm/cm2:0          +/-.11
GAMMA GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA 0        +/-5.82E-4  BETA  0         +/-5.38E-3

SAMPLE #:5.          TIME (M):.50        TIME:08:51:37 DATE:DEC 13,1995
ALPHA GROSS: 1.          NET: 1.60       +/-3.93     dpm/cm2:4.90E-2 +/-.12
BETA  GROSS: 1.          NET: 0          +/-4.15     dpm/cm2:0          +/-.11
GAMMA GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA 1.37E-3 +/-5.85E-3  BETA  0         +/-5.45E-3

SAMPLE #:7.          TIME (M):.50        TIME:08:52:21 DATE:DEC 13,1995
ALPHA GROSS: 2.          NET: 3.60       +/-5.55     dpm/cm2:.11        +/-.17
BETA  GROSS: 3           NET: 0          +/-1.52     dpm/cm2:0          +/-4.12E-2
GAMMA GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA 5.33E-3 +/-8.26E-3  BETA  0         +/-2.00E-3

SAMPLE #:8.          TIME (M):.50        TIME:08:53:05 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 3.          NET: 2.09       +/-6.89     dpm/cm2:5.67E-2 +/-.18
GAMMA GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA 0 [illegible]-4  BETA  2.75E-3 +/-9.05E-3

[illegible]          [illegible]         TIME:08:53:49 DATE:DEC 13,1995
ALPHA GROSS: 0 [illegible]  +/-.39      dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 0 [illegible]  +/-1.22     dpm/cm2:0          +/-3.31E-2
GAMMA GROSS: 0 [illegible] 1.0000
[illegible] ALPHA 0        +/-5.82E-4  BETA  0         +/-1.60E-3

SAMPLE #:10.         TIME (M):.50        TIME:08:54:33 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 2.          NET: 9.99E-2 +/-5.67    dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0           C FACTOR:1.0000
[illegible]: ALPHA 0        +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

SAMPLE #:11          TIME (M):.50        TIME:08:55:17 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 3.          NET: 2.09       +/-6.89     dpm/cm2:5.67E-2 +/-.13
GAMMA GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA 0        +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3
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[illegible] . 0          NET: 0
[illegible] 1.           NET: 0
[illegible] 0            C FACTOR:1.
[illegible] 0            +/-5.82E-4  [illegible]

[illegible]              TIME (M):.50        TIME:[illegible]:37:23 DATE:DEC 13,1995
[illegible] 1            NET: 1.60           +/-3.93     dpm/cm2:[illegible]
BETA [illegible] 1.      NET: 0              +/-4.13     dpm/cm2:0          +/-[illegible]
[illegible] 0            C FACTOR:1.0000
[illegible] ALPHA 2.37E-3 +/-5.85E-3  BETA 0          +/-5.45E-3

[illegible]              TIME (M):.50        TIME:08:58:1[illegible] DATE:DEC 13,1995
[illegible]              NET: 0              +/-.39      dpm/cm2:0          +/-[illegible]
[illegible]              NET: 0              +/-1.22     dpm/cm2:0          +/-[illegible]
GAMMA GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA 0      +/-5.82E-4  BETA 0          +/-1.60E-3

[illegible]              TIME (M):.50        TIME:08:56:55 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: 0            NET: 0              +/-1.22     dpm/cm2:0          +/-3.31E-2
GAMMA GROSS: 0           C FACTOR:1.0000
SCALC: ALPHA 0           +/-5.82E-4  BETA 0          +/-1.60E-3

AMPLE #:17.              TIME (M):.50        TIME:08:59:38 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0              +/-.39.     dpm/cm2:0          +/-1.20E-2
[illegible] GROSS: 1.    NET: 0              +/-4.10     dpm/cm2:0          +/-.11
[illegible] GROSS: 0     C FACTOR:1.0000
SCALC: ALPHA 0           +/-5.82E-4  BETA 0          +/-5.38E-3

AMPLE #:18.              TIME (M):.50        TIME:09:00:22 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: 2.           NET: 9.99E-2 +/-5.67            dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0           C FACTOR:1.0000
SCALC: ALPHA 0           +/-5.82E-4  BETA 1.31E-4 +/-7.44E-3

AMPLE #:19.              TIME (M):.50        TIME:09:01:05 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: 2.           NET: 9.99E-2 +/-5.67            dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0           C FACTOR:1.0000
SCALC: ALPHA 0           [illegible]4  BETA 1.31E-4 +/-7.44E-3

AMPLE #:20.              [illegible]         TIME:09:01:50 DATE:DEC 13,1995
ALPHA GROSS: 1           [illegible]         +/-3.93     dpm/cm2:4.90E-2 +/-.12
BETA GROSS: 2            [illegible]         +/-5.71     dpm/cm2:0          +/-.15
GAMMA GROSS: 0           [illegible].0000
SCALC: ALPHA 2.37E-3 +/-5.85E-3  BETA 0          +/-7.49E-3

AMPLE #:21.              TIME (M):.50        TIME:09:02:34 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: 2.           NET: 9.99E-2 +/-5.67            dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA 0      +/-5.82E-4  BETA 1.31E-4 +/-7.44E-3

AMPLE #:22.              TIME (M):.50        TIME:09:03:17 DATE:DEC 13,1995
ALPHA GROSS: 0           NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: 2.           NET: 9.99E-2 +/-5.67            dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0           C FACTOR:1.0000
SCALC: ALPHA 0           +/-5.82E-4  BETA 1.31E-4 +/-7.44E-3
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                TIME (M):.50          TIME:[illegible]
[illegible] 0         NET: 0
[illegible] 1.        NET: 0
[illegible] 0         C FACTOR:1
[illegible] 0          +/-5.82E-4  [illegible]

[illegible]     TIME (M):.50          TIME:09:03:29 DATE:DEC 13,1995
[illegible]           NET: 0          +/-.39      dpm/cm2:0        +/-[illegible]
[illegible] 5.        NET: 5.10       +/-6.85     dpm/cm2:.16      +/-.17
[illegible]           C FACTOR:1.0000
[illegible] 0          +/-5.82E-4  BETA  8.00E-3 +/-1.16E-2

[illegible]     TIME (M):.50          TIME:09:06:11 DATE:DEC 13,1995
[illegible] 0         NET: 0          +/-.39      dpm/cm2:0        +/-[illegible]
[illegible] 1.        NET: 0          +/-4.10     dpm/cm2:0        +/-[illegible]
[illegible] 0         C FACTOR:1.0000
[illegible]            +/-5.82E-4  BETA  0         +/-5.38E-3

[illegible]     TIME (M):.50          TIME:09:06:55 DATE:DEC 13,1995
[illegible]           NET: 0          +/-.39      dpm/cm2:0        +/-1.20E-2
[illegible] 3.        NET: 2.09       +/-6.89     dpm/cm2:5.67E-2  +/-.18
[illegible] 0         C FACTOR:1.0000
[illegible] 0          +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3

AMPLE #:28.     TIME (M):.50          TIME:09:07:38 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0          +/-.39      dpm/cm2:0        +/-1.20
[illegible] GROSS: 1. NET: 0          +/-4.10     dpm/cm2:0        +/-.11
[illegible] GROSS: 0  C FACTOR:1.0000
[illegible] ALPHA 0    +/-5.82E-4  BETA  0         +/-5.38E-3

[illegible]     TIME (M):.50          TIME:09:08:22 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0          +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 0        NET: 0          +/-1.22     dpm/cm2:0        +/-3.31E-2
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 0         +/-5.82E-4  BETA  0         +/-1.60E-3

AMPLE #:30.     TIME (M):.50          TIME:09:09:05 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0          +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 2.       NET: 9.99E-2    +/-5.67     dpm/cm2:2.70E-3  +/-.15
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA [illegible]4  BETA  1.31E-4 +/-7.44E-3

[illegible]     [illegible]           TIME:09:09:49 DATE:DEC 13,1995
ALPHA GROSS: [illegible]              +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: [illegible]              +/-1.22     dpm/cm2:0        +/-3.31E-2
GAMMA GROSS: [illegible]1.0000
CALC:  ALPHA 0         +/-5.82E-4  BETA  0         +/-1.60E-3

AMPLE #:32.     TIME (M):.50          TIME:09:10:32 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0          +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 0        NET: 0          +/-1.22     dpm/cm2:0        +/-3.31E-2
[illegible] GROSS: 0  C FACTOR:1.0000
[illegible]  ALPHA 0   +/-5.82E-4  BETA  0         +/-1.60E-3

AMPLE #:33.     TIME (M):.50          TIME:09:11:16 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0          +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 2.       NET: 9.99E-2    +/-5.67     dpm/cm2:2.70E-3  +/-.15
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 0         +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3
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                    TIME (M):.50
  GROSS: 0          NET: 0
        1.          NET: 0
        0           C FACTOR:1
     -A 0           +/-5.82E-4

                    TIME (M):.50          TIME:09:13:18 DATE:DEC 13,1995
  GROSS:            NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
  GROSS: 1.         NET: 0          +/-4.10     dpm/cm2:0          +/-.11
  GROSS: 0          C FACTOR:1.0000
  ALPHA             +/-5.82E-4  BETA  0         +/-5.38E-3

  #:37.             TIME (M):.50          TIME:09:14:09 DATE:DEC 13,1995
  GROSS: 0          NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
  GROSS:            NET: 9.99E-2    +/-5.67     dpm/cm2:2.70E-3    +/-.15
  GROSS: 0          C FACTOR:1.0000
  ALPHA 0           +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

  #:38.             TIME (M):.50          TIME:09:14:53 DATE:DEC 13,1995
  ALPHA GROSS: 0    NET: 0          +/-.39      dpm/cm2:0          +/-1.2
  BETA  GROSS: 0    NET: 0          +/-1.22     dpm/cm2:0          +/-3.3
  GAMMA GROSS: 0    C FACTOR:1.0000
  CALC:  ALPHA 0    +/-5.82E-4  BETA  0         +/-1.60E-3

  #:39.             TIME (M):.50          TIME:09:15:37 DATE:DEC 13,1995
  ALPHA GROSS: 0    NET: 0          +/-.39      dpm/cm2:0          +/-1.2
  BETA  GROSS: 0    NET: 0          +/-1.22     dpm/cm2:0          +/-3.31E-2
  GAMMA GROSS: 0    C FACTOR:1.0000
  CALC:  ALPHA 0    +/-5.82E-4  BETA  0         +/-1.60E-3

  #:40.             TIME (M):.50          TIME:09:16:20 DATE:DEC 13,1995
  ALPHA GROSS: 0    NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
  BETA  GROSS: 0    NET: 0          +/-1.22     dpm/cm2:0          +/-3.31E-2
  GAMMA GROSS: 0    C FACTOR:1.0000
  CALC:  ALPHA 0    +/-5.82E-4  BETA  0         +/-1.60E-3

  #:41.             TIME (M):.50          TIME:09:17:04 DATE:DEC 13,1995
  ALPHA GROSS: 0    NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
  BETA  GROSS: 4.   NET: 4.10       +/-7.93     dpm/cm2:.11        +/-.21
  GAMMA GROSS: 0    C FACTOR:1.0000
  CALC:  ALPHA 0    [redacted]4 BETA  5.37E-3 +/-1.04E-2

  #:42.             [redacted]          TIME:09:17:47 DATE:DEC 13,1995
  ALPHA GROSS:      [redacted]          +/-3.93     dpm/cm2:4.90E-2 +/-.12
  BETA  GROSS:      [redacted]          +/-5.71     dpm/cm2:0          +/-.15
  GAMMA GROSS:      [redacted].0000
  CALC:  ALPHA 2.37E-3 +/-5.85E-3  BETA  0         +/-7.49E-3

  #:43.             TIME (M):.50          TIME:09:18:31 DATE:DEC 13,1995
  ALPHA GROSS: 0    NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
  BETA  GROSS: 5.   NET: 6.10       +/-8.85     dpm/cm2:.16        +/-.23
  GAMMA GROSS: 0    C FACTOR:1.0000
  CALC:  ALPHA 0    +/-5.82E-4  BETA  8.00E-3 +/-1.16E-2

  #:44.             TIME (M):.50          TIME:09:19:14 DATE:DEC 13,1995
  ALPHA GROSS: 0    NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
  BETA  GROSS: 1.   NET: 0          +/-4.10     dpm/cm2:0          +/-.11
  GAMMA GROSS: 0    C FACTOR:1.0000
  CALC:  ALPHA 0    +/-5.82E-4  BETA  0         +/-5.38E-3
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                TIME (M):.50
  0             NET: 0
  0             NET: 0
  0             C FACTOR:1.
  A 0            +/-5.82E-
                TIME (M):.50          TIME:
                NET: 0                +/-.37      dpm/cm2:
                NET: 0                +/-4.10     dpm/cm2:0
                C FACTOR:1.0000
  ALPHA 0        +/-5.82E-4  BETA
                TIME (M):.50          TIME:09:22:09 DATE:DEC 13,19
                NET: 0                +/-.39      dpm/cm2:0
                NET: 2.77             +/-5.87     dpm/cm2:5.67E-2
                C FACTOR:1.0000
  ALPHA 0        +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3
                TIME (M):.50          TIME:09:22:52 DATE:DEC 13,1995
                NET: 0                +/-.39      dpm/cm2:0          +/-1.20E-2
                NET: 2.09             +/-6.89     dpm/cm2:5.67E-2 +/-.18
                C FACTOR:1.0000
  ALPHA 0        +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3
PLE #:50.       TIME (M):.50          TIME:09:23:35 DATE:DEC 13,1995
LPHA GROSS: 0   NET: 0                +/-.39      dpm/cm2:0          +/-1.20E-2
ETA  GROSS: 2.  NET: 9.99E-2          +/-5.67     dpm/cm2:2.70E-3 +/-.15
AMMA GROSS: 0   C FACTOR:1.0000
ALC:  ALPHA 0    +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3
PLE #:51.       TIME (M):.50          TIME:09:24:19 DATE:DEC 13,1995
LPHA GROSS: 0   NET: 0                +/-.39      dpm/cm2:0          +/-1.20E-2
ETA  GROSS: 2.  NET: 2.09             +/-6.89     dpm/cm2:5.67E-2 +/-.18
AMMA GROSS: 0   C FACTOR:1.0000
ALC:  ALPHA 0    +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3
PLE #:52.       TIME (M):.50          TIME:09:25:03 DATE:DEC 13,1995
LPHA GROSS: 1.  NET: 1.60             +/-3.93     dpm/cm2:4.90E-2 +/-.12
ETA  GROSS: 0   NET: 0                +/-1.38     dpm/cm2:0          +/-3.74E-2
AMMA GROSS: 0   C FACTOR:1.0000
ALC:  ALPHA [illegible]3  BETA  0          +/-1.81E-3
PLE #:53.       [illegible]           TIME:09:25:46 DATE:DEC 13,1995
LPHA GROSS: 0   [illegible]           +/-.39      dpm/cm2:0          +/-1.20E-2
ETA  GROSS: 3.  [illegible]           +/-6.89     dpm/cm2:5.67E-2 +/-.18
AMMA GROSS: 0   [illegible].0000
ALC:  ALPHA 0    +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3
PLE #:54.       TIME (M):.50          TIME:09:26:30 DATE:DEC 13,1995
LPHA GROSS: 0   NET: 0                +/-.39      dpm/cm2:0          +/-1.20E-2
ETA  GROSS: 2.  NET: 9.99E-2          +/-5.67     dpm/cm2:2.70E-3 +/-.15
AMMA GROSS: 0   C FACTOR:1.0000
ALC:  ALPHA 0    +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3
PLE #:55.       TIME (M):.50          TIME:09:27:13 DATE:DEC 13,1995
LPHA GROSS: 1.  NET: 1.60             +/-3.93     dpm/cm2:4.90E-2 +/-.12
ETA  GROSS: 1.  NET: 0                +/-4.15     dpm/cm2:0          +/-.11
AMMA GROSS: 0   C FACTOR:1.0000
ALC:  ALPHA 2.37E-3 +/-5.83E-3  BETA  0          +/-5.45E-3
```

NET: 2.09
C FACTOR:
+/-5.82E-

TIME (M):.50 TIME:09:29:34 DATE:DEC 13,1995
NET: 0 +/-.39 dpm/cm2:
NET: 0 +/-4.10 dpm/cm2:0
C FACTOR:1.0000
+/-5.82E-4 BETA 0 +/-5.38E-3

TIME (M):.50 TIME:09:30:07 DATE:DEC 13,1995
NET: 0 +/-.39 dpm/cm2:
NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
C FACTOR:1.0000
+/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

TIME (M):.50 TIME:09:30:51 DATE:DEC 13,1995
NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
C FACTOR:1.0000
+/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

SAMPLE #:1. TIME (M):.50 TIME:09:31:34 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.2
BETA GROSS: 6. NET: 9.10 +/-9.67 dpm/cm2:.21 +/-.26
GROSS: 0 C FACTOR:1.0000
ALPHA 0 +/-5.82E-4 BETA 1.06E-2 +/-1.26E-2

SAMPLE #:62. TIME (M):.50 TIME:09:32:18 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 4. NET: 4.10 +/-7.93 dpm/cm2:.11 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.82E-4 BETA 5.37E-3 +/-1.04E-2

SAMPLE #:63. TIME (M):.50 TIME:09:33:02 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

SAMPLE #:64. TIME:09:33:45 DATE:DEC 13,1995
ALPHA GROSS: +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: +/-4.10 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 0000
CALC: ALPHA 0 BETA 0 +/-5.38E-3

SAMPLE #:65. TIME (M):.50 TIME:09:34:29 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

SAMPLE #:66. TIME (M):.50 TIME:09:35:12 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 4. NET: 4.10 +/-7.93 dpm/cm2:.11 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.82E-4 BETA 5.37E-3 +/-1.04E-2

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[illegible]                TIME (M):.50          [illegible]
[illegible] GROSS: 0          NET: 0
[illegible]: 3.               NET: 2.09
[illegible]: 0                C FACTOR:1.[illegible]
[illegible] ALPHA 0           +/-5.82E-4  [illegible]

[illegible] #:[illegible]     TIME (M):.50          TIME:09:37:23 DATE:DEC 13,1995
[illegible] GROSS: [illegible]  NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
[illegible] GROSS: 2.         NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3 +/-.15
[illegible] GROSS: 0          C FACTOR:1.0000
[illegible] ALPHA 0           +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

[illegible] #:[illegible]     TIME (M):.50          TIME:09:38:06 DATE:DEC 13 1995
[illegible] GROSS: [illegible]  NET: 0              +/-.39      dpm/cm2:0          +/-1.[illegible]
[illegible] GROSS: 2.         NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3 +/-[illegible]
[illegible] GROSS: 0          C FACTOR:1.0000
[illegible] ALPHA [illegible]  +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

[illegible] #:[illegible]     TIME (M):.50          TIME:09:38:50 DATE:DEC 13,1995
[illegible] GROSS: 0          NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
[illegible] GROSS: 0          NET: 0              +/-1.22     dpm/cm2:0          +/-3.31E-2
GAMMA GROSS: 0                C FACTOR:1.0000
[illegible] ALPHA 0           +/-5.82E-4  BETA  0          +/-1.60E-3

AMPLE #:72.                   TIME (M):.50          TIME:09:39:34 DATE:DEC 13,1995
ALPHA GROSS: 0                NET: 0              +/-.39.     dpm/cm2:0          +/-1.2[illegible]
[illegible] GROSS: [illegible]  NET: 0              +/-1.22     dpm/cm2:0          +/-3.31E-2
[illegible] GROSS: 0          C FACTOR:1.0000
[illegible] ALPHA 0           +/-5.82E-4  BETA  0          +/-1.60E-3

AMPLE #:73.                   TIME (M):.50          TIME:09:40:17 DATE:DEC 13,1995
ALPHA GROSS: 0                NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: 2.                NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0                C FACTOR:1.0000
[illegible] ALPHA 0           +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

AMPLE #:74.                   TIME (M):.50          TIME:09:41:01 DATE:DEC 13,1995
ALPHA GROSS: 0                NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: 2.                NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0                C FACTOR:1.0000
[illegible] ALPHA [illegible]4  BETA  1.31E-4 +/-7.44E-3

AMPLE #:75.                   [illegible]           TIME:09:41:44 DATE:DEC 13,1995
ALPHA GROSS: 0                [illegible]           +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: [illegible]       [illegible]           +/-4.10     dpm/cm2:0          +/-.11
GAMMA GROSS: 0                [illegible].0000
[illegible] ALPHA 0           +/-5.82E-4  BETA  0          +/-5.38E-3

AMPLE #:76.                   TIME (M):.50          TIME:09:42:28 DATE:DEC 13,1995
ALPHA GROSS: 0                NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: 2.                NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0                C FACTOR:1.0000
[illegible] ALPHA 0           +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

AMPLE #:77                    TIME (M):.50          TIME:09:43:11 DATE:DEC 13,1995
ALPHA GROSS: 0                NET: 0              +/-.39      dpm/cm2:0          +/-1.20E-2
BETA GROSS: 2.                NET: 0              +/-4.10     dpm/cm2:0          +/-.11
GAMMA GROSS: 0                C FACTOR:1.0000
[illegible] ALPHA 0           +/-5.82E-4  BETA  0          +/-5.38E-3
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TIME (M):.50
NET: 0
NET: 0
C FACTOR:1.
+/-5.82E-4

TIME (M):.50          TIME:09:45:02 DATE:DEC 13,1995
NET: 0                +/-.39        dpm/cm2:0
NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3
C FACTOR:1.0000
+/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

TIME (M):.50          TIME:09:46:03 DATE DEC 13,1995
NET: 0                +/-.39        dpm/cm2:0
NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3
C FACTOR:1.0000
+/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

TIME (M):.50          TIME:09:46:49 DATE:DEC 13,1995
NET: 0                +/-.39        dpm/cm2:0          +/-1.20E-2
NET: 0                +/-4.10       dpm/cm2:0          +/-.11
C FACTOR:1.0000
+/-5.82E-4  BETA  0          +/-5.38E-3

TIME (M):.50          TIME:09:47:32 DATE:DEC 13,1995
NET: 0                +/-.39        dpm/cm2:0          +/-1.2
NET: 5.10             +/-8.85       dpm/cm2:.16        +/-.23
C FACTOR:1.0000
+/-5.82E-4  BETA  8.00E-3 +/-1.16E-2

TIME (M):.50          TIME:09:48:16 DATE:DEC 13,1995
NET: 0                +/-.39        dpm/cm2:0          +/-1.20E-2
NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3 +/-.15
C FACTOR:1.0000
+/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

TIME (M):.50          TIME:09:48:59 DATE:DEC 13,1995
NET: 0                +/-.39        dpm/cm2:0          +/-1.20E-2
NET: 0                +/-1.22       dpm/cm2:0          +/-3.31E-2
C FACTOR:1.0000
[illegible]4  BETA  0          +/-1.60E-3

TIME:09:49:43 DATE:DEC 13,1995
+/-.39        dpm/cm2:0          +/-1.20E-2
[illegible]-2 +/-5.67  dpm/cm2:2.70E-3 +/-.15
[illegible].0000
+/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

TIME (M):.50          TIME:09:50:26 DATE:DEC 13,1995
NET: 1.60             +/-3.93       dpm/cm2:4.90E-2 +/-.12
NET: 0                +/-4.15       dpm/cm2:0          +/-.11
C FACTOR:1.0000
ALPHA [illegible] +/-[illegible]E-3  BETA  0          +/-5.45E-3

TIME (M):.50          TIME:09:51:10 DATE:DEC 13,1995
NET: 0                +/-.39        dpm/cm2:0          +/-1.20E-2
NET: 0                +/-1.22       dpm/cm2:0          +/-3.31E-2
C FACTOR:1.0000
+/-5.82E-4  BETA  0          +/-1.60E-3
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[illegible]  TIME (M):.50   TIME:[illegible] DATE:DEC 13,[illegible]
[illegible] GROSS: 0        NET: 0
[illegible] GROSS: 1.       NET: 0
[illegible] GROSS: 0        C FACTOR:1.[illegible]
[illegible] ALPHA 0         +/-5.82E-4  BETA [illegible] +/-5.38E-3

[illegible] #:[illegible]   TIME (M):.50   TIME:09:53:30 DATE:DEC 13,1995
[illegible] GROSS: 0        NET: 0         +/-.39     dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: [illegible]  NET: 0     +/-4.10    dpm/cm2:0        +/-.11
[illegible] GROSS: 0        C FACTOR:1.0000
[illegible] ALPHA 0         +/-5.82E-4  BETA  0        +/-5.38E-3

[illegible] #:[illegible]   TIME (M):.50   TIME:09:54:04 DATE:DEC 13,1995
[illegible] GROSS: [illegible]  NET: 0     +/-.39     dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 0        NET: 0         +/-1.22    dpm/cm2:0        +/-3.31E-2
[illegible] GROSS: 0        C FACTOR:1.0000
[illegible] ALPHA 0         +/-5.82E-4  BETA  0        +/-1.60E-3

[illegible] #:[illegible]   TIME (M):.50   TIME:09:54:47 DATE:DEC 13,1995
[illegible] GROSS:          NET: 0         +/-.39     dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 1.       NET: 0         +/-4.10    dpm/cm2:0        +/-.11
[illegible] GROSS: 0        C FACTOR:1.0000
[illegible] ALPHA 0         +/-5.82E-4  BETA  0        +/-5.38E-3

[illegible] #:[illegible]   TIME (M):.50   TIME:09:55:31 DATE:DEC 13,1995
[illegible] GROSS: 2.       NET: 3.60      +/-5.55    dpm/cm2:.11      +/-.17
[illegible] GROSS: 0        NET: 0         +/-1.52    dpm/cm2:0        +/-4.12E-2
[illegible] GROSS: 0        C FACTOR:1.0000
[illegible] ALPHA 3.35E-3 +/-8.26E-3  BETA  0        +/-2.00E-3

[illegible] #:[illegible]   TIME (M):.50   TIME:09:56:14 DATE:DEC 13,1995
[illegible] GROSS: 0        NET: 0         +/-.39     dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 2.       NET: 9.99E-2 +/-5.67      dpm/cm2:2.70E-3 +/-.15
[illegible] GROSS: 0        C FACTOR:1.0000
[illegible] ALPHA 0         +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

[illegible] #:[illegible]   TIME (M):.50   TIME:09:56:58 DATE:DEC 13,1995
[illegible] GROSS: 0        NET: 0         +/-.39     dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 3.       NET: 2.09      +/-6.89    dpm/cm2:5.67E-2 +/-.19
[illegible] GROSS: 0        C FACTOR:1.0000
[illegible] ALPHA 0         [illegible]-4  BETA  2.75E-3 +/-9.05E-3

[illegible] #:[illegible]   [illegible]    TIME:09:57:50 DATE:DEC 13,1995
[illegible] GROSS: 0        [illegible]    +/-.39     dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 0        [illegible]    +/-1.22    dpm/cm2:0        +/-3.31E-2
[illegible] GROSS: [illegible] [illegible] 1.0000
[illegible] ALPHA 0         +/-5.82E-4  BETA  0        +/-1.60E-3

[illegible] #:*****TIME (M):.50   TIME:09:58:41 DATE:DEC 13,1995
[illegible] GROSS: 0        NET: 0         +/-.39     dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 2.       NET: 9.99E-2 +/-5.67      dpm/cm2:2.70E-3 +/-.15
[illegible] GROSS: 0        C FACTOR:70595072
[illegible] ALPHA 0         +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

[illegible] #:*****TIME (M):.50   TIME:09:59:32 DATE:DEC 13,1995
[illegible] GROSS: 0        NET: 0         +/-.39     dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 2.       NET: 9.99E-2 +/-5.67      dpm/cm2:2.70E-3 +/-.15
[illegible] GROSS: 0        C FACTOR:70595072
[illegible] ALPHA 0         +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3
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[illegible]  0        NET: 0
[illegible]  2.       NET: 9.99E[illegible]
[illegible]  0        C FACTOR:70[illegible]
[illegible]  A 0       +/-5.82E-[illegible]  BETA [illegible]

[illegible] **TIME (M):.50        TIME:[illegible] DATE:DEC 12,1995
[illegible]  NET: 0        +/-.3[illegible]  dpm/cm2:0        +/-[illegible]
[illegible]  NET: 9.99E-2 +/-5.67   dpm/cm2:2.7[illegible]E-2 +/-[illegible]
[illegible]  C FACTOR:70595072
[illegible]  +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

[illegible] 1.50        TIME:11:02:59 DATE:DEC 13,1995
[illegible]  NET: 0        +/-.39      dpm/cm2:0        +/-[illegible]
[illegible]  NET: 3.10     +/-7.93     dpm/cm2:.11      +/-.21
[illegible]  C FACTOR:70595072
[illegible]  +/-5.82E-4  BETA  5.37E-3 +/-1.04E-2

[illegible] (M):.50        TIME:10:03:51 DATE:DEC 13,1995
[illegible]  NET: 0        +/-.39      dpm/cm2:0        +/-1.20E-2
[illegible]  NET: 16.10    +/-12.45    dpm/cm2:.43      +/-.33
[illegible]  C FACTOR:70595072
[illegible]  ALPHA 0       +/-5.82E-4  BETA  2.11E-3 +/-1.63E-2

[illegible] **TIME (M):.50        TIME:10:04:43 DATE:DEC 13,1995
[illegible] GROSS: 0       NET: 0        +/-.39      dpm/cm2:0        +/-1.20[illegible]
[illegible] GROSS: 1       NET: 0        +/-4.10     dpm/cm2:0        +/-.11
[illegible] GROSS: 0       C FACTOR:70595072
[illegible]  ALPHA 0       +/-5.82E-4  BETA  0        +/-5.38E-3

[illegible] **TIME (M):.50        TIME:10:05:34 DATE:DEC 13,1995
[illegible] GROSS: 1.      NET: 1.60     +/-3.93     dpm/cm2:4.90E-2 +/-.12
[illegible] GROSS: 1.      NET: 0        +/-4.15     dpm/cm2:0        +/-.11
[illegible] GROSS: 0       C FACTOR:70595072
[illegible]  ALPHA 2.37E-3 +/-5.85E-3  BETA  0        +/-5.45E-3

[illegible] #:*****TIME (M):.50        TIME:10:06:27 DATE:DEC 13,1995
[illegible] GROSS: 1.      NET: 1.60     +/-3.93     dpm/cm2:4.90E-2 +/-.12
[illegible] GROSS: 5.      NET: 5.83     +/-8.87     dpm/cm2:.15      +/-.23
[illegible] GROSS: 0       C FACTOR:70595072
[illegible]  ALPHA 2.37[illegible]-3  BETA  7.65E-3 +/-1.16E-2

[illegible] #:*****TIME [illegible]  TIME:10:07:19 DATE:DEC 13,1995
[illegible] GROSS: 0[illegible]  +/-.39      dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 3[illegible]  +/-6.89     dpm/cm2:5.67E-2 +/-.18
[illegible] GROSS: 0[illegible]0595072
[illegible]  ALPHA 0       +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3

[illegible] #:*****TIME (M):.50        TIME:10:08:12 DATE:DEC 13,1995
[illegible] GROSS: 0       NET: 0        +/-.39      dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 0       NET: 0        +/-1.22     dpm/cm2:0        +/-3.31E-2
[illegible] GROSS: 0       C FACTOR:70595072
[illegible]  ALPHA 0       +/-5.82E-4  BETA  0        +/-1.60E-3

[illegible] #:*****TIME (M):.50        TIME:10:09:03 DATE:DEC 13,1995
[illegible] GROSS: 0       NET: 0        +/-.39      dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 3.      NET: 2.09     +/-6.89     dpm/cm2:5.67E-2 +/-.18
[illegible] GROSS: 0       C FACTOR:70595072
[illegible]  ALPHA 0       +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3
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[illegible] TIME (M):1.50          TIME [illegible]
[illegible] 0          NET: 0
[illegible] 4.         NET: 4.10
[illegible] 0          C FACTOR:70[illegible]
[illegible] 0          +/-5.82E-4  [illegible] +/-[illegible]

[illegible]TIME (M):.50          TIME:10:[illegible] DATE:DEC 13,1995
[illegible]            NET: 0          +/-.39      dpm/cm2:0          +/-[illegible]
[illegible]            NET: 0          +/-1.22     dpm/cm2:0          +/-[illegible]
[illegible]            C FACTOR:70595072
[illegible]            +/-5.82E-4  BETA  0          +/-[illegible]

[illegible]TIME (M):.50          TIME:10:13:34 DATE:DEC 13,1995
[illegible]            NET: 0          +/-.39      dpm/cm2:0          +/-1.[illegible]
[illegible]            NET: +/-7E-3 -/-5.67    dpm/cm2:2.70E-3 +/-.1[illegible]
[illegible]            C FACTOR:70595072
[illegible]            +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

[illegible]TIME (M):1.50          TIME:10:13:22 DATE:DEC 13,1995
ALPHA BROSS: 0         NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
BETA  BROSS  0         NET: 0          +/-1.22     dpm/cm2:0          +/-3.31E-2
GAMMA CROSS: 0         C FACTOR:70595072
COLD: ALPHA 0          +/-5.82E-4  BETA  0          +/-1.60E-3

AMPLE #:****TIME (M):.50          TIME:10:14:13 DATE:DEC 13,1995
ALPHA BROSS: 6         NET: 4.60       +/-3.93     dpm/cm2:4.90E-2 +/-1.1[illegible]
[illegible]            [illegible]
[illegible] GROSS: [illegible]
[illegible]            [illegible]
```

HDSSERAAABBBVA

EN+d+G+d+GC + +

G+d+G+d+GC + +

PLE #:3. TIME (M): 12 TIME:12:49:44 DATE:DEC 13,1995

LPHA GROSS: [redacted] +/-.39 dpm/cm2:0 +/-1.20E-2

ETA GROSS: [redacted] +/-1.22 dpm/cm2:0 +/-3.31E-2

AMMA GROSS: [redacted] .0000

CALC: ALPHA [redacted] 4 BETA 0 +/-1.60E-3

M #:1

T COUNT:100000. BETA

ET TIME (M):.50

CH VOLTAGE:1300.

SC WINDOW:450.

ART SAMPLE :1.

OP SAMPLE:100.

ROR (SIGMA):1.96

```
NO
:1000.00
:  (CONC/F)*G

                TIME (M):.50        TIME:12:51:06 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0        +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 1.       NET: 0        +/-4.10     dpm/cm2:0        +/-.11
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 0        +/-5.82E-4  BETA  0        +/-5.38E-3

SAMPLE #:2.         TIME (M):.50        TIME:12:52:20 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0        +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 2.       NET: 9.99E-2  +/-5.67     dpm/cm2:2.70E-3  +/-.15
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 0        +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

SAMPLE #:3          TIME (M):.50        TIME:12:53:03 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0        +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 1.       NET: 0        +/-4.10     dpm/cm2:0        +/-.11
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 0        +/-5.82E-4  BETA  0        +/-5.38E-3

SAMPLE #:4.         TIME (M):.50        TIME:12:53:47 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0        +/-.39      dpm/cm2:0        +/-1.2[illegible]
BETA  GROSS: 2.       NET: 9.99E-2  +/-5.67     dpm/cm2:2.70E-3  +/-.15[illegible]
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 0        +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

SAMPLE #:5.         TIME (M):.50        TIME:12:54:31 DATE:DEC 13,1995
ALPHA GROSS: 1.       NET: 1.60.    +/-3.93     dpm/cm2:4.90E-2  +/-.12
BETA  GROSS: 2.       NET: 0        +/-5.71     dpm/cm2:0        +/-.15
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 2.37E-3  +/-5.85E-3  BETA  0        +/-7.49E-3

SAMPLE #:6.         TIME (M):.50        TIME:12:55:15 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0        +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 3.       NET: 2.09     +/-6.89     dpm/cm2:5.67E-2  +/-.18
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 0        +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3

SAMPLE #:7.                                     TIME:12:55:58 DATE:DEC 13,1995
ALPHA GROSS: 0[illegible]                       +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 1.[illegible]                      +/-4.10     dpm/cm2:0        +/-.11
GAMMA GROSS: 0[illegible].0000
CALC:  ALPHA 0[illegible]4  BETA  0        +/-5.38E-3

SAMPLE #:8.         TIME (M):.50        TIME:12:56:41 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0        +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 0        NET: 0        +/-1.22     dpm/cm2:0        +/-3.31E-2
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 0        +/-5.82E-4  BETA  0        +/-1.60E-3

SAMPLE #:9.         TIME (M):.50        TIME:12:57:25 DATE:DEC 13,1995
ALPHA GROSS: 0        NET: 0        +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 2.       NET: 9.99E-2  +/-5.67     dpm/cm2:2.70E-3  +/-.15
GAMMA GROSS: 0        C FACTOR:1.0000
CALC:  ALPHA 0        +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3
```

[illegible] TIME:[illegible] DATE:DEC [illegible]
[illegible] NET: 0 +/-.39 dpm/cm2:[illegible] +/-[illegible]
[illegible] 1. NET: 0 [illegible] dpm/cm2:[illegible] +/-[illegible]
[illegible] 0 C FACTOR:1.[illegible]
[illegible] A 0 +/-5.82E-4 [illegible] +/-[illegible]

[illegible] TIME (M):.50 TIME:[illegible]:59:55 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1 NET: 0 +/-4.10 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

[illegible] TIME (M):.50 TIME:13:00:18 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1 NET: 0 +/-1.22 dpm/cm2:0 +/-3.11E-2
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-1.60E-3

SAMPLE #:14. TIME (M):.50 TIME:13:01:02 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 3. NET: 2.09 +/-6.89 dpm/cm2:5.67E-2 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-5.82E-4 BETA 2.75E-3 +/-9.05E-3

SAMPLE #:15. TIME (M):.50 TIME:13:01:45 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20
BETA GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

SAMPLE #:16. TIME (M):.50 TIME:13:02:29 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 3. NET: 2.09 +/-6.89 dpm/cm2:5.67E-2 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-5.82E-4 BETA 2.75E-3 +/-9.05E-3

SAMPLE #:17. TIME (M):.50 TIME:13:03:12 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 4. NET: 4.10 +/-7.93 dpm/cm2:.11 +/-.21
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-5.82E-4 BETA 5.37E-3 +/-1.04E-2

SAMPLE #:18. [redacted] TIME:13:03:56 DATE:DEC 13,1995
ALPHA GROSS: [redacted] +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: [redacted] +/-6.89 dpm/cm2:5.67E-2 +/-.18
GAMMA GROSS: [redacted].0000
DCALC: ALPHA [redacted]4 BETA 2.75E-3 +/-9.05E-3

SAMPLE #:19. TIME (M):.50 TIME:13:04:39 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

SAMPLE #:20. TIME (M):.50 TIME:13:05:23 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
DCALC: ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

SAMPLE #:21 TIME (M):.50 TIME:13:06:06 DATE:DEC 13,1995

11

[illegible] TIME:[illegible] DATE:DEC 13,[illegible]
[illegible] NET: 0 [illegible] dpm/cm2:0 [illegible]
[illegible] 4. NET: 4.10 [illegible] dpm/cm2:[illegible] +/-[illegible]
[illegible] 0 C FACTOR:1.[illegible]
[illegible] -A 0 +/-5.82E-4 [illegible] 5.[illegible] +/-1.0[illegible]E-2

[illegible] TIME (M):.50 TIME:13:07:33 DATE:DEC 13,1995
[illegible] 1. NET: 1.60 +/-3.93 dpm/cm2:4.90E-2 +/-.12
[illegible] 2. NET: 0 +/-5.71 dpm/cm2:0 +/-.15
[illegible] GROSS: [illegible] C FACTOR:1.0000
[illegible] ALPHA 2.37E-3 +/-5.85E-3 BETA 0 +/-7.49E-3

[illegible] TIME (M):.50 TIME:13:08:17 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 2. NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

[illegible] TIME (M):.50 TIME:13:09:00 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

SAMPLE #:26. TIME (M):.50 TIME:13:09:44 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.2[illegible]
BETA GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

SAMPLE #:27. TIME (M):.50 TIME:13:10:27 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

SAMPLE #:28. TIME (M):.50 TIME:13:11:10 DATE:DEC 13,1995
ALPHA GROSS: 1. NET: 1.60 +/-3.93 dpm/cm2:4.90E-2 +/-.12
BETA GROSS: 2. NET: 0 +/-5.71 dpm/cm2:0 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 2.37E-3 +/-5.85E-3 BETA 0 +/-7.49E-3

SAMPLE #:29. [illegible] TIME:13:11:54 DATE:DEC 13,1995
ALPHA GROSS: [illegible] +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: [illegible] +/-4.10 dpm/cm2:0 +/-.11
GAMMA GROSS: [illegible].0000
CALC: ALPHA [illegible]-4 BETA 0 +/-5.38E-3

SAMPLE #:30. TIME (M):.50 TIME:13:12:37 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 2. NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

SAMPLE #:31. TIME (M):.50 TIME:13:13:21 DATE:DEC 13,1995
ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
BETA GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

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[illegible]                    NET: 0
[illegible] 3.                 NET: 2.09
[illegible] 0                  C FACTOR:1
[illegible]A 0                  +/-5.82E-4

[illegible]                TIME (M):.50
[illegible] 0                  NET: 0
[illegible]                    NET: 0
[illegible]                    C FACTOR:1.0000
[illegible] ALPHA 0             +/-5.82E-4  BETA  0          +/-1.60E-3

[illegible]                TIME (M):.50       TIME:13:16:15 DATE:DEC 13,1995
[illegible]                    NET: 0         +/-.39      dpm/cm2:0        +/-[illegible]
[illegible]                    NET: 0         +/-4.10     dpm/cm2:0        +/-.11
[illegible] GROSS: 0           C FACTOR:1.0000
[illegible] ALPHA               +/-5.82E-4  BETA  0          +/-5.38E-3

[illegible]                TIME (M):.50       TIME:13:16:58 DATE:DEC 13,1995
[illegible] GROSS: 1.          NET: 1.60      +/-3.93     dpm/cm2:4.90E-2  +/-.12
BETA  GROSS: 1.                NET: 0         +/-5.71     dpm/cm2:0        +/-.15
GAMMA GROSS: 0                 C FACTOR:1.0000
CALC:  ALPHA 2.37E-3 +/-5.85E-3  BETA  0          +/-7.49E-3

[illegible]                TIME (M):.50       TIME:13:17:42 DATE:DEC 13,1995
ALPHA GROSS: 0                 NET: 0         +/-.39      dpm/cm2:0        +/-1.2[illegible]
BETA  GROSS: 2.                NET: 9.99E-2   +/-5.67     dpm/cm2:2.70E-3  +/-.15
[illegible] GROSS: 0           C FACTOR:1.0000
[illegible]  ALPHA 0            +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

[illegible]                TIME (M):.50       TIME:13:18:25 DATE:DEC 13,1995
[illegible] GROSS: 0           NET: 0         +/-.39      dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 4.          NET: 4.10      +/-7.93     dpm/cm2:.11      +/-.21
GAMMA GROSS: 0                 C FACTOR:1.0000
CALC:  ALPHA 0                  +/-5.82E-4  BETA  5.37E-3 +/-1.04E-2

[illegible]                TIME (M):.50       TIME:13:19:08 DATE:DEC 13,1995
[illegible] GROSS: 0           NET: 0         +/-.39      dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 4.          NET: 4.10      +/-7.93     dpm/cm2:.11      +/-.21
GAMMA GROSS: 0                 C FACTOR:1.0000
CALC:  ALPHA 0                  +/-5.82E-4  BETA  5.37E-3 +/-1.04E-2

[illegible]                [illegible]        TIME:13:19:52 DATE:DEC 13,1995
[illegible] GROSS: 0           [illegible]    +/-.39      dpm/cm2:0        +/-1.20E-2
[illegible] GROSS: 1           [illegible]    +/-4.10     dpm/cm2:0        +/-.11
GAMMA GROSS: [illegible]       [illegible].0000
CALC:  ALPHA 0 [illegible]4    BETA  0          +/-5.38E-3

[illegible]                TIME (M):.50       TIME:13:20:35 DATE:DEC 13,1995
ALPHA GROSS: 0                 NET: 0         +/-.39      dpm/cm2:0        +/-1.20E-2
BETA  GROSS: 2.                NET: 9.99E-2   +/-5.67     dpm/cm2:2.70E-3  +/-.15
GAMMA GROSS: 0                 C FACTOR:1.0000
CALC:  ALPHA 0                  +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

[illegible]                TIME (M):.50       TIME:13:21:19 DATE:DEC 13,1995
ALPHA GROSS: 1.                NET: 1.60      +/-3.93     dpm/cm2:4.90E-2  +/-.12
BETA  GROSS: 1.                NET: 0         +/-4.15     dpm/cm2:0        +/-.11
GAMMA GROSS: 0                 C FACTOR:1.0000
CALC:  ALPHA 2.37E-3 +/-5.85E-3  BETA  0          +/-5.45E-3

[illegible]                TIME (M):.50       TIME:13:22:02 DATE:DEC 13,1995
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[illegible] TIME (M):.50 TIME:[illegible] DATE:DEC [illegible]
[illegible] NET: [illegible] +/-[illegible] dpm/cm2:0 +/-[illegible]
[illegible] NET: 2.09 [illegible] dpm/cm2:[illegible] +/-.12
[illegible] C FACTOR:1.[illegible]
[illegible] ALPHA 0 +/-5.82E-4 [illegible] +/-4.[illegible]E-

[illegible] TIME (M):.50 TIME:[illegible] DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

[illegible] #:46. TIME (M):.50 TIME:13:24:13 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

[illegible] #:47. TIME (M):.50 TIME:13:24:56 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

[illegible]MPLE #:48. TIME (M):.50 TIME:13:25:40 DATE:DEC 13,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.2[illegible]
[illegible]ETA GROSS: 3. NET: 2.09 +/-6.89 dpm/cm2:5.67E-2 +/-.18[illegible]
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]: ALPHA 0 +/-5.82E-4 BETA 2.75E-3 +/-9.05E-3

[illegible]MPLE #:49. TIME (M):.50 TIME:13:26:23 DATE:DEC 13,1995
[illegible]LPHA GROSS: 1. NET: 1.60 +/-3.93 dpm/cm2:4.90E-2 +/-.12
[illegible]ETA GROSS: 2. NET: 0 +/-5.71 dpm/cm2:0 +/-.15
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]CALC: ALPHA 2.37E-3 +/-5.85E-3 BETA 0 +/-7.49E-3

[illegible]MPLE #:50. TIME (M):.50 TIME:13:27:07 DATE:DEC 13,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible]ETA GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]CALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

[illegible]MPLE #:51. [illegible] TIME:13:27:50 DATE:DEC 13,1995
[illegible]LPHA GROSS: 0 [illegible] +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible]ETA GROSS: 0 [illegible] +/-1.22 dpm/cm2:0 +/-3.31E-2
[illegible]AMMA GROSS: [illegible].0000
[illegible]CALC: ALPHA [illegible]4 BETA 0 +/-1.60E-3

[illegible]MPLE #:52. TIME (M):.50 TIME:13:28:33 DATE:DEC 13,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible]ETA GROSS: 0 NET: 0 +/-1.22 dpm/cm2:0 +/-3.31E-2
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]CALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-1.60E-3

[illegible] #:53. TIME (M):.50 TIME:13:29:17 DATE:DEC 13,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible]ETA GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]CALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

[illegible]MPLE #:54. TIME (M):.50 TIME:13:30:00 DATE:DEC 13,1995

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[illegible]                    NET:                  +/-[illegible]      dpm/cm2:[illegible]
[illegible] 5.                 NET: 6.10             [illegible]         [illegible]
[illegible]: 0                 C FACTOR:1.[illegible]
[illegible] ALPHA 0            +/-5.82E-4            BETA [illegible]
[illegible]                    TIME (M):.50          TIME:[illegible] DATE:DEC 13,1995
[illegible]: 0                 NET: 0                +/-.39      dpm/cm2:0       +/-[illegible]
[illegible]: 0                 NET: 0                +/-1.22     dpm/cm2:0       +/-[illegible]
[illegible]: 0                 C FACTOR:1.0000
[illegible]: ALPHA 0           +/-5.82E-4            BETA 0          +/-1.60E-3

[illegible]                    TIME (M):.50          TIME:13:32:11 DATE:DEC 13,1995
[illegible]: 0                 NET: 0                +/-.39      dpm/cm2:0       +/-1.20E-2
[illegible]                    NET: 12.10            +/-11.13    dpm/cm2:.32     +/-.30
[illegible]                    C FACTOR:1.0000
[illegible]                    +/-5.82E-4            BETA 1.59E-2 +/-1.46E-2

[illegible]                    TIME (M):.50          TIME:13:32:54 DATE:DEC 13,1995
[illegible]                    NET: 0                +/-.39      dpm/cm2:0       +/-1.20E-2
[illegible]                    NET: 2.[illegible]    +/-6.89     dpm/cm2:5.67E-2 +/-.13
[illegible]                    C FACTOR:1.0000
[illegible]: ALPHA [illegible] +/-5.82E-4            BETA 2.75E-3 +/-9.05E-2

[illegible]                    TIME (M):.50          TIME:13:33:38 DATE:DEC 13,1995
[illegible] GROSS: 0           NET: 0                +/-.39      dpm/cm2:0       +/-1.2[illegible]
[illegible] GROSS: 4.          NET: 4.10             +/-7.93     dpm/cm2:.11     +/-.21[illegible]
[illegible]: 0                 C FACTOR:1.0000
[illegible]: ALPHA 0           +/-5.82E-4            BETA 5.37E-3 +/-1.04E-2

[illegible]                    TIME (M):.50          TIME:13:34:21 DATE:DEC 13,1995
[illegible]: 0                 NET: 0                +/-.39      dpm/cm2:0       +/-1.20E-2
[illegible] GROSS: 1.          NET: 0                +/-4.10     dpm/cm2:0       +/-.11
[illegible]: 0                 C FACTOR:1.0000
[illegible]: ALPHA 0           +/-5.82E-4            BETA 0          +/-5.38E-3

[illegible]                    TIME (M):.50          TIME:13:35:04 DATE:DEC 13,1995
[illegible] GROSS: 1.          NET: 1.60             +/-3.93     dpm/cm2:4.90E-2 +/-.12
[illegible] GROSS: 1.          NET: 0                +/-4.15     dpm/cm2:0       +/-.11
[illegible] GROSS: 0           C FACTOR:1.0000
[illegible]: ALPHA 2.37E-3 +/-5.85E-3                BETA 0          +/-5.45E-3

[illegible]                    [illegible]           TIME:13:35:48 DATE:DEC 13,1995
[illegible] GROSS: 0[illegible] [illegible]          +/-.39      dpm/cm2:0       +/-1.20E-2
[illegible] GROSS: 1[illegible] [illegible]          +/-4.10     dpm/cm2:0       +/-.11
[illegible] GROSS: 0[illegible] [illegible].0000
[illegible]: ALPHA 0 [illegible]2E-4                 BETA 0          +/-5.38E-3

[illegible]                    TIME (M):.50          TIME:13:36:31 DATE:DEC 13,1995
[illegible] GROSS: 0           NET: 0                +/-.39      dpm/cm2:0       +/-1.20E-2
[illegible] GROSS: 2.          NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3 +/-.15
[illegible] GROSS: 0           C FACTOR:1.0000
[illegible]: ALPHA 0           +/-5.82E-4            BETA 1.31E-4 +/-7.44E-3

[illegible]                    TIME (M):.50          TIME:13:37:15 DATE:DEC 13,1995
[illegible] GROSS: 0           NET: 0                +/-.39      dpm/cm2:0       +/-1.20E-2
[illegible] GROSS: 2.          NET: 9.99E-2 +/-5.67  dpm/cm2:2.70E-3 +/-.15
[illegible] GROSS: 0           C FACTOR:1.0000
[illegible]: ALPHA 0           +/-5.82E-4            BETA 1.31E-4 +/-7.44E-3

[illegible]                    TIME (M):.50          TIME:13:37:58 DATE:DEC 13,1995
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[illegible] TIME (M):.50 [illegible] DATE:DEC 13,1995
[illegible] NET: 0 [illegible]
[illegible] GROSS 3. NET: 2.09 [illegible]
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 [illegible]

[illegible] TIME (M):.50 TIME:13:39:29 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: [illegible] NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

[illegible] TIME (M):.50 TIME:13:40:09 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 [illegible]
BETA GROSS: 4. NET: 4.10 +/-7.93 dpm/cm2:.11 [illegible]
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 5.37E-3 +/-1.04E-2

[illegible] #:69. TIME (M):.50 TIME:13:40:52 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 0 NET: 0 +/-1.22 dpm/cm2:0 +/-3.31E-2
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 0 +/-1.60E-3

[illegible] #:70. TIME (M):.50 TIME:13:41:36 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.2[illegible]
[illegible] GROSS: 2. NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15[illegible]
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

[illegible] #:71. TIME (M):.50 TIME:13:42:19 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 3. NET: 2.09 +/-6.89 dpm/cm2:5.67E-2 +/-.18
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4. BETA 2.75E-3 +/-9.05E-3

[illegible] #:72. TIME (M):.50 TIME:13:43:03 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 1. NET: 0 +/-4.10 dpm/cm2:0 +/-.11
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 0 +/-5.38E-3

[illegible] #:73. [illegible] TIME:13:43:47 DATE:DEC 13,1995
[illegible] GROSS: [illegible] +/-3.93 dpm/cm2:4.90E-2 +/-.12
[illegible] GROSS: [illegible] +/-6.92 dpm/cm2:4.96E-2 +/-.18
[illegible] GROSS: [illegible].0000
[illegible] ALPHA [illegible]3 BETA 2.41E-3 +/-9.09E-3

[illegible] #:74. TIME (M):.50 TIME:13:44:31 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 3. NET: 2.09 +/-6.89 dpm/cm2:5.67E-2 +/-.18
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA. 2.75E-3 +/-9.05E-3

[illegible] #:75. TIME (M):.50 TIME:13:45:14 DATE:DEC 13,1995
[illegible] GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2
[illegible] GROSS: 2. NET: 9.99E-2 +/-5.67 dpm/cm2:2.70E-3 +/-.15
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible] ALPHA 0 +/-5.82E-4 BETA 1.31E-4 +/-7.44E-3

[illegible] TIME (M):.50 [illegible]

```
                    NET: 0
          2.        NET: 9.99E
          0         C FACTOR:1.
        A 0          +/-3.82E-4

          TIME (M):.50          TIME:13:47:28 DATE:DEC 13,1995
        : 0         NET: 0          +/-.39      dpm/cm2:0
BETA  GROSS: 0      NET: 0          +/-1.22     dpm/cm2:0
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0       +/-5.82E-4  BETA  0         +/-1.60E-3

          TIME (M):.50          TIME:13:48:08 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39      dpm/cm2:0
BETA  GROSS:        NET: 0          +/-4.10     dpm/cm2:0
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0       +/-5.82E-4  BETA  0         +/-5.38E-3

          TIME (M):.50          TIME:13:48:51 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 3.     NET: 2.09       +/-6.89     dpm/cm2:5.67E-2 +/-.18
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0       +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3

SAMPLE #:81.        TIME (M):.50          TIME:13:49:35 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39      dpm/cm2:0          +/-1.2
BETA  GROSS: 2.     NET: 9.99E-2 +/-5.67        dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0       +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

SAMPLE #:82.        TIME (M):.50          TIME:13:50:18 DATE:DEC 13,1995
ALPHA GROSS: 1.     NET: 1.60       +/-3.93     dpm/cm2:4.90E-2 +/-.12
BETA  GROSS: 1.     NET: 0          +/-4.15     dpm/cm2:0          +/-.11
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 2.37E-3 +/-5.85E-3  BETA  0         +/-5.45E-3

SAMPLE #:83.        TIME (M):.50          TIME:13:51:02 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39      dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 1.     NET: 0          +/-4.10     dpm/cm2:0          +/-.11
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0       +/-5.82E-4  BETA  0         +/-5.38E-3

SAMPLE #:84.                                    TIME:13:51:45 DATE:DEC 13,1995
ALPHA GROSS:                                    +/-.39      dpm/cm2:0          +/-1.20E-2
BETA  GROSS:                                    +/-1.22     dpm/cm2:0          +/-3.31E-2
GAMMA GROSS:                                    .0000
CALC:  ALPHA 0                                  4  BETA  0         +/-1.60E-3

SAMPLE #:85.        TIME (M):.50          TIME:13:52:29 DATE:DEC 13,1995
ALPHA GROSS: 1.     NET: 1.60       +/-3.93     dpm/cm2:4.90E-2 +/-.12
BETA  GROSS: 2.     NET: 0          +/-5.71     dpm/cm2:0          +/-.15
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 2.37E-3 +/-5.85E-3  BETA  0         +/-7.49E-3

SAMPLE #:86.        TIME (M):.50          TIME:13:53:12 DATE:DEC 13,1995
ALPHA GROSS: 1.     NET: 1.60       +/-3.93     dpm/cm2:4.90E-2 +/-.12
BETA  GROSS: 2.     NET: 0          +/-5.71     dpm/cm2:0          +/-.15
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 2.37E-3 +/-5.85E-3  BETA  0         +/-7.49E-3
```

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                                                  TIME:13:57:27 DATE:DEC 13,1995
                    NET: 0
                    NET: 0
                    C FACTOR:1.0000
                    +/-5.82E-4                                  +/-1.60E-3

                    TIME (M):.50                  TIME:13:57:27 DATE:DEC 13,1995
                    NET: 0          +/-.39        dpm/cm2:0          +/-1.20E-2
                    NET: 4.10       +/-7.93       dpm/cm2:.11        +/-.21
                    C FACTOR:1.0000
                    +/-5.82E-4  BETA  5.37E-3 +/-1.04E-2

                    TIME (M):.50                  TIME:13:56:06 DATE:DEC 13,1995
                    NET: 1.40       +/-3.93       dpm/cm2:4.90E-2 +/-.17
                    NET: 0          +/-5.71       dpm/cm2:0          +/-.17
                    C FACTOR:1.0000
CALC:  ALPHA 2.37E-3 +/-3.85E-7  BETA  0          +/-7.49E-3

                    TIME (M):.50                  TIME:13:56:50 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39        dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 2.     NET: 9.99E-2    +/-5.67       dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

SAMPLE #:92.        TIME (M):.50                  TIME:13:57:33 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39        dpm/cm2:0          +/-1.20
BETA  GROSS: 2.     NET: 2.09       +/-6.89       dpm/cm2:5.67E-2 +/-.18
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-5.82E-4  BETA  2.75E-3 +/-9.05E-3

SAMPLE #:93.        TIME (M):.50                  TIME:13:58:17 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39        dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 2.     NET: 9.99E-2    +/-5.67       dpm/cm2:2.70E-3 +/-.15
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-5.82E-4  BETA  1.31E-4 +/-7.44E-3

SAMPLE #:94.        TIME (M):.50                  TIME:13:59:00 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39        dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 0      NET: 0          +/-1.22       dpm/cm2:0          +/-3.31E-2
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-5.82E-4  BETA  0          +/-1.60E-3

SAMPLE #:95.                                      TIME:13:59:43 DATE:DEC 13,1995
ALPHA GROSS: 0                      +/-.39        dpm/cm2:0          +/-1.20E-2
BETA  GROSS:                        +/-6.89       dpm/cm2:5.67E-2 +/-.18
GAMMA GROSS:                        .0000
CALC:  ALPHA 0                      -4  BETA  2.75E-3 +/-9.05E-3

SAMPLE #:96.        TIME (M):.50                  TIME:14:00:27 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39        dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 1.     NET: 0          +/-4.10       dpm/cm2:0          +/-.11
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-5.82E-4  BETA  0          +/-5.38E-3

SAMPLE #:97.        TIME (M):.50                  TIME:14:01:10 DATE:DEC 13,1995
ALPHA GROSS: 0      NET: 0          +/-.39        dpm/cm2:0          +/-1.20E-2
BETA  GROSS: 1.     NET: 0          +/-4.10       dpm/cm2:0          +/-.11
GAMMA GROSS: 0      C FACTOR:1.0000
CALC:  ALPHA 0      +/-5.82E-4  BETA  0          +/-5.38E-3

                    TIME (M):.50                  TIME:14:01:54 DATE:DEC 13,1995
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[illegible]

[illegible] NET: 0

[illegible] NET: 9.99E-2

[illegible] FACTOR:1.[illegible]

[illegible] A 0 [illegible] +/-5.82E-4 [illegible]

[illegible] TIME [illegible] TIME:[illegible] DATE:DEC [illegible],1995

[illegible] GROSS: 1. NET: 1.60 +/-3.97 dpm/cm2:[illegible] +/-.12

BETA GROSS: 3 NET: 1.83 +/-6.92 dpm/cm2:4.96E-2 +/-.18

GAMMA GROSS: 0 C FACTOR:1.0000

CALC: ALPHA 2.37E-3 +/-5.85E-3 BETA 2.41E-3 +/-9.09E-3

[illegible] TIME (M):1.50 TIME:14:04:13 DATE:DEC 13,1995

ALPHA GROSS: 0 NET: 0 +/-.39 dpm/cm2:0 +/-1.20E-2

BETA GROSS: 0 NET: 0 -/-1.22 dpm/cm2:0 +/-3.71E-2

GAMMA GROSS: 0 C FACTOR:1.0000

CALC: ALPHA 0 +/-5.82E-4 BETA 0 +/-1.80E-3

PROGRAM #:0

RESET COUNT:100000. BETA

SET TIME (M):10.00

HIGH VOLTAGE:1300.

SC WINDOW:450.

CHI-SQUARE(0=N,1=Y):0

ERROR (SIGMA):1.96

REPEAT #:0

EFFIC (%):32.65

CROSTLK (%):[redacted]

BKGND (CPM):[redacted]

EFFIC (%):37[redacted]

BKGND (CPM):[redacted]

BKGD-TIME (M):[redacted]

AL(cm2):100.00[redacted]

ARM (dpm/V):1000000.

ER EQUATION: (CONC/F)*G

SAMPLE #:57. TIME (M):10.00 TIME:15:36:00 DATE:DEC 13,1995

ALPHA GROSS: 4. NET: .30 +/-.43 dpm/cm2:9.18E-3 +/-1.34E-2

BETA GROSS: 56. NET: 2.55 +/-1.81 dpm/cm2:6.89E-2 +/-4.91E-2

GAMMA GROSS: 0 C FACTOR:1.0000

CALC: ALPHA 4.46E-4 +/-6.51E-4 BETA 3.34E-3 +/-2.38E-3

[illegible] BETA
[illegible] TIME (M):10.00
[illegible] VOLTAGE:[illegible]
[illegible] WINDOW:450.
[illegible]
[illegible] (SIGMA):1.[illegible]
[illegible] #:0
EFFIC (%):32.65
CROSTLK (%):16.40
BKGND (CPM):1.10
EFFIC (%):37.00
BKGND (CPM):3.00
[illegible]TIME (M):10.00
[illegible](%):100.00
[illegible] (dpm/V):1000000.
[illegible]BER EQUATION: (CONC/F)*G

12/14

[illegible]GRAM #:1
[illegible]SET COUNT:100000. BETA
[illegible]SET TIME (M):.50
[illegible]GH VOLTAGE:1300.
[illegible]BC WINDOW:450.
[illegible]ART SAMPLE :1.
[illegible] SAMPLE:100.
[illegible] (SIGMA):1.96
[illegible]NT #:0
EFFIC (%):32.65
CROSTLK (%):16.40
BKGND (CPM):.40
EFFIC (%):37.00
BKGND (CPM):3.90

NET: 12.16

C FACTOR:1.

A 1.48 +/-.13

TIME (M):.50

39. NET: 77.69

415. NET: 613.37 +/-79.96 dpm/cm2:21.98 +/-7.14

C FACTOR:1.0000

ALPHA .11 +/-3.64E-2 BETA .06 +/-.10

SAMPLE #:3. BKGNDTIME (M):10.00 TIME:09:12:37 DATE:DEC 14,1995

ALPHA GROSS: 11. NET: .70 +/-.75 dpm/cm2:2.14E-2 +/-[illegible]

BETA GROSS: 47. NET: .62 +/-1.82 dpm/cm2:1.35E-2 +/-[illegible]

GAMMA GROSS: 0 C FACTOR:48.0025T5

CALC: ALPHA [illegible]E-3 +/-1.12E-3 BETA 8.98E-4 +/-2.39E-3

BKGND (CPM):1.10

BKGND (CPM):4.58

SAMPLE #:3. TIME (M):.50 TIME:09:13:18 DATE:DEC 14,1995

ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2

BETA GROSS: 1. NET: 0 +/-4.14 dpm/cm2:0 +/-.11

GAMMA GROSS: 0 C FACTOR:1.0000

CALC: ALPHA 0 +/-9.66E-4 BETA 0 +/-5.43E-3

SAMPLE #:4. TIME (M):.50 TIME:09:14:01 DATE:DEC 14,1995

ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2

BETA GROSS: 1. NET: 0 +/-4.14 dpm/cm2:0 +/-.11

GAMMA GROSS: 0 C FACTOR:1.0000

CALC: ALPHA 0 +/-9.66E-4 BETA 0 +/-5.43E-3

SAMPLE #:5. TIME (M):.50 TIME:09:14:45 DATE:DEC 14,1995

ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2

BETA GROSS: 0 NET: 0 +/-1.34 dpm/cm2:0 +/-3.64E-2

GAMMA GROSS: 0 C FACTOR:1.0000

CALC: ALPHA 0 +/-9.66E-4 BETA 0 +/-1.76E-3

SAMPLE #:6. TIME (M):.50 TIME:09:15:30 DATE:DEC 14,1995

ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2

BETA GROSS: 3. NET: 1.30 +/-6.92 dpm/cm2:3.51E-2 +/-.18

GAMMA GROSS: [illegible].0000

CALC: ALPHA [illegible]4 BETA 1.70E-3 +/-9.08E-3

SAMPLE #:7. TIME:09:16:14 DATE:DEC 14,1995

ALPHA GROSS: [illegible] +/-.65 dpm/cm2:0 +/-1.99E-2

BETA GROSS: [illegible] +/-5.70 dpm/cm2:0 +/-.15

GAMMA GROSS: 0 C FACTOR:1.0000

CALC: ALPHA 0 +/-9.66E-4 BETA 0 +/-7.48E-3

SAMPLE #:8. TIME (M):.50 TIME:09:16:58 DATE:DEC 14,1995

ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2

BETA GROSS: 0 NET: 0 +/-1.34 dpm/cm2:0 +/-3.64E-2

GAMMA GROSS: 0 C FACTOR:1.0000

CALC: ALPHA 0 +/-9.66E-4 BETA 0 +/-1.76E-3

SAMPLE #:9. TIME (M):.50 TIME:09:17:41 DATE:DEC 14,1995

ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2

BETA GROSS: 0 NET: 0 +/-1.34 dpm/cm2:0 +/-3.64E-2

GAMMA GROSS: 0 C FACTOR:1.0000

CALC: ALPHA 0 +/-9.66E-4 BETA 0 +/-1.76E-3

```
[illegible]                TIME (M):.30
[illegible]: 0             NET: 0
[illegible] 2.             NET: 0
[illegible]: 0             C FACTOR:1.[illegible]
[illegible]A 0              +/-9.66E-4  BETA  0          +/-[illegible]

[illegible]                TIME (M):.50        TIME:09:19:53 DATE:DEC [illegible]
[illegible]: 0             NET: 0              +/-.65      dpm/cm2:0          +/-1.99E-2
BETA  GROSS: 3.            NET: 0              +/-5.70     dpm/cm2:0          +/-.15
GAMMA GROSS: [illegible]   C FACTOR:1.0000
[illegible]  ALPHA 0        +/-9.66E-4  BETA  0          +/-7.48E-3

[illegible]                TIME (M):.50        TIME:09:20:36 DATE:DEC 14.1995
[illegible] GROSS: 0       NET: 0              +/-.65      dpm/cm2:0          +/-1.99E-2
BETA  GROSS: [illegible]   NET: 0              +/-1.34     dpm/cm2:0          +/-[illegible]
GAMMA GROSS: 0             C FACTOR:1.0000
[illegible]  ALPHA 0        +/-9.66E-4  BETA  0          +/-1.76E-3

AMPLE #:14.                TIME (M):.50        TIME:09:21:20 DATE:DEC 14.1995
ALPHA GROSS: 0             NET: 0              +/-.65      dpm/cm2:0          +/-1.99E-2
BETA  GROSS: 4.            NET: 3.30           +/-7.95     dpm/cm2:8.91E-2    +/-.21
GAMMA GROSS: 0             C FACTOR:1.0000
JCALC:  ALPHA 0             +/-9.66E-4  BETA  4.32E-3 +/-1.04E-2

AMPLE #:15.                TIME (M):.50        TIME:09:22:05 DATE:DEC 14,1995
ALPHA GROSS: 1.            NET: .90            +/-3.97     dpm/cm2:2.75E-2    +/-.12
BETA  GROSS: 1.            NET: 0              +/-4.19     dpm/cm2:0          +/-.11
GAMMA GROSS: 0             C FACTOR:1.0000
JCALC:  ALPHA 1.33E-3 +/-5.90E-3  BETA  0        +/-5.50E-3

AMPLE #:16.                TIME (M):.50        TIME:09:22:49 DATE:DEC 14.1995
ALPHA GROSS: 0             NET: 0              +/-.65      dpm/cm2:0          +/-1.99E-2
BETA  GROSS: 5.            NET: 0              +/-5.70     dpm/cm2:0          +/-.15
GAMMA GROSS: 0             C FACTOR:1.0000
JCALC:  ALPHA 0             +/-9.66E-4  BETA  0          +/-7.48E-3

AMPLE #:17.                TIME (M):.50        TIME:09:23:33 DATE:DEC 14,1995
ALPHA GROSS: 0             NET: 0              +/-.65      dpm/cm2:0          +/-1.99E-2
BETA  GROSS: 5.            NET: 5.30           +/-8.86     dpm/cm2:.14        +/-.23
GAMMA GROSS: 0             [redacted].0000
[illegible]  ALPHA 0[redacted]4  BETA  [illegible]3E-3 +/-1.16E-2

AMPLE #:18.                [redacted]          TIME:09:24:17 DATE:DEC 14.1995
ALPHA GROSS: [illegible]   [redacted]          +/-3.97     dpm/cm2:2.75E-2    +/-.12
BETA  GROSS: 2[redacted]   [redacted]          +/-5.74     dpm/cm2:0          +/-.15
GAMMA GROSS: 0             C FACTOR:1.0000
JCALC:  ALPHA 1.33E-3 +/-5.90E-3  BETA  0        +/-7.53E-3

AMPLE #:19.                TIME (M):.50        TIME:09:25:01 DATE:DEC 14,1995
ALPHA GROSS: 0             NET: 0              +/-.65      dpm/cm2:0          +/-1.99E-2
BETA  GROSS: 6.            NET: 7.30           +/-9.69     dpm/cm2:.19        +/-.26
[illegible] GROSS: 0       C FACTOR:1.0000
[illegible]:  ALPHA 0       +/-9.66E-4  BETA  9.57E-3 +/-1.27E-2

AMPLE #:20.                TIME (M):.50        TIME:09:25:45 DATE:DEC 14.1995
ALPHA GROSS: 1.            NET: .90            +/-3.97     dpm/cm2:2.75E-2    +/-.12
BETA  GROSS: 1.            NET: 0              +/-4.19     dpm/cm2:0          +/-.11
GAMMA GROSS: 0             C FACTOR:1.0000
[illegible]  ALPHA [illegible]  +/-5.90E-3  BETA  0          +/-5.50E-3
```

```
[illegible]          TIME (M): .50
[illegible] 0          NET: 0
[illegible] 4.         NET: 3.30
[illegible] 0          C FACTOR:1.[illegible]
[illegible] ALPHA 0     +/-9.66E-4   BETA  [illegible]

[illegible]          TIME (M): .50          TIME:09:27:57 DATE:DEC 14,1995
[illegible] GROSS: 0     NET: 0          +/-.65      dpm/cm2:0
[illegible] GROSS: 1.    NET: 1.30       +/-1.72     dpm/cm2:3.51E-2 +/-.18
[illegible] GROSS: 0     C FACTOR:1.0000
[illegible] ALPHA 0      +/-9.66E-4   BETA  1.70E-3 +/-9.08E-3

[illegible]          TIME (M): .50          TIME:09:28:41 DATE:DEC 14,1995
[illegible]              NET: 0          +/-.65      dpm/cm2:0
[illegible]              NET: 0          +/-4.14     dpm/cm2:0
[illegible]              C FACTOR:1.0000
[illegible] ALPHA 0      +/-9.66E-4   BETA  0        +/-5.43E-3

[illegible]          TIME (M): .50          TIME:09:29:24 DATE:DEC 14,1995
ALPHA GROSS: 0           NET: 0          +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 1.          NET: 0          +/-4.14     dpm/cm2:0        +/-.11
GAMMA GROSS: 0           C FACTOR:1.0000
DALC: ALPHA 0            +/-9.66E-4   BETA  0        +/-5.43E-3

AMPLE 4:24.          TIME (M): .50          TIME:09:30:08 DATE:DEC 14,1995
ALPHA GROSS: 0           NET: 0          +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 0           NET: 0          +/-1.34     dpm/cm2:0        +/-3.64E-2
GAMMA GROSS: 0           C FACTOR:1.0000
DALC: ALPHA 0            +/-9.66E-4   BETA  0        +/-1.76E-3

AMPLE 4:27.          TIME (M): .50          TIME:09:30:51 DATE:DEC 14,1995
ALPHA GROSS: 0           NET: 0          +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 2.          NET: 1.30       +/-6.92     dpm/cm2:3.51E-2 +/-.18
GAMMA GROSS: 0           C FACTOR:1.0000
DALC: ALPHA 0            +/-9.66E-4   BETA  1.70E-3 +/-9.08E-3

AMPLE 4:28.          TIME (M): .50          TIME:09:31:35 DATE:DEC 14,1995
ALPHA GROSS: 0           NET: 0          +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 2.          NET: 0          +/-5.70     dpm/cm2:0        +/-.15
GAMMA GROSS: 0           C FACTOR:1.0000
DALC: ALPHA [illegible]4 BETA  0        +/-7.48E-3

AMPLE 4:29.                              TIME:09:32:19 DATE:DEC 14,1995
ALPHA GROSS: [illegible]                 +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 0                           +/-1.34     dpm/cm2:0        +/-3.64E-2
GAMMA GROSS: 0           C FACTOR:1.0000
DALC: ALPHA 0            +/-9.66E-4   BETA  0        +/-1.76E-3

AMPLE 4:30.          TIME (M): .50          TIME:09:33:02 DATE:DEC 14,1995
ALPHA GROSS: 0           NET: 0          +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 2.          NET: 0          +/-5.70     dpm/cm2:0        +/-.15
GAMMA GROSS: 0           C FACTOR:1.0000
DALC: ALPHA 0            +/-9.66E-4   BETA  0        +/-7.48E-3

AMPLE 4:31.          TIME (M): .50          TIME:09:33:46 DATE:DEC 14,1995
ALPHA GROSS: 0           NET: 0          +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 0           NET: 0          +/-1.34     dpm/cm2:0        +/-3.64E-2
GAMMA GROSS: 0           C FACTOR:1.0000
[illegible]              +/-9.66E-4   BETA  0        +/-1.76E-3
```

```
[illegible]                TIME (M):.50
[illegible] 0              NET: 0
[illegible] 0              NET: 0
[illegible] 0              C FACTOR:1.[illegible]
[illegible] ALPHA 0        +/-9.66E-4  BETA [illegible]

[illegible]                TIME (M):.50        TIME:09:35:56 DATE:DEC [illegible]
[illegible] GROSS:         NET: 0              +/-.63      dpm/cm2:0          +/-1.[illegible]
[illegible] GROSS: [illegible]  NET: 0         +/-4.14     dpm/cm2:0          +/-.11
[illegible] GROSS: [illegible]  C FACTOR:[illegible]
[illegible] ALPHA [illegible]   +/-9.66E-4  BETA 0      +/-5.43E-3

[illegible]                TIME (M):.50        TIME:09:36:40 DATE:DEC 14,1995
[illegible] GROSS: [illegible]  NET: .90       +/-3.97     dpm/cm2:2.75E-2 +/-.12
[illegible] GROSS: 2.      NET: 0              +/-5.74     dpm/cm2:0          +/-.15
[illegible] GROSS: 0       C FACTOR:1.0000
[illegible] ALPHA [illegible]E-3 +/-5.90E-3  BETA 0      +/-7.53E-3

[illegible]                TIME (M):.50        TIME:09:37:23 DATE:DEC 14,1995
[illegible] GROSS: 0       NET: 0              +/-.65      dpm/cm2:0          +/-1.9[illegible]
[illegible] GROSS: 1.      NET: 0              +/-4.14     dpm/cm2:0          +/-.11
[illegible] GROSS: 0       C FACTOR:1.0000
[illegible] ALPHA 0        +/-9.66E-4  BETA 0      +/-5.43E-3

[illegible]                TIME (M):.50        TIME:09:38:08 DATE:DEC 14,1995
[illegible] GROSS: [illegible]  NET: .90       +/-3.97     dpm/cm2:2.75E-2 +/-.12
[illegible] GROSS: 1.      NET: 0              +/-4.19     dpm/cm2:0          +/-.11
[illegible] GROSS: 0       C FACTOR:1.0000
[illegible] ALPHA 1.33E-3 +/-5.90E-3  BETA 0      +/-5.50E-3

[illegible]                TIME (M):.50        TIME:09:38:51 DATE:DEC 14,1995
[illegible] GROSS: 0       NET: 0              +/-.65      dpm/cm2:0          +/-1.99E-2
[illegible] GROSS: 3.      NET: 1.30           +/-6.92     dpm/cm2:3.51E-2 +/-.18
[illegible] GROSS: 0       C FACTOR:1.0000
[illegible] ALPHA 0        +/-9.66E-4  BETA 1.70E-3 +/-9.08E-3

[illegible]                TIME (M):.50        TIME:09:39:35 DATE:DEC 14,1995
[illegible] GROSS: 0       NET: 0              +/-.65      dpm/cm2:0          +/-1.99E-2
[illegible] GROSS: 3.      NET: 1.30           +/-6.92     dpm/cm2:3.51E-2 +/-.18
[illegible] GROSS: 0       [illegible].0000
[illegible] ALPHA [illegible]4  BETA 1.70E-3 +/-9.08E-3

[illegible]                [illegible]         TIME:09:40:20 DATE:DEC 14,1995
[illegible] GROSS: [illegible]  [illegible]    +/-3.97     dpm/cm2:2.75E-2 +/-.12
[illegible] GROSS: 2.      [illegible]         +/-5.74     dpm/cm2:0          +/-.15
[illegible] GROSS: 0       C FACTOR:1.0000
[illegible] ALPHA 1.33E-3 +/-5.90E-3  BETA 0      +/-7.53E-3

[illegible]                TIME (M):.50        TIME:09:41:03 DATE:DEC 14,1995
[illegible] GROSS: 1.      NET: .90            +/-3.97     dpm/cm2:2.75E-2 +/-.12
[illegible] GROSS: 1.      NET: 0              +/-4.19     dpm/cm2:0          +/-.11
[illegible] GROSS: 0       C FACTOR:1.0000
[illegible] ALPHA 1.33E-3 +/-5.90E-3  BETA 0      +/-5.50E-3

[illegible]                TIME (M):.50        TIME:09:41:47 DATE:DEC 14,1995
[illegible] GROSS: 1.      NET: .90            +/-3.97     dpm/cm2:2.75E-2 +/-.12
[illegible] GROSS: 1.      NET: 0              +/-4.19     dpm/cm2:0          +/-.11
[illegible] GROSS: 0       C FACTOR:1.0000
[illegible] ALPHA 1.33E-3 +/-5.90E-3  BETA 0      +/-5.50E-3
```

```
[illegible]          TIME (M):.50
[illegible] 1.       NET: .90
[illegible] 1.       NET: 0
[illegible] 0        C FACTOR:1.[illegible]
[illegible] ALPHA 1.33E-3 +/-5.90E-3  BETA [illegible]  +/-5.50E-3

[illegible]          TIME (M): 50        TIME:09:43:58 DATE:DEC 14 1995
[illegible] GROSS: 0        NET: 0        +/-.65      dpm/cm2:0        +/-1.99E-2
[illegible] GROSS: 1        NET: 0        +/-4.14     dpm/cm2:0        +/-.11
[illegible] GROSS: 0        C FACTOR:1.0000
[illegible] ALPHA [illegible] +/-7.66E-4  BETA 0        +/-5.43E-3

[illegible]          TIME (M): 50        TIME:09:44:42 DATE:DEC 14,1995
[illegible] ALPHA:          NET: .90      +/-3.97     dpm/cm2:2.75E-2 +/- [illegible]
[illegible] GROSS: 3.       NET: 1.15     +/-6.95     dpm/cm2:3.11E-2 +/- [illegible]
[illegible] GROSS: 0        C FACTOR:1.0000
[illegible] ALPHA [illegible]E-3 +/-5.90E-3  BETA 1.51E-3 +/-9.12E-3

[illegible]          TIME (M):.50        TIME:09:45:27 DATE:DEC 14,1995
ALPHA GROSS: 1.             NET: .90      +/-3.97     dpm/cm2:2.75E-2 +/-.12
BETA  GROSS: 1.             NET: 0        +/-4.19     dpm/cm2:0        +/-.11
GAMMA GROSS: 0              C FACTOR:1.0000
CALC: ALPHA 1.33E-3 +/-5.90E-3  BETA 0        +/-5.50E-3

AMPLE #:48.          TIME (M):.50        TIME:09:46:10 DATE:DEC 14,1995
[illegible] GROSS: 0        NET: 0        +/-.65      dpm/cm2:0        +/-1.99E-2
[illegible] GROSS: 2.       NET: 0        +/-5.70     dpm/cm2:0        +/-.15
[illegible] GROSS: 0        C FACTOR:1.0000
CALC: ALPHA 0        +/-9.66E-4  BETA 0        +/-7.48E-3

[illegible]PLE #:49.         TIME (M):.50        TIME:09:46:54 DATE:DEC 14,1995
ALPHA GROSS: 0              NET: 0        +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 1.             NET: 0        +/-4.14     dpm/cm2:0        +/-.11
GAMMA GROSS: 0              C FACTOR:1.0000
CALC: ALPHA 0        +/-9.66E-4  BETA 0        +/-5.43E-3

AMPLE #:50.          TIME (M):.50        TIME:09:47:37 DATE:DEC 14,1995
ALPHA GROSS: 0              NET: 0        +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 1.             NET: 0        +/-4.14     dpm/cm2:0        +/-.11
GAMMA GROSS: 0              C FACTOR:1.0000
CALC: ALPHA [illegible]4  BETA 0        +/-5.43E-3

AMPLE #:51.                 TIME:09:48:21 DATE:DEC 14,1995
ALPHA GROSS: [illegible]    +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 1.             +/-4.14     dpm/cm2:0        +/-.11
GAMMA GROSS: 0              C FACTOR:1.0000
CALC: ALPHA 0        +/-9.66E-4  BETA 0        +/-5.43E-3

AMPLE #:52.          TIME (M):.50        TIME:09:49:04 DATE:DEC 14,1995
ALPHA GROSS: 0              NET: 0        +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 2.             NET: 0        +/-5.70     dpm/cm2:0        +/-.15
[illegible] GROSS: 0        C FACTOR:1.0000
[illegible]: ALPHA 0        +/-9.66E-4  BETA 0        +/-7.48E-3

AMPLE #:53.          TIME (M):.50        TIME:09:49:48 DATE:DEC 14,1995
ALPHA GROSS: 0              NET: 0        +/-.65      dpm/cm2:0        +/-1.99E-2
BETA  GROSS: 2.             NET: 0        +/-5.70     dpm/cm2:0        +/-.15
GAMMA GROSS: 0              C FACTOR:1.0000
CALC: ALPHA 0        +/-9.66E-4  BETA 0        +/-7.48E-3
```

91

TIME (M):.50

NET: 0

NET: 1.30

FACTOR:1.

+/-9.66E-4 BETA .70E-3 +/-1.76E-3

TIME (M):.50 TIME:09:51:51 DATE:DEC 14,1990

NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2

NET: 0 +/-1.34 dpm/cm2:0 +/-3.6E-2

FACTOR:1.0000

+/-9.66E-4 BETA 0 + -1.76E-3

TIME (M):.50 TIME:09:52:51 DATE:DEC 14,1990

NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2

NET: 3.30 +/-3.86 dpm/cm2:.14 +/-.27

FACTOR:1.0000

+/-9.66E-4 BETA 6.93E-3 +/-1.66E-2

12/15

[redacted]

[redacted]

RESET COUNT:[redacted]

START TIME (M):[redacted]

HIGH VOLTAGE:1300.

ROI WINDOW:450.

START SAMPLE :1.

NUM OF SAMPLE:100.

ERROR (SIGMA):1.96

REPEAT #:0

EFFIC (%):32.65

STUK (%):15.40

BKGND (CPM):1.10

EFFIC (%):37.00

BKGND (CPM):4.69

ACQ TIME (M):10.00

AL(cm2):100.00

CALIB (dpm/V):1000.00

92

TIME (M):.50
1. NET: .90
3. NET: 1.15
0 C FACTOR:1.
A 1.33 +/-5.90E-

TIME (M): 50 TIME:08:35:15 DATE:DEC 15 1995
1 NET: .90 +/-3.97 dpm/cm2:2.75E-
NET: 0 +/-3.74 dpm/cm2:
C FACTOR:1.0000
BETA 0 +/-7.83E-3

[redacted]

ERROR % 120.55
GROSS % 12.49
RANGE (CPM) 1 10
PERIOD 1.00
(CPM) 4.69
TIME (M) 10.00
1.00
CPM (dpm/V) 1000.00
EFFICIENCY (CONC/F)*G

SAMPLE # 1. TIME (M):.50 TIME:08:36:06 DATE:DEC 15.1995
ALPHA GROSS: 25. NET: 50.90 +/-19.99 dpm/cm2:155.89 +/-61.25
BETA GROSS: 46. NET: 78.96 +/-26.22 dpm/cm2:213.41 +/-72.49
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 7.56 +/-2.97 BETA 10.55 +/-3.51

SAMPLE #:2. TIME (M):.50. TIME:08:36:50 DATE:DEC 15.1995
ALPHA GROSS: 1. NET: .90 +/-3.97 dpm/cm2:2.75 +/-12.17
BETA GROSS: [redacted] +/-1.49 dpm/cm2:0 +/-4.57
GAMMA GROSS: [redacted] .0000
CALC: ALPHA [redacted] BETA 0 +/-.19

SAMPLE #:3. TIME:08:37:42 DATE:DEC 15.1995
ALPHA GROSS: [redacted] +/-.65 dpm/cm2:0 +/-1.99
BETA GROSS: 4. NET: 3.31 +/-7.95 dpm/cm2:8.94 +/-21.49
GAMMA GROSS: 0 C FACTOR:1.0000
CALC: ALPHA 0 +/-9.66E-2 BETA .43 +/-1.04

[illegible] :100000. BETA
[illegible]
[illegible] AREA:[illegible]
[illegible] :[illegible]
[illegible] SAMPLE [illegible]
[illegible] :[illegible]
[illegible] :[illegible]
[illegible] :[illegible]
[illegible] :[illegible]
[illegible] :[illegible]
[illegible] (CPM):[illegible]
[illegible] :[illegible]
[illegible] (CPM):4.67
[illegible] TIME (M):[illegible]
[illegible] :100.00
[illegible] (dpm/V):1000.00
[illegible] EQUATION: CONC/F)*G

[illegible]MPLE #:4. TIME (M):.50 TIME:10:52:57 DATE:DEC 15,1995
[illegible]LPHA GROSS: 1. NET: .90 +/-3.97 dpm/cm2:2.75E-2 +/-.12
[illegible] GROSS: 4. NET: 3.16 +/-7.98 dpm/cm2:8.54E-2 +/-.21
[illegible] GROSS: 0 C FACTOR:1.0000
[illegible]C. ALPHA [illegible]33E-3 +/-5.90E-3 BETA 4.14E-3 +/-1.04E-2

[illegible]MPLE 4:5. TIME (M):.50 TIME:10:53:41 DATE:DEC 15,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
[illegible]ETA GROSS: 2. NET: 0 +/-5.70 dpm/cm2:0 +/-.15
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]CALC: ALPHA 0 +/-9.66E-4 BETA 0 +/-7.48E-3

[illegible]MPLE #:6. TIME (M):.50 TIME:10:54:25 DATE:DEC 15,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
[illegible]ETA GROSS: 0 NET: 0 +/-1.34 dpm/cm2:0 +/-3.63E-2
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]CALC: ALPHA [illegible]4 BETA 0 +/-1.76E-3

[illegible]MPLE #:7. TIME:10:55:09 DATE:DEC 15,1995
[illegible]LPHA GROSS: [illegible] +/-.65 dpm/cm2:0 +/-1.99E-2
[illegible]ETA GROSS: [illegible] +/-1.34 dpm/cm2:0 +/-3.63E-2
[illegible]AMMA GROSS: [illegible].0000
[illegible]CALC: ALPHA 0 +/-9.66E-4 BETA 0 +/-1.76E-3

[illegible]MPLE #:8. TIME (M):.50 TIME:10:56:01 DATE:DEC 15,1995
[illegible]LPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
[illegible]ETA GROSS: 2. NET: 0 +/-5.70 dpm/cm2:0 +/-.15
[illegible]AMMA GROSS: 0 C FACTOR:1.0000
[illegible]C: ALPHA 0 +/-9.66E-4 BETA 0 +/-7.48E-3

12/18

```
                100000.  ALPHA
                :.50
                :1300.
                :50.
                :1.
                :1.
                :1000.0

MPLE #:1.       TIME (M):.50        TIME:14:25:27 DATE:DEC 18,1996
LPHA GROSS: 0       NET: 0          +/-.65      dpm/cm2:0       +/-1.9[illegible]
ETA  GROSS: 2.      NET: 0          +/-5.70     dpm/cm2:0       +/-.15[illegible]
AMMA GROSS: 0       C FACTOR:1.0000

MPLE #:2.       TIME (M):.50        TIME:14:26:11 DATE:DEC 18,1996
LPHA GROSS: 0       NET: 0          +/-.65      dpm/cm2:0       +/-1.99E-2
[illegible] GROSS: 0       NET: 0          +/-1.34     dpm/cm2:0       +/-3.63E-2
[illegible]A GROSS: 0       C FACTOR:1.0000

MPLE #:3.       TIME (M):.50        TIME:14:26:54 DATE:DEC 18,1996
LPHA GROSS: 0       NET: 0          +/-.65      dpm/cm2:0       +/-1.99E-2
ETA  GROSS: 1.      NET: 0          +/-4.14     dpm/cm2:0       +/-.11
AMMA GROSS: 0       C FACTOR:1.0000

MPLE #:4.       TIME (M):.50        TIME:14:27:37 DATE:DEC 18,1996
LPHA GROSS: 0       NET: 0          +/-.65      dpm/cm2:0       +/-1.99E-2
ETA  GROSS: 0       NET: 0          +/-1.34     dpm/cm2:0       +/-3.63E-2
AMMA GROSS: 0       C FACTOR:1.0000

MPLE #:5.                           TIME:14:28:21 DATE:DEC 18,1996
LPHA GROSS:[redacted]               +/-.65      dpm/cm2:0       +/-1.99E-2
ETA  GROSS:[redacted]               +/-1.34     dpm/cm2:0       +/-3.63E-2
AMMA GROSS:[redacted]1.0000

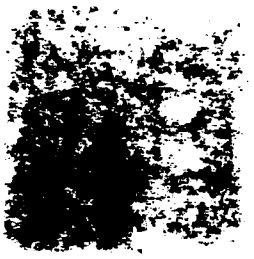
MPLE #:6.                           TIME:14:29:04 DATE:DEC 18,1996
LPHA GROSS: 1.      NET: .90        +/-3.97     dpm/cm2:2.75E-2 +/-.12
ETA  GROSS: 1.      NET: 0          +/-4.19     dpm/cm2:0       +/-.11
AMMA GROSS: 0       C FACTOR:1.0000

MPLE #:7.       TIME (M):.50        TIME:14:29:56 DATE:DEC 18,1996
LPHA GROSS: 0       NET: 0          +/-.65      dpm/cm2:0       +/-1.99E-2
[illegible] GROSS: 3.      NET: 1.30       +/-6.92     dpm/cm2:3.54E-2 +/-.18
[illegible]A GROSS: 0       C FACTOR:1.0000

ROGRAM #:0
RESET COUNT:100000.  ALPHA
SET TIME (M):10.00
IGH VOLTAGE:1300.
ISC WINDOW:450
```

95

:4.69
:10.00
00
:10000.00



DERAM #:1
COUNT:100000. ALPHA
TIME (M):.50
VOLTAGE:1300.
SC WINDOW:450.
SAMPLE :1.
SAMPLE:100.
(SIGMA):1.96
EAT 4:0
EFFIC (%):32.65
ROSTLK (%):16.40
BGND (CPM):1.10
EFFIC (%):37.00
BKGND (CPM):4.69
TIME (M):10.00
(cm2):100.00
(dpm/V):
ER EQUATION:

MPLE #:1. TIME:15:17:48 DATE:DEC 18,1996
LPHA GROSS: +/-.65 dpm/cm2:0 +/-1.99E-2
ETA GROSS: 3. NET: 1.30 +/-3.92 dpm/cm2:3.54E-2 +/-.18
AMMA GROSS: 0 C FACTOR:1.0000

MPLE #:BKGNDTIME (M):10.00 TIME:15:28:03 DATE:DEC 18,1996
LPHA GROSS: 1. NET: 0 +/-.67 dpm/cm2:0 +/-2.07E-2
ETA GROSS: 31. NET: 0 +/-1.73 dpm/cm2:0 +/-4.68E-2
GROSS: 0 C FACTOR:48002576

BKGND (CPM):.10
BKGND (CPM):3.10

MPLE #:2. TIME (M):.50 TIME:15:28:46 DATE:DEC 18,1996
LPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.00E-3

NET: 0
NET: 0
C FACTOR:

TIME (M): .50
NET: 1.90

TIME: DATE: DEC 18,
dpm/cm2:0
dpm/cm2:0

TIME: DATE: DEC 18,
dpm/cm2:0
dpm/cm2:0

TIME: DATE: DEC 18,
dpm/cm2:0
dpm/cm2:0

TIME:17:23:15 DATE:DEC 18,1996
dpm/cm2:5.81E-2 +/-.12
dpm/cm2:6.99E-2 +/-.18

ALPHA

475 NET: 954.37
113. NET: 64.70
0 C FACTOR:1

TIME (M):.50
35. NET: 68.90

TIME:08:33:50 DATE:DEC 19,1996
NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
NET: 0 +/-5.70 dpm/cm2:0 +/-.15
C FACTOR:1.0000

TIME (M):.50 TIME:08:34:34 DATE:DEC 19,1996
NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
NET: 0 +/-5.70 dpm/cm2:0 +/-.15
C FACTOR:1.0000

TIME (M):.50 TIME:08:35:17 DATE:DEC 19,1996
NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
NET: 0 +/-1.34 dpm/cm2:0 +/-3.63E-2
C FACTOR:1.0000

TIME (M):.50 TIME:08:36:01 DATE:DEC 19,1996
NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
NET: 0 +/-4.14 dpm/cm2:0 +/-.11
C FACTOR:1.0000

FILE # 8. TIME (M):.50 TIME:08:36:45 DATE:DEC 19,1996
ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
BETA GROSS: 3. NET: 1.30 +/-6.92 dpm/cm2:3.54E-2 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000

FILE #:9. TIME:08:37:27 DATE:DEC 19,1996
ALPHA GROSS: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
BETA GROSS: +/-4.14 dpm/cm2:0 +/-.11
GAMMA GROSS: .0000

FILE #:10. TIME:08:38:13 DATE:DEC 19,1996
ALPHA GROSS: 1. NET: .90 +/-3.97 dpm/cm2:2.75E-2 +/-.12
BETA GROSS: 3. NET: 1.16 +/-6.78 dpm/cm2:3.14E-2 +/-.18
GAMMA GROSS: 0 C FACTOR:1.0000

FILE # 11. TIME (M):.50 TIME:08:38:57 DATE:DEC 19,1996
ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
BETA GROSS: 0 NET: 0 +/-4.14 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000

FILE # 12. TIME (M):.50 TIME:08:39:41 DATE:DEC 19,1996
ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
BETA GROSS: 0 NET: 0 +/-1.34 dpm/cm2:0 +/-3.63E-2
GAMMA GROSS: 0 C FACTOR:1.0000

NET: 0
C FACTOR:1

TIME (M):.50
NET: 0
NET: 0
C FACTOR:1.0000

TIME 08:47:26 DATE:DEC 17,1996
+/-3.97 dpm/cm2:2.77E-1 +/-
C FACTOR 1.0000

TIME 08:47:20 DATE:DEC 17,1996
NET: 0 +/-.65 dpm/cm2:0 +/-
NET: 0 +/-1.34 dpm/cm2:0 +/-
C FACTOR 1.0000

TIME:08:44:03 DATE:DEC 19,1996
NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
NET: 0 +/-1.34 dpm/cm2:0 +/-3.63E-2
C FACTOR:1.0000

TIME (M):.50 TIME:08:44:47 DATE:DEC 19,1996
NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
NET: 0 +/-5.70 dpm/cm2:0 +/-.15
C FACTOR:1.0000

TIME (M):.50 TIME:08:45:31 DATE:DEC 19,1996
NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
NET: 1.30 +/-6.92 dpm/cm2:3.54E-2 +/-.18
C FACTOR:1.0000

TIME (M):.50 TIME:08:46:15 DATE:DEC 19,1996
ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
BETA GROSS: 1. NET: 0 +/-4.14 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000

TIME (M):.50 TIME:08:46:58 DATE:DEC 19,1996
ALPHA GROSS: [redacted] +/-.65 dpm/cm2:0 +/-1.99E-2
[redacted] +/-6.92 dpm/cm2:3.54E-2 +/-.18
GAMMA GROSS: [redacted].0000

[redacted] TIME:08:47:41 DATE:DEC 19,1996
ALPHA GROSS: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
BETA GROSS: 7. NET: 5.31 +/-8.86 dpm/cm2:.14 +/-.23
GAMMA GROSS: 0 C FACTOR:1.0000

TIME (M):.50 TIME:08:48:25 DATE:DEC 19,1996
ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
BETA GROSS: 2. NET: 0 +/-5.70 dpm/cm2:0 +/-.15
GAMMA GROSS: 0 C FACTOR:1.0000

TIME (M):.50 TIME:08:49:08 DATE:DEC 19,1996
ALPHA GROSS: 0 NET: 0 +/-.65 dpm/cm2:0 +/-1.99E-2
BETA GROSS: 1. NET: 0 +/-4.14 dpm/cm2:0 +/-.11
GAMMA GROSS: 0 C FACTOR:1.0000

TIME (M):.50 TIME:08:49:51 DATE:DEC 19,1996

C FACTOR:1.

TIME (M):.50
NET: 0
NET: 0
C FACTOR:1.

TIME:08:55:39 DATE:DEC 19,1996

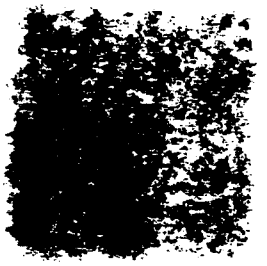
NET: 0	+/-.65	dpm/cm2:0	+/-1.99E-2
NET: 0	+/-4.14	dpm/cm2:0	+/-.11
C FACTOR:1.0000			

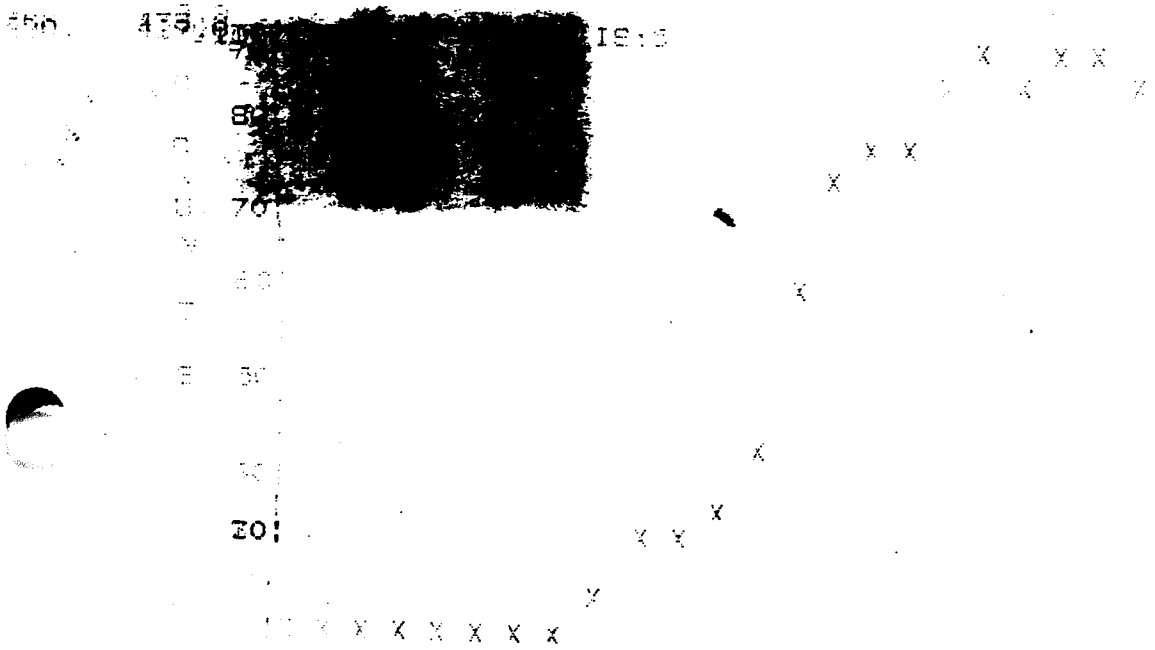
TIME (M):.50 TIME:08:56:22 DATE:DEC 19,1996

NET: 0	+/-.65	dpm/cm2:0	+/-1.99E-2
[redacted]	+/-1.34	dpm/cm2:0	+/-3.63E-2
[redacted].0000			

[redacted] TIME:09:06:46 DATE:DEC 19,1996

[redacted]	+/-.78	dpm/cm2:0	+/-2.40E-2
[redacted]	+/-1.75	dpm/cm2:0	+/-4.77E-2
C FACTOR:70533446			





GRAM #:0
COUNT:[redacted]
TIME (M):[redacted]
VOLTAGE:[redacted]
WINDOW:[redacted]
SQUARE( )=N,[redacted]
(SIGMA):1.96
4:0
EFFIC (%):45.10
ROSTLK (%):0
BKGND (CPM):1
EFFIC (%):45.10
D (CPM):30.00
TIME (M):1.00
):1.00
(20)(V):100000
R EQUATION:

MPLE #:1   TIME (M):.50   TIME:11:35:29 DATE:JAN 04,1996
GROSS: NET: 87[illegible]

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TIME (M):10.27
10000. NET: 973.4
2579. NET: 50.01

BETA .33

ERROR (SIGMA):1.96
EFFIC (%):29.91
PROBE (%):18.33

TIME (M):12.03 TIME:12:19:57 DATE:JAN 04,1996
NET: 4.40 +/-1.18 pCi: 4.39 +/-1.12
NET: 779.89 +/-19.50 pCi: 798.92 +/-19.48
C FACTOR:1.0000
ALPHA .21 +/-5.74E-2 BETA 30.78 +/-4.94

[redacted]

[redacted]

TIME (M):100.00
11. NET: .11
362. NET: 3.59
0 C FACTOR:1
8.04E-3 +/-4.75E-

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ROGRAM #:1
RESET COUNT:100000. ALPHA
SET TIME (M):.50
IGH VOLTAGE:1300.
ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
EFFIC (%):29.91
CROSTLK (%):18.53
BKGND (CPM):.11
EFFIC (%):38.78
BKGND (CPM):3.
KGD TIME (M):10.
OL(cm2):100.0
LARM (dpm/V):1
SER EQUATION:

AMPLE #:1. TIME (M):.50 TIME:08:17:57 DATE:JAN 11,1996
ALPHA GROSS: 482. NET: 963.88 +/-86.06 dpm/cm2:32.22 +/-2.87
BETA GROSS: 156. NET: 129.77 +/-51.50 dpm/cm2:3.34 +/-1.32
GAMMA GROSS: 0 C FACTOR:1.0000

A E #:2. TIME (M):.50 TIME:08:18:41 DATE:JAN 11,1996
ALPHA GROSS: 1. NET: 1.89 +/-3.92 dpm/cm2:6.31E-2 +/-.13
BETA GROSS: 423. NET: 842.02 +/-80.63 dpm/cm2:21.71 +/-2.07
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:BKGNDTIME (M):10.00 TIME:08:29:04 DATE:JAN 11,1996
ALPHA GROSS: 2 NET: 8.00E-2 +/- .74 dpm/cm2:3.00E-3 +/-1.15E-2

BKGND (CPM):.20
BKGND (CPM):2.59

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ROGRAM #:1
RESET COUNT:100000. ALPHA
SET TIME (M):.50
IGH VOLTAGE:1300.
ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
EFFIC (%):29.91
CROSTLK (%):18.53
BKGND (CPM):.20
EFFIC (%):38.78
BKGND (CPM):2.59
KGD TIME (M):10.00
OL(cm2):100.00
LARM (dpm/V):1000.00
SER EQUATION:

AMPLE #:1. TIME (M):.50 TIME:09:07:00 DATE:JAN 11,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.2
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GROSS: 0 C FACTOR:1.0000

AMPLE #:2. TIME (M):.50 TIME:09:07:43 DATE:JAN 11,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 0 NET: 0 +/-1.00 dpm/cm2:0 +/-2.58E-2
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:3. TIME (M):.50 TIME:09:08:27 DATE:JAN 11,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:4. TIME (M):.50 TIME:09:09:10 DATE:JAN 11,1996
ALPHA GROSS: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 1 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 .0000

AMPLE #:5. TIME:09:09:54 DATE:JAN 11,1996
ALPHA GROSS: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 2. NET: 1.40 +/-5.63 dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:6. TIME (M):.50 TIME:09:10:37 DATE:JAN 11,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 3. NET: 3.40 +/-6.86 dpm/cm2:8.76E-2 +/-.17
GROSS: 0 C FACTOR:1.0000

AMPLE #:7. TIME (M):.50 TIME:09:11:21 DATE:JAN 11,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 5. NET: 7.40 +/-8.82 dpm/cm2:.19 +/-.22
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:8. TIME (M):.50 TIME:09:12:04 DATE:JAN 11,1996

```
BETA  GROSS: 1.      NET: 0        +/-4.04     dpm/cm2:0        +/-.10
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:9.      TIME (M):.50      TIME:09:12:48 DATE:JAN 11,1996
ALPHA GROSS: 0       NET: 0        +/-.27      dpm/cm2:0        +/-9.26E-3
BETA  GROSS: 3.      NET: 3.40     +/-6.86     dpm/cm2:8.76E-2  +/-.17
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:10.     TIME (M):.50      TIME:09:13:31 DATE:JAN 11,1996
ALPHA GROSS: 0       NET: 0        +/-.27      dpm/cm2:0        +/-9.26E-3
BETA  GROSS: 4.      NET: 5.40     +/-7.90     dpm/cm2:.13      +/-.20
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:11.     TIME (M):.50      TIME:09:14:15 DATE:JAN 11,1996
ALPHA GROSS: 0       NET: 0        +/-.27      dpm/cm2:0        +/-9.26E-3
BETA  GROSS: 2.      NET: 1.40     +/-5.63     dpm/cm2:3.61E-2  +/-.14
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:12.     TIME (M):.50      TIME:09:14:59 DATE:JAN 11,1996
ALPHA GROSS: 0       NET: 0        +/-.27      dpm/cm2:0        +/-9.26E-3
BETA  GROSS: 3.      NET: 3.40     +/-6.86     dpm/cm2:8.76E-2  +/-.17
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:13.     TIME (M):.50      TIME:09:15:50 DATE:JAN 11,1996
ALPHA GROSS: 1.      NET: 1.80     +/-3.92     dpm/cm2:6.01E-2  +/-.13
BETA  GROSS: 1.      NET: 0        +/-4.11     dpm/cm2:0        +/-.10
GAMMA GROSS: 0       C FACTOR:1.0000
```

```
ROGRAM #:1
RESET COUNT:100000.   ALPHA
SET TIME (M):.50
IGH VOLTAGE:1300.
ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
 EFFIC (%):29.91
 CROSTLK (%):18.53
 BKGND (CPM):.20
 EFFIC (%):38[redacted]
 BKGND (CPM):[redacted]
KGD TIME (M):[redacted]
OL(cm2):1.00[redacted]
LARM (dpm/V):[redacted]
SER EQUATION:[redacted]

AMPLE #:1.      TIME (M):.50      TIME:09:26:43 DATE:JAN 11,1996
ALPHA GROSS: 479.    NET: 957.80   +/-85.79    dpm/cm2:3202.27  +/-286.83
BETA  GROSS: 100.    NET: 19.92    +/-42.31    dpm/cm2:51.39    +/-109.11
GAMMA GROSS: 0       C FACTOR:1.0000

A[illegible] #:2.      TIME (M):.50      TIME:09:27:35 DATE:JAN 11,1996
AL[illegible]A GROSS: 5.      NET: 9.80     +/-8.76     dpm/cm2:32.76    +/-29.32
BETA  GROSS: 403.    NET: 801.59   +/-78.71    dpm/cm2:2067.02  +/-202.98
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLES ABOVE ALARM LEVEL
```

ROGRAM #:1
RESET COUNT:100000. ALPHA
SET TIME (M):.50
IGH VOLTAGE:1300.
ISC WINDOW:800.
[illegible] SAMPLE :1.
[illegible] SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
 EFFIC (%):29.91
 CROSTLK (%):18.53
 BKGND (CPM):.20
 EFFIC (%):38.78
 BKGND (CPM):2.58
KGD TIME (M):10.00
OL(cm2):100.00
LARM (dpm/V):1000.00
SER EQUATION:

AMPLE #:1. TIME (M):.50 TIME:09:43:38 DATE:JAN 11,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 2. NET: 1.42 +/-5.63 dpm/cm2:3.66E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:2. TIME (M):.50 TIME:09:44:21 DATE:JAN 11,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.2[illegible]
BETA GROSS: 2. NET: 1.42 +/-5.63 dpm/cm2:3.66E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:3. TIME (M):.50 TIME:09:45:05 DATE:JAN 11,1996
[illegible] GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
[illegible] GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:4. TIME (M):.50 TIME:09:45:56 DATE:JAN 11,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

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ROGRAM #:1
RESET COUNT:100000. ALPHA
SET TIME (M):.50
IGH VOLTAGE:1300.
[illegible] WINDOW:800.
[illegible] SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
 EFFIC (%):29.91
 CROSTLK (%):18.53
 BKGND (CPM):.20

BKGND (CPM):2.58
KGD TIME (M):10.00
DL(cm2):100.00
ARM (dpm/V):100.00
SER EQUATION:

```
:      #:1.        TIME (M):.50        TIME:14:17:46 DATE:JAN 19,1996
ALPHA GROSS: 486.     NET: 971.80   +/-86.41    dpm/cm2:32.49    +/-2.88
BETA  GROSS: 139.     NET: 95.33    +/-48.92    dpm/cm2:2.45     +/-1.26
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:2.        TIME (M):.50        TIME:14:18:30 DATE:JAN 19,1996
ALPHA GROSS: 8.       NET: 15.80    +/-11.09    dpm/cm2:.52      +/-.37
BETA  GROSS: 415.     NET: 824.48   +/-79.88    dpm/cm2:21.26    +/-2.06
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:BKGNDTIME (M):10.00     TIME:14:28:45 DATE:JAN 19,1996
ALPHA GROSS: 3.       NET: .10      +/-.43      dpm/cm2:3.34E-3 +/-1.46E-2
BETA  GROSS: 39.      NET: 1.29     +/-1.58     dpm/cm2:3.33E-2 +/-4.07E-2
GAMMA GROSS: 0        C FACTOR:48002576

BKGND (CPM):.30
BKGND (CPM):3.90

AMPLE #:3.        TIME (M):.50        TIME:14:29:29 DATE:JAN 19,1996
ALPHA GROSS: 0        NET: 0        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 0        NET: 0        +/-1.22     dpm/cm2:0        +/-3.16E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:4.        TIME (M):.50        TIME:14:30:12 DATE:JAN 19,1996
ALPHA GROSS: 0        NET: 0        +/-.33      dpm/cm2:0        +/-1.13E-2
B     GROSS: 0        NET: 0        +/-1.22     dpm/cm2:0        +/-3.16E-2
GA    GROSS: 0        C FACTOR:1.0000

AMPLE #:5.        TIME (M):.50        TIME:14:30:56 DATE:JAN 19,1996
ALPHA GROSS: 0        NET: 0        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 1.       NET: 0        +/-4.10     dpm/cm2:0        +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:6.        TIME (M):.50        TIME:14:31:39 DATE:JAN 19,1996
ALPHA GROSS: 0        NET: 0        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 0        NET: 0        +/-1.22     dpm/cm2:0        +/-3.16E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:7.        TIME (M):.50        TIME:14:32:23 DATE:JAN 19,1996
ALPHA GROSS: 0                        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 0                        +/-1.22     dpm/cm2:0        +/-3.16E-2
GAMMA GROSS: 0                        .0000

AMPLE #:8.                            TIME:14:33:06 DATE:JAN 19,1996
ALPHA GROSS: 0                        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 1.       NET: 0        +/-4.10     dpm/cm2:0        +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:9.        TIME (M):.50        TIME:14:33:50 DATE:JAN 19,1996
ALPHA GROSS: 1.       NET: 1.70     +/-3.93     dpm/cm2:5.68E-2 +/-.13
B     GROSS: 0        NET: 0        +/-1.42     dpm/cm2:0        +/-3.67E-2
G     GROSS: 0        C FACTOR:1.0000

AMPLE #:10.       TIME (M):.50        TIME:14:34:33 DATE:JAN 19,1996
ALPHA GROSS: 0        NET: 0        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 3.       NET: 2.09     +/-6.89     dpm/cm2:5.41E-2 +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000
```

```
BETA  GROSS: 5.      NET: 6.10     +/-8.85     dpm/cm2:.15      +/-.22
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:12.     TIME (M):.50      TIME:14:36:00 DATE:JAN 19,1996
ALPHA GROSS: 0       NET: 0        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 2.      NET: 9.99E-2  +/-5.67     dpm/cm2:2.57E-3  +/-.14
    A GROSS: 0       C FACTOR:1.0000

AMPLE #:13.     TIME (M):.50      TIME:14:36:44 DATE:JAN 19,1996
ALPHA GROSS: 1.      NET: 1.70     +/-3.93     dpm/cm2:5.68E-2  +/-.13
BETA  GROSS: 2.      NET: 0        +/-5.72     dpm/cm2:0        +/-.14
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:14.     TIME (M):.50      TIME:14:37:28 DATE:JAN 19,1996
ALPHA GROSS: 0       NET: 0        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 4.      NET: 4.10     +/-7.93     dpm/cm2:.10      +/-.20
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:15.     TIME (M):.50      TIME:14:38:12 DATE:JAN 19,1996
ALPHA GROSS: 0       NET: 0        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 0       NET: 0        +/-1.22     dpm/cm2:0        +/-3.16E-2
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:16.     TIME (M):.50      TIME:14:38:55 DATE:JAN 19,1996
ALPHA GROSS: 0       NET: 0        +/-.33      dpm/cm2:0        +/-1.13E-2
BETA  GROSS: 0       NET: 0        +/-1.22     dpm/cm2:0        +/-3.16
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:17.     TIME (M):.50      TIME:14:39:47 DATE:JAN 19,1996
ALPHA GROSS: 0       NET: 0        +/-.33      dpm/cm2:0        +/-1.1
BETA  GROSS: 4.      NET: 4.10     +/-7.93     dpm/cm2:.10      +/-.20
    A GROSS: 0       C FACTOR:1.0000
```

```
  .AM #:1
RESET COUNT:100000.  ALPHA
SET TIME (M):.50
IGH VOLTAGE:1300.
ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100.
```

EFFIC (%):29.71
CROSTLK (%):18.53
BKGND (CPM):.20
EFFIC (%):38.78
BKGND (CPM):2.58
KGD TIME (M):10.00
[illegible]2):100.00
[illegible] (dpm/V):1000.00
SER EQUATION:

AMPLE #:1. TIME (M):.50 TIME:15:03:54 DATE:JAN 19,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 85. NET: 167.42 +/-36.15 dpm/cm2:4.31 +/-.93
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:2. TIME (M):.50 TIME:15:04:38 DATE:JAN 19,1996
ALPHA GROSS: 0 NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 16. NET: 29.42 +/-15.71 dpm/cm2:.75 +/-.40
GAMMA GROSS: 0 C FACTOR:1.0000

ROGRAM #:1
RESET COUNT:100000. ALPHA
SET TIME (M):.50
IGH VOLTAGE:1300.
ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100
RROR (SIGMA):1
EPEAT #:0
EFFIC (%):29
CROSTLK (%):1
BKGND (CPM):
EFFIC (%):38.78
BKGND (CPM):3.62
KGD TIME (M):10.00
OL(cm2):100.00
LARM (dpm/V):1000.00
SER EQUATION:

A[illegible]E #:1. TIME (M):.50 TIME:15:09:31 DATE:JAN 19,1996
ALPHA GROSS: 0 NET: 0 +/-.20 dpm/cm2:0 +/-6.87E-3
BETA GROSS: 12. NET: 20.38 +/-13.63 dpm/cm2:.52 +/-.35
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:2. TIME (M):.50 TIME:15:10:15 DATE:JAN 19,1996

GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:3. TIME (M):.50 TIME:15:10:58 DATE:JAN 19,1996
ALPHA GROSS: 0 NET: 0 +/-.20 dpm/cm2:0 +/-6.87E-3
BETA GROSS: 6. NET: 8.38 +/-9.67 dpm/cm2:.21 +/-.24
GAMMA GROSS: 0 C FACTOR:1.0000

[illegible]E #:4. TIME [illegible]:.50 TIME:15:11:42 DATE:JAN 19,1996
ALPHA GROSS: 0 NET: 0 +/-.20 dpm/cm2:0 +/-6.87E-3
BETA GROSS: 3. NET: 2.38 +/-6.89 dpm/cm2:6.13E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:5. TIME (M):.50 TIME:15:12:25 DATE:JAN 19,1996
ALPHA GROSS: 0 NET: 0 +/-.20 dpm/cm2:0 +/-6.87E-3
BETA GROSS: 3. NET: 2.38 +/-6.89 dpm/cm2:6.13E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:6. TIME (M):.50 TIME:15:13:08 DATE:JAN 19,1996
ALPHA GROSS: 0 NET: 0 +/-.20 dpm/cm2:0 +/-6.87E-3
BETA GROSS: 3. NET: 2.38 +/-6.89 dpm/cm2:6.13E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:7. TIME (M):.50 TIME:15:13:52 DATE:JAN 19,1996
ALPHA GROSS: 0 NET: 0 +/-.20 dpm/cm2:0 +/-6.87E-3
BETA GROSS: 2. NET: .38 +/-5.66 dpm/cm2:9.79E-3 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:8. TIME (M):.50 TIME:15:14:43 DATE:JAN 19,1996
ALPHA GROSS: 0 NET: 0 +/-.20 dpm/cm2:0 +/-6.8[illegible]
BETA GROSS: 2. NET: .38 +/-5.66 dpm/cm2:9.79E-3 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

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ROGRAM #:1
RESET COUNT:1[illegible]
SET TIME (M):[illegible]
IGH VOLTAGE:1[illegible]
ISC WINDOW:80[illegible]
TART SAMPLE :1[illegible]
TOP SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
EFFIC (%):29.91
CROSTLK (%):18.53
BKGND (CPM):.11
[illegible]IC (%):38.78
BKGND (CPM):3.62
KGD TIME (M):10.00
OL(cm2):100.00
LARM (dpm/V):100.00
SER EQUATION:

AMPLE #:1 TIME (M):.50 TIME:[illegible] DATE:FEB [illegible]

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BETA  GROSS: 110.      NET: 75.02    +/-47.88    dpm/cm2:2.39     +/-1.28
GAMMA GROSS: 0         C FACTOR:1.0000

AMPLE #:2.       TIME (M):.50       TIME:08:40:39 DATE:FEB 06,1996
ALPHA GROSS: 13.       NET: 25.89    +/-14.13    dpm/cm2:.86      +/-.47
BETA  GROSS: 398.      NET: 787.58   +/-78.25    dpm/cm2:20.30    +/-2.01
G[illegible]A GROSS: 0         C FACTOR:1.0000

AMPLE #:BKGNDTIME (M):10.00     TIME:08:50:53 DATE:FEB 06,1996
ALPHA GROSS: 0         NET: 0        +/-.20      dpm/cm2:0        +/-6.87E-3
BETA  GROSS: 32.       NET: 0        +/-1.61     dpm/cm2:0        +/-4.17E-2
GAMMA GROSS: 0         C FACTOR:48002576

 BKGND (CPM):0
 BKGND (CPM):3.20

AMPLE #:3.       TIME (M):.50       TIME:08:51:37 DATE:FEB 06,1996
ALPHA GROSS: 1.        NET: 2.00     +/-3.92     dpm/cm2:6.68E-2 +/-.13
BETA  GROSS: 2.        NET: .42      +/-5.69     dpm/cm2:1.10E-2 +/-.14
GAMMA GROSS: 0         C FACTOR:1.0000

AMPLE #:4.       TIME (M):.50       TIME:08:52:20 DATE:FEB 06,1996
ALPHA GROSS: 0         NET: 0        +/-0        dpm/cm2:0        +/-0
BETA  GROSS: 1.        NET: 0        +/-4.07     dpm/cm2:0        +/-.10
GAMMA GROSS: 0         C FACTOR:1.0000

AMPLE #:5.       TIME (M):.50       TIME:08:53:04 DATE:FEB 06,1996
ALPHA GROSS: 0         NET: 0        +/-0        dpm/cm2:0        +/-0
BETA  GROSS: 3.        NET: 2.80     +/-6.87     dpm/cm2:7.22E-2 +/-.17
GAMMA GROSS: 0         C FACTOR:1.0000

AMPLE #:6.       TIME (M):.50       TIME:08:53:47 DATE:FEB 06,1996
A[illegible] GROSS: 0         NET: 0        +/-0        dpm/cm2:0        +/-0
BETA  GROSS: 2.        NET: .79      +/-5.65     dpm/cm2:2.06E-2 +/-.14
GAMMA GROSS: 0         C FACTOR:1.0000

AMPLE #:7.       TIME (M):.50       TIME:08:54:31 DATE:FEB 06,1996
ALPHA GROSS: 0         NET: 0        +/-0        dpm/cm2:0        +/-0
BETA  GROSS: 1.        NET: 0        +/-4.07     dpm/cm2:0        +/-.10
GAMMA GROSS: 0         C FACTOR:1.0000

AMPLE #:8.       TIME (M):.50       TIME:08:55:14 DATE:FEB 06,1996
ALPHA GROSS: 0         NET: 0        +/-0        dpm/cm2:0        +/-0
BETA  GROSS: 4.        NET: 4.80     +/-7.91     dpm/cm2:.12      +/-.20
GAMMA GROSS: 0         C FACTOR:1.0000

AMPLE #:9.                           TIME:08:55:57 DATE:FEB 06,1996
ALPHA GROSS: 0                       +/-0        dpm/cm2:0        +/-0
BETA  GROSS: 4                       +/-7.91     dpm/cm2:.12      +/-.20
GAMMA GROSS: 0                       .0000

AMPLE #:10.      TIME (M):.50       TIME:08:56:41 DATE:FEB 06,1996
ALPHA GROSS: 0         NET: 0        +/-0        dpm/cm2:0        +/-0
BETA  GROSS: 1.        NET: 0        +/-4.07     dpm/cm2:0        +/-.10
GAMMA GROSS: 0         C FACTOR:1.0000

AMPLE #:11.      TIME (M):.50       TIME:08:57:24 DATE:FEB 06,1996
A[illegible] GROSS: 0         NET: 0        +/-0        dpm/cm2:0        +/-0
B[illegible] GROSS: 2.        NET: .79      +/-5.65     dpm/cm2:2.06E-2 +/-.14
GAMMA GROSS: 0         C FACTOR:1.0000

AMPLE #:12.      TIME (M):.50       TIME:08:58:08 DATE:FEB 06,1996
ALPHA GROSS: 0         NET: 0        +/-0        dpm/cm2:0        +/-0
BETA  GROSS: 2.        NET: .79      +/-5.65     dpm/cm2:2.06E-2 +/-.14
GAMMA GROSS: 0         C FACTOR:1.0000
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[illegible]                TIME:08:58:51 DATE:FEB 06,1996
ALPHA GROSS: 1.      NET: 2.00     +/-3.92     dpm/cm2:6.68E-2 +/-.13
BETA  GROSS: 4.      NET: 4.42     +/-7.95     dpm/cm2:.11     +/-.20
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:14.     TIME (M):.50      TIME:08:59:35 DATE:FEB 06,1996
[illegible] GROSS: 0       NET: 0        +/-0        dpm/cm2:0       +/-0
[illegible] GROSS: 0       NET: 0        +/-1.10     dpm/cm2:0       +/-2.85E-2
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:15.     TIME (M):.50      TIME:09:00:18 DATE:FEB 06,1996
ALPHA GROSS: 0       NET: 0        +/-0        dpm/cm2:0       +/-0
BETA  GROSS: 1.      NET: 0        +/-4.07     dpm/cm2:0       +/-.10
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:16.     TIME (M):.50      TIME:09:01:01 DATE:FEB 06,1996
ALPHA GROSS: 0       NET: 0        +/-0        dpm/cm2:0       +/-0
BETA  GROSS: 6.      NET: 8.80     +/-9.66     dpm/cm2:.22     +/-.24
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:17.     TIME (M):.50      TIME:09:01:45 DATE:FEB 06,1996
ALPHA GROSS: 0       NET: 0        +/-0        dpm/cm2:0       +/-0
BETA  GROSS: 1.      NET: 0        +/-4.07     dpm/cm2:0       +/-.10
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:18.     TIME (M):.50      TIME:09:02:28 DATE:FEB 06,1996
ALPHA GROSS: 0       NET: 0        +/-0        dpm/cm2:0       +/-0
BETA  GROSS: 1.      NET: 0        +/-4.07     dpm/cm2:0       +/-.10
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:19.     TIME (M):.50      TIME:09:03:12 DATE:FEB 06,1996
ALPHA GROSS: 0       NET: 0        +/-0        dpm/cm2:0       +/-0
[illegible] GROSS: 2.      NET: .79      +/-5.65     dpm/cm2:2.06E-2 +/-.14
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:20.     TIME (M):.50      TIME:09:03:55 DATE:FEB 06,1996
ALPHA GROSS: 0       NET: 0        +/-0        dpm/cm2:0       +/-0
BETA  GROSS: 4.      NET: 4.80     +/-7.91     dpm/cm2:.12     +/-.20
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:21.     TIME (M):.50      TIME:09:04:39 DATE:FEB 06,1996
ALPHA GROSS: 0       NET: 0        +/-0        dpm/cm2:0       +/-0
BETA  GROSS: 0       NET: 0        +/-1.10     dpm/cm2:0       +/-2.85E-2
GAMMA GROSS: 0       C FACTOR:1.0000

AMPLE #:22.                        TIME:09:05:30 DATE:FEB 06,1996
ALPHA GROSS:                       +/-0        dpm/cm2:0       +/-0
BETA  GROSS:                       +/-6.87     dpm/cm2:7.22E-2 +/-.17
GAMMA GROSS:                 .0000
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ROGRAM #:1
RESET COUNT:10000. ALPHA
SET TIME (M):10.00
IGH VOLTAGE:1300.
ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
 EFFIC (%):29.91
 CROSTLK (%):[redacted]
 BKGND (CPM):[redacted]
 EFFIC (%):[redacted]
 BKGND (CPM):[redacted]
KGD TIME (M):[redacted]
OL(cm2):100.00[redacted]
LARM (dpm/V):100.00
SER EQUATION:

AMPLE #:1. TIME (M):9.77 TIME:08:19:39 DATE:FEB 14,1996
ALPHA GROSS: 10000. NET: 1023.04 +/-20.05 dpm/cm2:34.20 +/-.67
BETA GROSS: 2263. NET: 38.34 +/-10.30 dpm/cm2:.98 +/-.26
[illegible] GROSS: 0 C FACTOR:1.0000

AMPLE #:2. TIME (M):10.00 TIME:08:29:54 DATE:FEB 14,1996
ALPHA GROSS: 55. NET: 5.39 +/-1.46 dpm/cm2:.18 +/-4.90E-2
BETA GROSS: 8192. NET: 814.68 +/-17.78 dpm/cm2:21.00 +/-.45
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:BKGNDTIME (M):10.00 TIME:08:40:08 DATE:FEB 14,1996

GAMMA GROSS: 0 C FACTOR:24001288

BKGND (CPM):.10
BKGND (CPM):3.30

air Sample

AMPLE #:4. TIME (M):10.00 TIME:08:50:31 DATE:FEB 14,1996
ALPHA GROSS: 2. NET: .10 +/-.33 dpm/cm2:3.34E-3 +/-1.13E-2
BETA GROSS: 33. NET: 0 +/-1.59 dpm/cm2:0 +/-4.10E-2
GAMMA GROSS: 0 C FACTOR:1.0000

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[redacted]

[redacted]AM #:1
[redacted]T COUNT:10000. ALPHA
SET TIME (M):.50
IGH VOLTAGE:1300.
ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
EFFIC (%):29.91
CROSTLK (%):18.53
BKGND (CPM):.11
EFFIC (%):38.78
BKGND (CPM):[redacted]
KGD TIME (M):[redacted]
OL(cm2):100.[redacted]
LARM (dpm/V):[redacted]
SER EQUATION:[redacted]

AMPLE #:1. TIME (M):.50 TIME:08:37:26 DATE:FEB 16,1996
ALPHA GROSS: 507. NET: 1013.89 +/-88.26 dpm/cm2:33.89 +/-2.95
BETA GROSS: 102. NET: 12.50 +/-42.85 dpm/cm2:.32 +/-1.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:2. TIME (M):.50 TIME:08:38:10 DATE:FEB 16,1996
[redacted]A GROSS: 2. NET: 3.89 +/-5.54 dpm/cm2:.13 +/-.18
[redacted] GROSS: 416. NET: 827.65 +/-79.96 dpm/cm2:21.34 +/-2.06
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:BKGNDTIME (M):10.00 TIME:08:48:25 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-.20 dpm/cm2:0 +/-6.87E-3
BETA GROSS: 29. NET: 0 +/-1.58 dpm/cm2:0 +/-4.08E-2
GAMMA GROSS: 0 C FACTOR:24001288

BKGND (CPM):2.90

AMPLE #:3. TIME (M):.50 TIME:08:49:09 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.05 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:4. TIME (M):.50 TIME:08:49:52 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:5. TIME (M):.50 TIME:08:50:36 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 6. NET: 9.10 +/-9.65 dpm/cm2:.23 +/-.24
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:6. TIME (M):.50 TIME:08:51:19 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:7. TIME (M):.50 TIME:08:52:03 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.05 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:8. TIME (M):.50 TIME:08:52:46 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 0 NET: 0 +/-1.05 dpm/cm2:0 +/-2.7
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:9. TIME (M):.50 TIME:08:53:30 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:10. TIME (M):.50 TIME:08:54:13 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 0 NET: 0 +/-1.05 dpm/cm2:0 +/-2.72E-2
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:11. TIME (M):.50 TIME:08:54:57 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2 +/-5.64 dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: .0000

AMPLE #:12. TIME:08:55:40 DATE:FEB 16,1996
ALPHA GROSS: +/-0 dpm/cm2:0 +/-0
BETA GROSS: +/-1.05 dpm/cm2:0 +/-2.72E-2
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:13. TIME (M):.50 TIME:08:56:24 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 3. NET: 3.10 +/-6.87 dpm/cm2:7.99E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:14. TIME (M):.50 TIME:08:57:08 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 3. NET: 3.10 +/-6.87 dpm/cm2:7.99E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:15. TIME (M):.50 TIME:08:57:51 DATE:FEB 16,1996
ALPHA GROSS: 1. NET: 2.00 +/-3.92 dpm/cm2:6.68E-2 +/-.13

GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:16. TIME (M):.50 TIME:08:58:35 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 5. NET: 7.10 +/-8.82 dpm/cm2:.18 +/-.22
GAMMA GROSS: 0 C FACTOR:1.0000

E #:17. TIME (M):.50 TIME:08:59:18 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:18. TIME (M):.50 TIME:09:00:02 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:19. TIME (M):.50 TIME:09:00:45 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:20. TIME (M):.50 TIME:09:01:29 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 1. NET: 0 +/-4.05 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:21. TIME (M):.50 TIME:09:02:13 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 3. NET: 3.10 +/-6.87 dpm/cm2:7.99E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

E #:22. TIME (M):.50 TIME:09:03:04 DATE:FEB 16,1996
ALPHA GROSS: 0 NET: 0 +/-0 dpm/cm2:0 +/-0
BETA GROSS: 2. NET: 1.09 +/-5.64 dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLES ABOVE ALARM LEVEL

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ROGRAM #:1
RESET COUNT:10000. ALPHA
SET TIME (M): 50

ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
EFFIC (%):29.91
STLK (%):18.53
GND (CPM):.11
EFFIC (%):38.78
BKGND (CPM):3.62
KGD TIME (M):10.00
OL(cm2):100.00
LARM (dpm/V):10.00
SER EQUATION:

AMPLE #:1. TIME (M):.50 TIME:10:19:06 DATE:FEB 23,1996
ALPHA GROSS: 489. NET: 977.88 +/-86.68 dpm/cm2:32.69 +/-2.89
BETA GROSS: 106. NET: 27.17 +/-43.45 dpm/cm2:.70 +/-1.12
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:2. TIME (M):.50 TIME:10:19:50 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.20 dpm/cm2:0 +/-6.87E-3
BETA GROSS: 442. NET: 880.38 +/-82.42 dpm/cm2:22.70 +/-2.12
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:BKGNDTIME (M):10.00 TIME:10:30:05 DATE:FEB 23,1996
ALPHA GROSS: 1. NET: 0 +/-.28 dpm/cm2:0 +/-9.4[illegible]
BETA GROSS: 41. NET: .48 +/-1.72 dpm/cm2:1.23E-2 +/-4.4[illegible]
GAMMA GROSS: 0 C FACTOR:24001288

BKGND (CPM):.10
ND (CPM):4.10

AMPLE #:3. TIME (M):.50 TIME:10:30:50 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.11 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:4. TIME (M):.50 TIME:10:31:34 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 0 NET: 0 +/-1.25 dpm/cm2:0 +/-3.23E-2
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:5. TIME (M):.50 TIME:10:32:18 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: [illegible] +/-4.11 dpm/cm2:0 +/-.10
GAMMA GROSS: [illegible].0000

AMPLE #:6. TIME:10:33:02 DATE:FEB 23,1996
ALPHA GROSS: [illegible] +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 2[illegible] +/-5.68 dpm/cm2:0 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:7. TIME (M):.50 TIME:10:33:46 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 2. NET: 0 +/-5.68 dpm/cm2:0 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:8. TIME (M):.50 TIME:10:34:29 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 2. NET: 0 +/-5.68 dpm/cm2:0 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:9. TIME (M):.50 TIME:10:35:13 DATE:FEB 23,1996

GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:10. TIME (M):.50 TIME:10:35:57 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 0 NET: 0 +/-1.25 dpm/cm2:0 +/-3.23E-2
GAMMA GROSS: 0 C FACTOR:1.0000

E #:11. TIME (M):.50 TIME:10:36:41 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 3. NET: 1.90 +/-6.90 dpm/cm2:4.89E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:12. TIME (M):.50 TIME:10:37:25 DATE:FEB 23,1996
ALPHA GROSS: 1. NET: 1.90 +/-3.92 dpm/cm2:6.35E-2 +/-.13
BETA GROSS: 1. NET: 0 +/-4.17 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:13. TIME (M):.50 TIME:10:38:09 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 3. NET: 1.90 +/-6.90 dpm/cm2:4.89E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:14. TIME (M):.50 TIME:10:38:53 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.11 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:15. TIME (M):.50 TIME:10:39:37 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.
BETA GROSS: 0 NET: 0 +/-1.25 dpm/cm2:0 +/-3.
GAMMA GROSS: 0 C FACTOR:1.0000

E #:16. TIME (M):.50 TIME:10:40:21 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.11 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:17. TIME (M):.50 TIME:10:41:04 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.11 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:18. TIME (M):.50 TIME:10:41:48 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 2. NET: 0 +/-5.68 dpm/cm2:0 +/-.14
GAMMA GROSS: 0 .0000

AMPLE #:19. TIME:10:42:32 DATE:FEB 23,1996
ALPHA GROSS: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 3 +/-6.90 dpm/cm2:4.89E-2 +/-.17
GAMMA GROSS: 0 .0000

AMPLE #:20. TIME (M):.50 TIME:10:43:16 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 2. NET: 0 +/-5.68 dpm/cm2:0 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

E #:21. TIME (M):.50 TIME:10:44:00 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 3. NET: 1.90 +/-6.90 dpm/cm2:4.89E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:22. TIME (M):.50 TIME:10:44:52 DATE:FEB 23,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3

AMPLES ABOVE ALARM LEVEL

[redacted]

'ROGRAM #:1
'RESET COUNT:1[redacted]
'SET TIME (M):.50
IIGH VOLTAGE:1300.
ISC WINDOW:800.
START SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):1.96
T #:0
IC (%):29.91
CROSTLK (%):18.53
BKGND (CPM):.11
EFFIC (%):38.78
BKGND (CPM):3.62
KGD TIME (M):10.00

```
AMPLE #:1.        TIME (M):.50        TIME:10:39:07 DATE:MAR 06,1996
ALPHA GROSS: 485.     NET: 969.88  +/-86.32    dpm/cm2:32.42    +/-2.88
BETA  GROSS: 146.     NET: 108.65  +/-50.00    dpm/cm2:2.80     +/-1.28
GAMMA GROSS: 0        C FACTOR:1.0000

  E #:2.        TIME (M):.50        TIME:10:39:50 DATE:MAR 06,1996
ALPHA GROSS: 5.       NET: 9.89    +/-8.76     dpm/cm2:.33      +/-.29
BETA  GROSS: 486.     NET: 966.54  +/-86.44    dpm/cm2:24.92    +/-2.22
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:BKGNDTIME (M):10.00     TIME:10:50:05 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 0       +/-.28      dpm/cm2:0        +/-9.49E-3
BETA  GROSS: 29.      NET: 0       +/-1.58     dpm/cm2:0        +/-4.08E-2
GAMMA GROSS: 0        C FACTOR:24001288

 BKGND (CPM):.10
 BKGND (CPM):2.90

AMPLE #:3.        TIME (M):.50        TIME:10:50:49 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0       +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 2.       NET: 1.09    +/-5.64     dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:4.        TIME (M):.50        TIME:10:51:33 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90    +/-3.92     dpm/cm2:6.35E-2 +/-.13
BETA  GROSS: 3.       NET: 2.74    +/-6.90     dpm/cm2:7.08E-2 +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:5.        TIME (M):.50        TIME:10:52:17 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0       +/-.19      dpm/cm2:0        +/-6.55E-3
      GROSS: 2.       NET: 1.09    +/-5.64     dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:6.        TIME (M):.50        TIME:10:53:01 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0       +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 6.       NET: 9.10    +/-9.65     dpm/cm2:.23      +/-.24
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:7.        TIME (M):.50        TIME:10:53:44 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0       +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 3.       NET: 3.10    +/-6.87     dpm/cm2:7.99E-2 +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:8.                                     TIME:10:54:28 DATE:MAR 06,1996
ALPHA GROSS:                                   +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS:                                   +/-5.64     dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS:                                   .0000

AMPLE #:9.                                     TIME:10:55:12 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0       +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 7.       NET: 11.10   +/-10.42    dpm/cm2:.28      +/-.26
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:10.       TIME (M):.50        TIME:10:55:56 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90    +/-3.92     dpm/cm2:6.35E-2 +/-.13
      GROSS: 5.       NET: 6.74    +/-8.85     dpm/cm2:.17      +/-.22
G   A GROSS: 0        C FACTOR:1.0000

AMPLE #:11.       TIME (M):.50        TIME:10:56:40 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0       +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 4.       NET: 5.10    +/-7.91     dpm/cm2:.13      +/-.20
GAMMA GROSS: 0        C FACTOR:1.0000
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ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0 .       +/-6.55E-3
BETA  GROSS: 4.       NET: 5.10     +/-7.91     dpm/cm2:.13       +/-.20
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:13.      TIME (M):.50       TIME:10:58:07 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2 +/-.13
      GROSS: 4.       NET: 4.74     +/-7.94     dpm/cm2:.12       +/-.20
      GROSS: 0        C FACTOR:1.0000

AMPLE #:14.      TIME (M):.50       TIME:10:58:51 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2 +/-.13
BETA  GROSS: 5.       NET: 6.74     +/-8.85     dpm/cm2:.17       +/-.22
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:15.      TIME (M):.50       TIME:10:59:35 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 8.       NET: 13.10    +/-11.13    dpm/cm2:.33       +/-.28
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:16.      TIME (M):.50       TIME:11:00:19 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 3.       NET: 3.10     +/-6.87     dpm/cm2:7.99E-2 +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:17.      TIME (M):.50       TIME:11:01:03 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2 +/-.13
BETA  GROSS: 2.       NET: .74      +/-5.68     dpm/cm2:1.92E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:18.      TIME (M):.50       TIME:11:01:47 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.5
      GROSS: 3.       NET: 3.10     +/-6.87     dpm/cm2:7.99E-2 +/-.17
      GROSS: 0        C FACTOR:1.0000

AMPLE #:19.      TIME (M):.50       TIME:11:02:30 DATE:MAR 06,1996
ALPHA GROSS: 2.       NET: 3.90     +/-5.54     dpm/cm2:.13       +/-.18
BETA  GROSS: 4.       NET: 4.37     +/-7.97     dpm/cm2:.11       +/-.20
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:20.      TIME (M):.50       TIME:11:03:14 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2 +/-.13
BETA  GROSS: 5.       NET: 6.74     +/-8.85     dpm/cm2:.17       +/-.22
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:21.      TIME (M):.50       TIME:11:03:58 DATE:MAR 06,1996
ALPHA GROSS: 0                      +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS:                        +/-7.91     dpm/cm2:.13       +/-.20
GAMMA GROSS:                        .0000

AMPLE #:22                          TIME:11:04:30 DATE:MAR 06,1996
                                    dpm/cm2:6.35E-2                .18
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'PHDSSERAAABBBVA

;TG+d+GN+d+GC

;TG+d+G+d+GC

'ROGRAM #:1
'RESET COUNT:10000. ALPHA
'SET TIME (M):.50
IIGH VOLTAGE:1300.
)ISC WINDOW:800.
:TART SAMPLE :1.
;TOP SAMPLE:100.
:RROR (SIGMA):1.96
:EPEAT #:0
, EFFIC (%):29.91
, CROSTLK (%):18.53
, BKGND (CPM):.10
: EFFIC (%):38.78
: BKGND (CPM):2.90
:KGD TIME (M):10.00
'[illegible]2):100.00
LARM (dpm/V):10.00
ISER EQUATION:

```
;AMPLE #:1.        TIME (M):.50        TIME:11:42:42 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 3.       NET: 3.10     +/-6.87     dpm/cm2:7.99E-2 +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:2.        TIME (M):.50        TIME:11:43:25 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 0        NET: 0        +/-1.05     dpm/cm2:0         +/-2.72E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:3.                          TIME:11:44:09 DATE:MAR 06,1996
ALPHA GROSS:                        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS:                        +/-1.05     dpm/cm2:0         +/-2.72E-2
GAMMA GROSS:                .0000

AMPLE #:4.        TIME (M):.50        TIME:11:44:53 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 5.       NET: 7.10     +/-8.82     dpm/cm2:.18       +/-.22
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:5.        TIME (M):.50        TIME:11:45:37 DATE:MAR 06,1996
A[illegible] GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
B[illegible] GROSS: 1.       NET: 0        +/-4.05     dpm/cm2:0         +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:6.        TIME (M):.50        TIME:11:46:20 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 2.       NET: 1.09     +/-5.64     dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000
```

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ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 3.       NET: 3.10     +/-6.87     dpm/cm2:7.99E-2 +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:8.      TIME (M):.50      TIME:11:47:48 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2 +/-.13
      GROSS: 2.       NET: .74      +/-5.68     dpm/cm2:1.92E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:9.      TIME (M):.50      TIME:11:48:32 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 2.       NET: 1.09     +/-5.64     dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:10.     TIME (M):.50      TIME:11:49:16 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 1.       NET: 0        +/-4.05     dpm/cm2:0          +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:11.     TIME (M):.50      TIME:11:49:59 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 3.       NET: 3.10     +/-6.87     dpm/cm2:7.99E-2 +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:12.     TIME (M):.50      TIME:11:50:43 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 1.       NET: 0        +/-4.05     dpm/cm2:0          +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:13.     TIME (M):.50      TIME:11:51:27 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2 +/-.13
      GROSS: 1.       NET: 0        +/-4.12     dpm/cm2:0          +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:14.     TIME (M):.50      TIME:11:52:10 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 2.       NET: 1.09     +/-5.64     dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:15.     TIME (M):.50      TIME:11:52:54 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 5.       NET: 7.10     +/-8.82     dpm/cm2:.18        +/-.22
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:16.     [illegible]       TIME:11:53:38 DATE:MAR 06,1996
ALPHA GROSS: [illegible]        +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 2[illegible]       +/-5.64     dpm/cm2:2.83E-2 +/-.14
GAMMA GROSS: 0[illegible].0000

AMPLE #:17.     [illegible]       TIME:11:54:21 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2 +/-.13
BETA  GROSS: 6.       NET: 8.74     +/-9.68     dpm/cm2:.22        +/-.24
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:18.     TIME (M):.50      TIME:11:55:05 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0          +/-6.55E-3
[illegible] GROSS: 3.       NET: 3.10     +/-6.87     dpm/cm2:7.99E-2 +/-.17
[illegible]A GROSS: 0       C FACTOR:1.0000

AMPLE #:19.     TIME (M):.50      TIME:11:55:49 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 4.       NET: 5.10     +/-7.91     dpm/cm2:.13        +/-.20
GAMMA GROSS: 0        C FACTOR:1.0000
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ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 2.       NET: 1.09     +/-5.64     dpm/cm2:2.83E-2   +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:21.     TIME (M):.50      TIME:11:57:16 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
      GROSS: 4.       NET: 5.10     +/-7.91     dpm/cm2:.13       +/-.20
G...MA GROSS: 0       C FACTOR:1.0000

AMPLE #:22.     TIME (M):.50      TIME:11:58:00 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2   +/-.13
BETA  GROSS: 6.       NET: 8.74     +/-9.68     dpm/cm2:.22       +/-.24
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:23.     TIME (M):.50      TIME:11:58:43 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2   +/-.13
BETA  GROSS: 2.       NET: .74      +/-5.68     dpm/cm2:1.92E-2   +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:24.     TIME (M):.50      TIME:11:59:27 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 2.       NET: 1.09     +/-5.64     dpm/cm2:2.83E-2   +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:25.     TIME (M):.50      TIME:12:00:10 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 3.       NET: 3.10     +/-6.87     dpm/cm2:7.99E-2   +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:26.     TIME (M):.50      TIME:12:00:54 DATE:MAR 06,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2   +/-.13
      GROSS: 1.       NET: 0        +/-4.12     dpm/cm2:0         +/-.10
G...A GROSS: 0        C FACTOR:1.0000

AMPLE #:27.     TIME (M):.50      TIME:12:01:38 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 5.       NET: 7.10     +/-8.82     dpm/cm2:.18       +/-.22
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:28.     TIME (M):.50      TIME:12:02:21 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 4.       NET: 5.10     +/-7.91     dpm/cm2:.13       +/-.20
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:29.     TIME (M):.50      TIME:12:03:05 DATE:MAR 06,1996
ALPHA GROSS: 0        [illegible]   +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 4        [illegible]   +/-7.91     dpm/cm2:.13       +/-.20
GAMMA GROSS: 0        [illegible].0000

AMPLE #:30.           [illegible]   TIME:12:03:48 DATE:MAR 06,1996
ALPHA GROSS: 1        [illegible]   +/-3.92     dpm/cm2:6.35E-2   +/-.13
BETA  GROSS: 4.       NET: 4.74     +/-7.94     dpm/cm2:.12       +/-.20
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:31.     TIME (M):.50      TIME:12:04:32 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 5.       NET: 7.10     +/-8.82     dpm/cm2:.18       +/-.22
G...A GROSS: 0        C FACTOR:1.0000

AMPLE #:32.     TIME (M):.50      TIME:12:05:15 DATE:MAR 06,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0         +/-6.55E-3
BETA  GROSS: 3.       NET: 3.10     +/-6.87     dpm/cm2:7.99E-2   +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000
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BETA GROSS: 5. NET: 7.10 +/-8.82 dpm/cm2:.18 +/-.22
GAMMA GROSS: 0 C FACTOR:1.0000

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AMPLE #:34. TIME (M):.50 TIME:12:06:42 DATE:MAR 06,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 4. NET: 5.10 +/-7.91 dpm/cm2:.13 +/-.20
GROSS: 0 C FACTOR:1.0000

AMPLE #:35. TIME (M):.50 TIME:12:07:34 DATE:MAR 06,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 5. NET: 7.10 +/-8.82 dpm/cm2:.18 +/-.22
GAMMA GROSS: 0 C FACTOR:1.0000

3/8

ROGRAM #:1
RESET COUNT:1000
SET TIME (M):15
IGH VOLTAGE:1500
ISC WINDOW:800
TART SAMPLE :1
TOP SAMPLE:100.
RROR (SIGMA):1.96
EPEAT #:0
EFFIC (%):29.91
CROSTLK (%):18.53
BKGND (CPM):.10
IC (%):38.78
ND (CPM):2.90
KGD TIME (M):10.00
OL(cm2):100.00
LARM (dpm/V):10.00
SER EQUATION:

AMPLE #:1 TIME (M):.50 TIME:08:57:04 DATE:MAR 08,1996

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GAMMA GROSS: 0 NET: 78.85 +/-48.89 dpm/cm2:2.49 +/-1.26
C FACTOR:1.0000

SAMPLE #:2. TIME (M):.50 TIME:08:57:50 DATE:MAR 08,1996
ALPHA GROSS: 2. NET: 3.90 +/-5.54 dpm/cm2:.13 +/-.18
BETA GROSS: 400. NET: 796.37 +/-78.41 dpm/cm2:20.53 +/-2.02
GAMMA GROSS: 0 C FACTOR:1.0000

SAMPLE #:BKGNDTIME (M):10.00 TIME:09:08:05 DATE:MAR 08,1996
ALPHA GROSS: 1. NET: 0 +/-.27 dpm/cm2:0 +/-9.26E-3
BETA GROSS: 26. NET: 0 +/-1.45 dpm/cm2:0 +/-3.75E-2
GAMMA GROSS: 0 C FACTOR:48002576

A BKGND (CPM):.10
B BKGND (CPM):2.59

SAMPLE #:3. TIME (M):.50 TIME:09:08:49 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

SAMPLE #:4. TIME (M):.50 TIME:09:09:33 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

SAMPLE #:5. TIME (M):.50 TIME:09:10:16 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.5[illegible]
BETA GROSS: 2. NET: 1.40 +/-5.63 dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

SAMPLE #:6. TIME (M):.50 TIME:09:11:00 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

SAMPLE #:7. TIME (M):.50 TIME:09:11:43 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

SAMPLE #:8. TIME (M):.50 TIME:09:12:27 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 2. NET: 1.40 +/-5.63 dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

SAMPLE #:9. TIME:09:13:10 DATE:MAR 08,1996
ALPHA GROSS: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 0 +/-1.00 dpm/cm2:0 +/-2.57E-2
GAMMA GROSS: 0 [illegible].0000

SAMPLE #:10. TIME (M):.50 TIME:09:13:54 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 2. NET: 1.40 +/-5.63 dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

SAMPLE #:11. TIME (M):.50 TIME:09:14:37 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 0 NET: 0 +/-1.00 dpm/cm2:0 +/-2.57E-2
GAMMA GROSS: 0 C FACTOR:1.0000

SAMPLE #:12. TIME (M):.50 TIME:09:15:21 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

```
AMPLE #:13.      TIME (M):.50       TIME:09:16:04 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 5.       NET: 7.40     +/-8.82     dpm/cm2:.19      +/-.22
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:14.      TIME (M):.50       TIME:09:16:47 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 2.       NET: 1.40     +/-5.63     dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:15.      TIME (M):.50       TIME:09:17:31 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 0        NET: 0        +/-1.00     dpm/cm2:0        +/-2.57E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:16.      TIME (M):.50       TIME:09:18:14 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 2.       NET: 1.40     +/-5.63     dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:17.      TIME (M):.50       TIME:09:18:58 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 1.       NET: 0        +/-4.04     dpm/cm2:0        +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:18.      TIME (M):.50       TIME:09:19:41 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 1.       NET: 0        +/-4.04     dpm/cm2:0        +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:19.      TIME (M):.50       TIME:09:20:25 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 2.       NET: 1.40     +/-5.63     dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:20.      TIME (M):.50       TIME:09:21:08 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 2.       NET: 1.40     +/-5.63     dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:21.      TIME (M):.50       TIME:09:21:52 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 0        NET: 0        +/-1.00     dpm/cm2:0        +/-2.57E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:22.      TIME (M):.50       TIME:09:22:35 DATE:MAR 08,1996
BETA  GROSS: 0        NET: [illegible]  +/-6.86     dpm/cm2:0        +/-6.55E-3
GAMMA GROSS: 0        [illegible].0000  [illegible]8.76E-2 +/-.17

AMPLE #:23.                              TIME:09:23:19 DATE:MAR 08,1996
ALPHA GROSS: [illegible]              +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: [illegible]              +/-4.04     dpm/cm2:0        +/-.10
GAMMA GROSS: [illegible].0000

AMPLE #:24.                              TIME:09:24:02 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 2.       NET: 1.40     +/-5.63     dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:25.      TIME (M):.50       TIME:09:24:46 DATE:MAR 08,1996
ALPHA GROSS: 0.  TIME (M):.50       TIME:09:25:29 DATE:MAR 08,1996
BETA  GROSS: 1.  NET: 0             +/-4.04     dpm/cm2:0        +/-.10
```

TG+d+GN+d+GC

TG+d+GN+d+GC

TGN+d+GN+d+GC

```
AMPLE #:30.      TIME (M):.50       TIME:09:30:54 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.5
BETA  GROSS: 0        NET: 0        +/-1.00     dpm/cm2:0        +/-2.5
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:31.      TIME (M):.50       TIME:09:31:37 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 0        NET: 0        +/-1.00     dpm/cm2:0        +/-2.57E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:32.      TIME (M):.50       TIME:09:32:21 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 0        NET: 0        +/-1.00     dpm/cm2:0        +/-2.57E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:33.      TIME (M):.50       TIME:09:33:05 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 0                      +/-1.00     dpm/cm2:0        +/-2.57E-2
GAMMA GROSS:                   .0000

AMPLE #:34.                         TIME:09:33:48 DATE:MAR 08,1996
ALPHA GROSS:                        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS:                        +/-1.00     dpm/cm2:0        +/-2.57E-2
GAMMA GROSS: 0                 1.0000

AMPLE #:35.      TIME (M):.50       TIME:09:34:32 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 0        NET: 0        +/-1.00     dpm/cm2:0        +/-2.57E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:36.      TIME (M):.50       TIME:09:35:16 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 4.       NET: 5.40     +/-7.90     dpm/cm2:.13      +/-.20
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:37.      TIME (M):.50       TIME:09:36:08 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
```

AMPLES ABOVE ALARM LEVEL

'ROGRAM #:1
'RESET COUNT:10000. ALPHA
'SET TIME (M):.50
IGH VOLTAGE:1300.
'ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):[redacted]
EPEAT #:0
EFFIC (%):2[redacted]
CROSTLK (%)[redacted]
BKGND (CPM)[redacted]
EFFIC (%):3[redacted]
BKGND (CPM):2.59
KGD TIME (M):10.00
OL(cm2):100.00
LARM (dpm/V):10.00
JSER EQUATION:

E #:1. TIME (M):.50 TIME:10:33:17 DATE:MAR 08,1996
A GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:2. TIME (M):.50 TIME:10:34:00 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3

```
AMPLE #:3.        TIME (M):.50        TIME:10:34:44 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0          +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 0        NET: 0          +/-1.00     dpm/cm2:0          +/-2.57E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:4.        TIME (M):.50        TIME:10:35:28 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0          +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 0        NET: 0          +/-1.00     dpm/cm2:0          +/-2.57E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:5.        TIME (M):.50        TIME:10:36:11 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0          +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 1.       NET: 0          +/-4.04     dpm/cm2:0          +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:6.        TIME (M):.50        TIME:10:36:55 DATE:MAR 08,1996
ALPHA GROSS: 1.       NET: 1.90       +/-3.92     dpm/cm2:6.35E-2 +/-.13
BETA  GROSS: 2.       NET: 1.04       +/-5.67     dpm/cm2:2.70E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:7.        TIME (M):.50        TIME:10:37:38 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0          +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 3.       NET: 3.40       +/-6.86     dpm/cm2:8.76E-2 +/-.17
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:8.        TIME (M):.50        TIME:10:38:22 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0          +/-.19      dpm/cm2:0          +/-6.
BETA  GROSS: 0        NET: 0          +/-1.00     dpm/cm2:0          +/-2.
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:9.        TIME (M):.50        TIME:10:39:06 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0          +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 1.       NET: 0          +/-4.04     dpm/cm2:0          +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:10.       TIME (M):.50        TIME:10:39:49 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0          +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 1.       NET: 0          +/-4.04     dpm/cm2:0          +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:11.       TIME (M):.50        TIME:10:40:33 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0          +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 0        NET: 0          +/-1.00     dpm/cm2:0          +/-2.57E-2
GAMMA GROSS:                                .0000

AMPLE #:12.                           TIME:10:41:16 DATE:MAR 08,1996
ALPHA GROSS:                          +/-3.92     dpm/cm2:6.35E-2 +/-.13
BETA  GROSS:                          +/-4.11     dpm/cm2:0          +/-.10
GAMMA GROSS:                                .0000

AMPLE #:13.       TIME (M):.50        TIME:10:42:08 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0          +/-.19      dpm/cm2:0          +/-6.55E-3
BETA  GROSS: 2.       NET: 1.40       +/-5.63     dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0        C FACTOR:1.0000
```

IGH VOLTAGE:1300.
ISC WINDOW:800.
TART SAMPLE :1.
TOP SAMPLE:100.
RROR (SIGMA):1.96
T #:0
IC (%):29.91
CROSTLK (%):18.53
BKGND (CPM):.10
EFFIC (%):38.78
BKGND (CPM):2.59
KGD TIME (M):10.00
OL(cm2):100.00
LARM (dpm/V):10.00
SER EQUATION:

AMPLE #:1. TIME (M):.50 TIME:11:27:04 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 5. NET: 7.40 +/-8.82 dpm/cm2:.19 +/-.22
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:2. TIME (M):.50 TIME:11:27:47 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 3. NET: 3.40 +/-6.86 dpm/cm2:8.76E-2 +/-.17
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:3. TIME (M):.50 TIME:11:28:31 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.5
BETA GROSS: 2. NET: 1.40 +/-5.63 dpm/cm2:3.61E-2 +/-.1
GAMMA GROSS: 0 C FACTOR:1.0000

E #:4. TIME (M):.50 TIME:11:29:14 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 1. NET: 0 +/-4.04 dpm/cm2:0 +/-.10
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:5. TIME (M):.50 TIME:11:29:57 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 2. NET: 1.40 +/-5.63 dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:6. TIME (M):.50 TIME:11:30:41 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 2. NET: 1.40 +/-5.63 dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: 0 .0000

AMPLE #:7. TIME:11:31:24 DATE:MAR 08,1996
ALPHA GROSS: +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: +/-5.63 dpm/cm2:3.61E-2 +/-.14
GAMMA GROSS: .0000

AMPLE #:8. TIME (M):.50 TIME:11:32:07 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 0 NET: 0 +/-1.00 dpm/cm2:0 +/-2.57E-2
GAMMA GROSS: 0 C FACTOR:1.0000

E #:9. TIME (M):.50 TIME:11:32:50 DATE:MAR 08,1996
A GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3
BETA GROSS: 0 NET: 0 +/-1.00 dpm/cm2:0 +/-2.57E-2
GAMMA GROSS: 0 C FACTOR:1.0000

AMPLE #:10. TIME (M):.50 TIME:11:33:34 DATE:MAR 08,1996
ALPHA GROSS: 0 NET: 0 +/-.19 dpm/cm2:0 +/-6.55E-3

```
AMPLE #:11.      TIME (M):.50       TIME:11:34:17 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 5.       NET: 7.40     +/-8.82     dpm/cm2:.19      +/-.22
GAMMA GROSS: 0        C FACTOR:1.0000

A[illegible] #:12.      TIME (M):.50       TIME:11:35:00 DATE:MAR 08,1996
A[illegible]A GROSS: 0        [illegible]   +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 0        [illegible]   +/-1.00     dpm/cm2:0        +/-2.57E-2
GAMMA GROSS: 0        [illegible]TOR:1.0000

AMPLE #:13.      [illegible]        TIME:11:35:44 DATE:MAR 08,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2 +/-.13
BETA  GROSS: 0        NET: 0        +/-1.23     dpm/cm2:0        +/-3.18E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:14.      TIME (M):.50       TIME:11:36:27 DATE:MAR 08,1996
ALPHA GROSS: 1.       NET: 1.90     +/-3.92     dpm/cm2:6.35E-2 +/-.13
BETA  GROSS: 0        NET: 0        +/-1.23     dpm/cm2:0        +/-3.18E-2
GAMMA GROSS: 0        C FACTOR:1.0000

AMPLE #:15.      TIME (M):.50       TIME:11:37:18 DATE:MAR 08,1996
ALPHA GROSS: 0        NET: 0        +/-.19      dpm/cm2:0        +/-6.55E-3
BETA  GROSS: 1.       NET: 0        +/-4.04     dpm/cm2:0        +/-.10
GAMMA GROSS: 0        C FACTOR:1.0000
```

APPENDIX H

OIL RESULTS

ASSAYGA
ANALYTICAL
LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Purchase Order: 23629
Invoice Number:

Order #: 95-12-169
Date: 12/28/95 16:37
Work ID: MDA/M
Date Received: 12/14/95
Date Completed: 12/28/95

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01	OIL CAN		

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

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Received: 12/14/95

REPORT

Results By Test

Work Order # 95-12-169

TEST CODE default units	Sample 01 (entered units)
SMSCXT N/A	12/18/95

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-169

SAMPLE ID OIL CAN

FRACTION 01A TEST CODE SMSCMS NAME MISC TEST SOIL-GC/MS

Date & Time Collected 12/12/95 10:30:00 Category WIPE

ANALYTES	RESULT	LIM
ATTACHED	ATTACHED	

Notes and Definitions for this Report:

DATE_EXT

DATE_ANAL 12/21/95

ANALYST DH

FILE ID MSS3102.D

UNITS ug/WIPE

BATCH_ID SMSSVOA097

COMMENTS

Received: 12/14/95

REPORT

Results by Sample

Work Order # 95-12-169

SAMPLE ID OIL CAN FRACTION 01A TEST CODE WPPCB NAME PCB's/EPA 560-5-85

Date & Time Collected 12/12/95 10:30:00 Category WIPE

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
PCB 1016	ND	0.75	1.0	12/26/95
PCB 1221	ND	0.75	1.0	12/26/95
PCB 1232	ND	0.75	1.0	12/26/95
PCB 1242	ND	0.75	1.0	12/26/95
PCB 1248	ND	0.75	1.0	12/26/95
PCB 1254	ND	0.75	1.0	12/26/95
PCB 1260	ND	0.75	1.0	12/26/95

Notes and Definitions for this Report:

EXTRACTED

ANALYST CK

FILE ID 8809

UNITS ug/Wipe

BATCH_ID WPPCB045

COMMENTS

Assaigai Analytical Laboratories

Semi-Volatile Organics

9512169-01A

Analytes	Results	Units
3+4 Methylphenol	400	ug/Wipe
2,4-Dimethylphenol	270	ug/Wipe
Naphthalene	2600	ug/Wipe
2-Methylnaphthalene	1400	ug/Wipe
1-Methylnaphthalene	1000	ug/Wipe
Acenaphthene	2700	ug/Wipe
Dibenzofuran	1600	ug/Wipe
Fluorene	1800	ug/Wipe
Phenanthrene	4800	ug/Wipe
Anthracene	750	ug/Wipe
Fluoranthene	1900	ug/Wipe
Pyrene	1500	ug/Wipe
Benzo(A)Anthracene	310	ug/Wipe
Chrysene	320	ug/Wipe

Please note: The compounds listed above were identified using a modification to EPA Method 8270.

Chain of Custody Record

SAIGAI ANALYTICAL LABORATORIES

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 8
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab job no.: 12-164 Date 12/14/95

Page 1 of 1

Client: NES

Address: 3500 Trinity Drive C-5

City / State / Zip: Los Alamos, NM 87544

Project Name / Number: MDA M

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1944

Fax No.: 662-2636

Samplers: (Signature) Dmo Connell

Analysis Required: PAH, PCB

DIL	OIL CAN	12/12/95	1030	SOIL	C/ml JAR	4°C													
1	"	"	"	"															
2	"	"	"	"															
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

12/12/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Dmo Connell	12/12/95	Signature:	Signature:	12/14/95	Signature:
Printed: Dmo Connell	Time: 0920	Printed: Elvis Chavez	Printed: Elvis Chavez	Time: 7:54 AM	Printed:
Company: NES		Company: ALL	Company: ALL		Company:
Reason: Delivery		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

APPENDIX I

VOC AND SVOC ANALYSES FOR HE CONFIRMATION

ASSAIGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
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Report Generated:
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CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9512170
WORK ID : MDA/M
CLIENT CODE : NES01
DATE RECEIVED : 12/14/95

Lab ID: 9512170-01A
Sample ID: PILE I DUCTWORK

Collected: 12/12/95 09:30:00
Matrix: WIPE

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SVOA WATER/SW846 8270B						
n-Nitrosodimethylamine	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Pyridine	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Aniline	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
bis(2-Chloroethyl) Ether	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
2-Chlorophenol	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
3-Dichlorobenzene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
-Dichlorobenzene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
nol	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
-Dichlorobenzene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Benzyl Alcohol	ND	ug/wipes	50	2.0	12/26/95	SMSSVOA098
bis(2-Chloroisopropyl) Ether	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
2-Methylphenol / O-Cresol	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Hexachloroethane	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
n-Nitroso-di-n-propylamine	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Nitrobenzene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
3/4 Methylphenol / M/P-Cresol	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Isophorone	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
2-Nitrophenol	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
bis(2-Chloroethoxy) Methane	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
2,4-Dimethylphenol	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
1,2,4-Trichlorobenzene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Naphthalene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Benzoic Acid	ND	ug/wipes	100	2.0	12/26/95	SMSSVOA098
2,4-Dichlorophenol	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
4-Chloroaniline	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Hexachlorobutadiene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
2-Methylnaphthalene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
4-Chloro-3-methylphenol	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Hexachlorocyclopentadiene	ND	ug/wipes	50	2.0	12/26/95	SMSSVOA098
2,4,6-Trichlorophenol	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
2,4,5-Trichlorophenol	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
2-Chloronaphthalene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
2-Nitroaniline	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Acenaphthylene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Dimethylphthalate	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
2,6-Dinitrotoluene	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Acenaphthene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
3-Nitroaniline	NT	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Dibenzofuran	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
4-Dinitrotoluene	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
rene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
lorophenyl-phenylether	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
ethylphthalate	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
4-Nitrophenol	ND	ug/wipes	20	2.0	12/26/95	SMSSVOA098

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ID: 9512170-01A
nple ID: PILE I DUCTWORK

Collected: 12/12/95 09:30:00
Matrix: WIPE

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SVOA WATER/SW846 8270B						
4,6-Dinitro-2-methylphenol	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
n-Nitrosodiphenylamine	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
4-Nitroaniline	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
4-Bromophenyl-phenylether	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Hexachlorobenzene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Pentachlorophenol	ND	ug/wipes	20	2.0	12/26/95	SMSSVOA098
2,4-Dinitrophenol	ND	ug/wipes	50	2.0	12/26/95	SMSSVOA098
Benzidine	NT	ug/wipes	50	2.0	12/26/95	SMSSVOA098
Phenanthrene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Anthracene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Di-n-butylphthalate	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Fluoranthene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Pyrene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Butylbenzylphthalate	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Benzo(a)anthracene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Chrysene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
3,3'-Dichlorobenzidine	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
bis(2-Ethylhexyl)phthalate	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Di-n-octyl phthalate	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Benzo(b)fluoranthene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Benzo(k)fluoranthene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Benzo(a)pyrene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
Indeno(1,2,3-cd)pyrene	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
Benzo(g,h,i)perylene	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
3,4,6-Tetrachlorophenol	ND	ug/wipes	50	2.0	12/26/95	SMSSVOA098
benzene	ND	ug/wipes	1.0	2.0	12/26/95	SMSSVOA098
enz(a,h)anthracene	ND	ug/wipes	10	2.0	12/26/95	SMSSVOA098
A XT/SW846 3520	12/19/95	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/wipes	0.010	1.0	12/19/95	SMSVOA340
Chloromethane	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Iodomethane	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Acetone	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Bromomethane	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Vinyl Chloride	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Chloroethane	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Trichlorofluoromethane	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Freon 113	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Carbon Disulfide	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Acrolein	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Methylene Chloride	ND	mg/wipes	0.020	1.0	12/19/95	SMSVOA340
1,1-Dichloroethene	ND	mg/wipes	0.010	1.0	12/19/95	SMSVOA340
1,1-Dichloroethane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
Acrylonitrile	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
trans-1,2-Dichloroethene	ND	mg/wipes	0.020	1.0	12/19/95	SMSVOA340
Chloroform	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
1,2-Dichloroethane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
Vinyl Acetate	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
cis-1,2-Dichloroethene	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
2-Butanone (MEK)	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
1,1,1-Trichloroethane	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Carbon Tetrachloride	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
Bromodichloromethane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
1,2-Dichloropropane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
Dibromomethane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
trans-1,3-Dichloropropene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
Trichloroethene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
hlorodibromomethane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
yl Methacrylate	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
loroethylvinyl Ether	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
-Trichloroethane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
nzene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
cis-1,3-Dichloropropene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340

ID: 9512170-01A
nple ID: PILE I DUCTWORK

Collected: 12/12/95 09:30:00
Matrix: WIPE

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Bromoform	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
4-Methyl-2-Pentanone (MIBK)	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
Tetrachloroethene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
1,1,2,2-Tetrachloroethane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
1,2-Dibromoethane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
2-Hexanone (MBK)	ND	mg/wipes	0.0050	1.0	12/19/95	SMSVOA340
1,1,1,2-Tetrachloroethane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
Toluene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
Chlorobenzene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
Ethylbenzene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
1,4-Dichloro-2-Butene	ND	mg/wipes	0.010	1.0	12/19/95	SMSVOA340
Styrene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
P/M Xylene	ND	mg/wipes	0.0020	1.0	12/19/95	SMSVOA340
O-Xylene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
1,2,3-Trichloropropane	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
Methyl-tert Butyl Ether	ND	mg/wipes	0.010	1.0	12/19/95	SMSVOA340
1,2-Dichlorobenzene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
1,3-Dichlorobenzene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340
1,4-Dichlorobenzene	ND	mg/wipes	0.0010	1.0	12/19/95	SMSVOA340

Lab ID: 9512170-02A
Sample ID: PILE I CABINET

Collected: 12/12/95 09:30:00
Matrix: WIPE

ST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SVOA WATER/SW846 8270B						
n-Nitrosodimethylamine	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Pyridine	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Aniline	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
bis(2-Chloroethyl) Ether	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
2-Chlorophenol	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
1,3-Dichlorobenzene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
1,4-Dichlorobenzene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Phenol	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
1,2-Dichlorobenzene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Benzyl Alcohol	ND	ug/wipes	50	2.2	12/27/95	SMSSVOA099
bis(2-Chloroisopropyl) Ether	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
2-Methylphenol / O-Cresol	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Hexachloroethane	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
n-Nitroso-di-n-propylamine	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Nitrobenzene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
3/4 Methylphenol / M/P-Cresol	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Isophorone	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
2-Nitrophenol	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
bis(2-Chloroethoxy) Methane	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
2,4-Dimethylphenol	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
1,2,4-Trichlorobenzene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Naphthalene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Benzoic Acid	ND	ug/wipes	100	2.2	12/27/95	SMSSVOA099
2,4-Dichlorophenol	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
4-Chloroaniline	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Hexachlorobutadiene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
2-Methylnaphthalene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
hloro-3-methylphenol	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
chlorocyclopentadiene	ND	ug/wipes	50	2.2	12/27/95	SMSSVOA099
,6-Trichlorophenol	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
,5-Trichlorophenol	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
-Chloronaphthalene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099

ID: 9512170-02A
nple ID: PILE I CABINET

Collected: 12/12/95 09:30:00
Matrix: WIPE

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SVOA WATER/SW846 8270B						
2-Nitroaniline	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Acenaphthylene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Dimethylphthalate	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
2,6-Dinitrotoluene	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Acenaphthene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
3-Nitroaniline	NT	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Dibenzofuran	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
2,4-Dinitrotoluene	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Fluorene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
4-Chlorophenyl-phenylether	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Diethylphthalate	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
4-Nitrophenol	ND	ug/wipes	20	2.2	12/27/95	SMSSVOA099
4,6-Dinitro-2-methylphenol	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
n-Nitrosodiphenylamine	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
4-Nitroaniline	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
4-Bromophenyl-phenylether	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Hexachlorobenzene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Pentachlorophenol	ND	ug/wipes	20	2.2	12/27/95	SMSSVOA099
2,4-Dinitrophenol	ND	ug/wipes	50	2.2	12/27/95	SMSSVOA099
Benzidine	NT	ug/wipes	50	2.2	12/27/95	SMSSVOA099
Phenanthrene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Anthracene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Di-n-butylphthalate	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Fluoranthene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
[illegible]ene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
[illegible]ylbenzylphthalate	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
[illegible]nzo(a)anthracene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
[illegible]rysene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
3,3'-Dichlorobenzidine	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
bis(2-Ethylhexyl)phthalate	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Di-n-octyl phthalate	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Benzo(b)fluoranthene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Benzo(k)fluoranthene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Benzo(a)pyrene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Indeno(1,2,3-cd)pyrene	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
Benzo(g,h,i)perylene	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
2,3,4,6-Tetrachlorophenol	ND	ug/wipes	50	2.2	12/27/95	SMSSVOA099
Azobenzene	ND	ug/wipes	1.0	2.2	12/27/95	SMSSVOA099
Dibenz(a,h)anthracene	ND	ug/wipes	10	2.2	12/27/95	SMSSVOA099
SVOA XT/SW846 3520	12/20/95	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	1.0	12/19/95	SMSVOA340
Chloromethane	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Iodomethane	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Acetone	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Bromomethane	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Vinyl Chloride	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Chloroethane	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Trichlorofluoromethane	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Freon 113	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Carbon Disulfide	600	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Acrolein	ND	mg/Kg	0.020	1.0	12/19/95	SMSVOA340
Methylene Chloride	ND	mg/Kg	0.010	1.0	12/19/95	SMSVOA340
1,1-Dichloroethene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
1,1-Dichloroethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Acrylonitrile	ND	mg/Kg	0.020	1.0	12/19/95	SMSVOA340
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Chloroform	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
[illegible]-Dichloroethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
[illegible]yl Acetate	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
[illegible]-1,2-Dichloroethene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
[illegible]utanone (MEK)	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
[illegible],1,1-Trichloroethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340

ID: 9512170-02A
nple ID: PILE I CABINET

Collected: 12/12/95 09:30:00
Matrix: WIPE

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Carbon Tetrachloride	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Bromodichloromethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
1,2-Dichloropropane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Dibromomethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Trichloroethene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Chlorodibromomethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Ethyl Methacrylate	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Benzene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Bromoform	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
Tetrachloroethene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
1,2-Dibromoethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
2-Hexanone (MBK)	ND	mg/Kg	0.0050	1.0	12/19/95	SMSVOA340
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Toluene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Chlorobenzene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
Ethylbenzene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	1.0	12/19/95	SMSVOA340
Styrene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
[illegible] Xylene	ND	mg/Kg	0.0020	1.0	12/19/95	SMSVOA340
[illegible]Xylene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
[illegible],3-Trichloropropane	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
[illegible]thyl-tert Butyl Ether	ND	mg/Kg	0.010	1.0	12/19/95	SMSVOA340
[illegible],2-Dichlorobenzene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	1.0	12/19/95	SMSVOA340

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 01/05/96
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab job no.: 12-170 Date 12/12/95

Page 1 of 1

Client NES

Address 3500 Trinity Drive G-5

City / State / Zip Los Alamos, NM 87544

Project Name / Number MDA M

Contract / Purchase Order / Quote

Project Manager / Contact Debbie O'Connell

Telephone No. 662-1954

Fax No. 662-2086

Samplers: (Signature) Dmo Connell

Analysis Required: VOC Screen, SVOA Screen

	Pile I ductwork	12/12/95	0930	smear	~~Gelman~~ dac filter	4°C			✓	✓								
	"	"	"	"	" paper				✓	✓								
	"	"	"	"	"				✓	✓		#1 sample						
	"	"	"	"	"				✓	✓								
	"	"	"	"	"				✓	✓								
	Pile I Cabinet	12/12/95	0930	smear	~~Gelman~~ dac filter				✓	✓								
	"	"	"	"	" paper				✓	✓								
	"	"	"	"	"				✓	✓		#2 sample						
	"	"	"	"	"				✓	✓								
	"	"	"	"	"				✓	✓								

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Dmo Connell	12/12/95	Signature:	Signature:		Signature:
Printed: DMO Connell	Time 1000	Printed: Elvira Chavez	Printed: Elvira Chavez	Time	Printed:
Company: NES		Company: AAL	Company: AAL		Company:
Reason: Test		Reason: Test	Reason: Test		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

APPENDIX J

ANALYTICAL RESULTS FOR THE B-25 BOXES

ASSAGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Order #: 96-02-136
Date: 02/22/96 17:44
Work ID: MDAM
Date Received: 02/15/96
Date Completed: 02/22/96

Purchase Order: 23629
Invoice Number:

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	CABLE (B-25 #2046598)
02	CABLE (B-25 #2046587)
03	SOIL (B-25 #2046598)
04	SOIL (B-25 #2046587)

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

REPRODUCTION OF THIS REPORT IN LESS THAN FULL REQUIRES THE WRITTEN CONSENT OF AAL
THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL LABORATORY VOLUNTARY ACCREDITATION PROGRAM.

Received: 02/15/96

REPORT

Results By Test

Work Order # 96-02-136

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)
PRCTSX % (Percent)	100.00	100.00	100.00	100.00
S6010X N/A	02/15/96	02/15/96	02/15/96	02/15/96
SCVHGX N/A	02/21/96	02/21/96	02/21/96	02/21/96
SFAAX N/A	02/16/96	02/16/96	02/16/96	02/16/96
SGFAAX N/A	02/16/96	02/16/96	02/16/96	02/16/96
TCLPXX N/A	02/15/96	02/15/96	02/15/96	02/15/96
TCVHGX N/A	02/22/96	02/22/96	02/22/96	02/22/96
TFAAX N/A	02/16/96	02/16/96	02/16/96	02/16/96
TGFAAX N/A	02/16/96	02/16/96	02/16/96	02/16/96
TICPX N/A	02/16/96	02/16/96	02/16/96	02/16/96

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE S6010 NAME METALS-ICP/SW846 6010

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	1.0	50	02/15/96	02/20/96
Aluminum, Al	3910	25	50	02/15/96	02/20/96
Arsenic, As	ND	3.0	50	02/15/96	02/20/96
Barium, Ba	234	0.50	50	02/15/96	02/20/96
Beryllium, Be	ND	0.50	50	02/15/96	02/20/96
Calcium, Ca	3140	15	50	02/15/96	02/20/96
Cadmium, Cd	13.3	0.20	50	02/15/96	02/20/96
Cobalt, Co	ND	0.50	50	02/15/96	02/20/96
Chromium, Cr	ND	1.0	50	02/15/96	02/20/96
Copper, Cu	266000	0.50	500	02/15/96	02/20/96
Iron, Fe	3930	15	50	02/15/96	02/20/96
Potassium, K	585	10	50	02/15/96	02/20/96
Magnesium, Mg	737	10	50	02/15/96	02/20/96
Manganese, Mn	147	0.25	50	02/15/96	02/20/96
Sodium, Na	ND	15	50	02/15/96	02/20/96
Nickel, Ni	ND	2.0	50	02/15/96	02/20/96
Lead, Pb	ND	2.0	500	02/15/96	02/20/96
Antimony, Sb	ND	1.5	50	02/15/96	02/20/96
Selenium, Se	ND	2.5	50	02/15/96	02/20/96
Vanadium, V	9.80	0.15	50	02/15/96	02/20/96
Zinc, Zn	ND	5.0	50	02/15/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS

UNITS mg/Kg

BATCH_ID S6-1

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SCVHG NAME MERCURY (CVAA)/SW846 7471

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.15	1.0	02/21/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SCV91

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SFAASR NAME STRONTIUM (FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	17.7	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SFAATL NAME THALLIUM (FAA)/SW846 7840

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SGFMO NAME MOLYBDENUM(GFAA)SW846 7481

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	1.0	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SG95

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/14/96 08:00:00 Category SOLID

ANALYTES	RESULT	LIM
LITHIUM	2.6	2.5

Notes and Definitions for this Report:

DATE_EXT 02/16/96

DATE_ANAL 02/20/96

ANALYST KH

D_F 1.0

UNITS mg/Kg

BATCH_ID SF388

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE STPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	5.15E	0.010	20	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/Kg

BATCH_ID STPHOS20

COMMENTS

Received: 02/15/96 Results by Sample

SAMPLE ID CABLE (B-25 92046598) FRACTION 01B TEST CODE M6010 NAME METALS-ICP/SW846 6010
Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	0.020	1.0	02/16/96	02/20/96
Aluminum, Al	ND	0.50	1.0	02/16/96	02/20/96
Arsenic, As	ND	0.060	1.0	02/16/96	02/20/96
Barium, Ba	0.8	0.010	1.0	02/16/96	02/20/96
Beryllium, Be	ND	0.0010	1.0	02/16/96	02/20/96
Calcium, Ca	29.9	0.30	1.0	02/16/96	02/20/96
Cadmium, Cd	0.202	0.0040	1.0	02/16/96	02/20/96
Cobalt, Co	ND	0.010	1.0	02/16/96	02/20/96
Chromium, Cr	ND	0.020	1.0	02/16/96	02/20/96
Copper, Cu	132	0.010	10	02/16/96	02/20/96
Iron, Fe	0.6	0.30	1.0	02/16/96	02/20/96
Potassium, K	1.8	0.20	1.0	02/16/96	02/20/96
Magnesium, Mg	1.3	0.20	1.0	02/16/96	02/20/96
Manganese, Mn	0.654	0.0050	1.0	02/16/96	02/20/96
Sodium, Na	1270	0.30	1.0	02/16/96	02/20/96
Nickel, Ni	ND	0.040	1.0	02/16/96	02/20/96
Lead, Pb	0.13	0.040	1.0	02/16/96	02/20/96
Antimony, Sb	ND	0.030	1.0	02/16/96	02/20/96
Selenium, Se	ND	0.050	1.0	02/16/96	02/20/96
Vanadium, V	ND	0.0030	1.0	02/16/96	02/20/96
Zinc, Zn	1.2	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS
UNITS mg/L
BATCH_ID T1135

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WCVHG NAME MERCURY (CVAA)/EPA 245.1

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.00020	1.0	02/22/96	02/22/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TCV29

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WFAALI NAME LITHIUM (FAA)/SW846 7430

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Lithium, Li	ND	0.050	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

REPORT

Work Order # 96-02-136

Received: 02/15/96

Results by Sample

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WFAASR NAME STRONTIUM(FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	0.1	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WFAATL NAME THALLIUM (FAA) EPA 279.1

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WGFMO NAME MOLYBDENUM(GFAA)/EPA 246.2

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	0.020	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TG4

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WTPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	0.22E	0.010	1.0	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/L

BATCH_ID WTPHOS67

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE S6010 NAME METALS-ICP/SW846 6010

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	1.0	50	02/15/96	02/20/96
Aluminum, Al	3010	25	50	02/15/96	02/20/96
Arsenic, As	ND	3.0	50	02/15/96	02/20/96
Barium, Ba	293	0.50	50	02/15/96	02/20/96
Beryllium, Be	ND	0.50	50	02/15/96	02/20/96
Calcium, Ca	1070	15	50	02/15/96	02/20/96
Cadmium, Cd	ND	0.20	50	02/15/96	02/20/96
Cobalt, Co	ND	0.50	50	02/15/96	02/20/96
Chromium, Cr	ND	1.0	50	02/15/96	02/20/96
Copper, Cu	300000	0.50	500	02/15/96	02/20/96
Iron, Fe	4150	15	50	02/15/96	02/20/96
Potassium, K	507	10	50	02/15/96	02/20/96
Magnesium, Mg	ND	10	50	02/15/96	02/20/96
Manganese, Mn	142	0.25	50	02/15/96	02/20/96
Sodium, Na	ND	15	50	02/15/96	02/20/96
Nickel, Ni	ND	2.0	50	02/15/96	02/20/96
Lead, Pb	ND	2.0	500	02/15/96	02/20/96
Antimony, Sb	ND	1.5	50	02/15/96	02/20/96
Selenium, Se	ND	2.5	50	02/15/96	02/20/96
Vanadium, V	ND	0.15	50	02/15/96	02/20/96
Zinc, Zn	1420	5.0	50	02/15/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS

UNITS mg/Kg

BATCH_ID S6-1

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE SCVHG NAME MERCURY (CVAA)/SW846 7471

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.15	1.0	02/21/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SCV91

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE SFAASR NAME STRONTIUM (FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	5.0	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE SFAATL NAME THALLIUM (FAA)/SW846 7840

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

APPENDIX G

RADIOACTIVE SMEAR RESULTS

1 of 7

BETA

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 A

FRACTION 01A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 01/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	01/18/96

Notes and Definitions for this Report:

EXTRACTED 01/17/96

ANALYST CD

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 A

FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 01/09/96 Category AIR

ANALYTES	RESULT	LIM
TOTAL CHROMIUM	ND	0.0002

Notes and Definitions for this Report:

DATE_EXT 01/17/96

DATE_ANAL 01/19/96

ANALYST KH

D_F 1.0

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 B

FRACTION 02A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 01/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	01/18/96

Notes and Definitions for this Report:

EXTRACTED 01/17/96

ANALYST CD

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01 082

SAMPLE ID KBH010996 B

FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 01/09/96 Category AIR

ANALYTES	RESULT	LIM
TOTAL CHROMIUM	ND	0.0002

Notes and Definitions for this Report:

DATE_EXT 01/17/96

DATE_ANAL 01/19/96

ANALYST KH

D_F 1.0

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 C

FRACTION 03A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 01/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	01/18/96

Notes and Definitions for this Report:

EXTRACTED 01/17/96

ANALYST CD

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01 082

SAMPLE ID KBH010996 C

FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 01/09/96 Category AIR

ANALYTES	RESULT	LIM
TOTAL CHROMIUM	ND	0.0002

Notes and Definitions for this Report:

DATE_EXT 01/17/96

DATE_ANAL 01/19/96

ANALYST KH

D_F 1.0

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01-082

SAMPLE ID KBH010996 D

FRACTION 04A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 01/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	01/18/96

Notes and Definitions for this Report:

EXTRACTED 01/17/96

ANALYST CD

UNITS Total mg

BATCH_ID SF372

COMMENTS

Received: 01/10/96

REPORT

Results by Sample

Work Order # 96-01 082

SAMPLE ID KBH010996 D

FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 01/09/96 Category AIR

ANALYTES	RESULT	LIM
TOTAL CHROMIUM	ND	0.0002

Notes and Definitions for this Report:

DATE_EXT 01/17/96

DATE_ANAL 01/19/96

ANALYST KH

D_F 1.0

UNITS Total mg

BATCH_ID SF372

COMMENTS

ASSAIGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

Purchase Order: 23629
Invoice Number:

Order #: 96-02-137
Date: 02/16/96 14:59
Work ID: MDAM
Date Received: 02/14/96
Date Completed: 02/16/96

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	KBH020996 E
02	KBH020996 F
03	KBH020996 G
04	KBH020996 H
05	KBH020996 I

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

REPRODUCTION OF THIS REPORT IN LESS THAN FULL REQUIRES THE WRITTEN CONSENT OF AAL. THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL LABORATORY VOLUNTARY ACCREDITATION PROGRAM.

Received: 02/14/96

REPORT

Results By Test

Work Order # 96-02-137

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
A7082X N/A	02/15/96	02/15/96	02/15/96	02/15/96	02/15/96
SMSCXT N/A	02/15/96	02/15/96	02/15/96	02/15/96	02/15/96

Received: 02/14/96

REPORT

Results by Sample

Work Order # 96-02-137

SAMPLE ID KBH020996 E FRACTION 01A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 02/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	02/16/96

Notes and Definitions for this Report:

EXTRACTED 02/15/96

ANALYST KH

UNITS Total mg

BATCH_ID SF387

COMMENTS

Received: 02/14/96

REPORT
Results by Sample

Work Order # 96-02-137

SAMPLE ID KBH020996 E

FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS
Date & Time Collected 02/09/96 Category AIR

ANALYTES	RESULT	LIM
CHROMIUM	ND	0.0002
CADMIUM	ND	0.0003

Notes and Definitions for this Report:

DATE_EXT 02/15/96
DATE_ANAL 02/16/96
ANALYST KH
D_F 1.0
UNITS Total mg
BATCH_ID SF387
COMMENTS

Received: 02/14/96

REPORT

Results by Sample

Work Order # 96-02-137

SAMPLE ID KBH020996 F

FRACTION 02A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 02/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	02/16/96

Notes and Definitions for this Report:

EXTRACTED 02/15/96

ANALYST KH

UNITS Total mg

BATCH_ID SF387

COMMENTS

Received: 02/14/96

REPORT

Results by Sample

Work Order # 96-02-137

SAMPLE ID KBH020996 F

FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/09/96 Category AIR

ANALYTES	RESULT	LIM
CHROMIUM	ND	0.0002
CADMIUM	ND	0.0003

Notes and Definitions for this Report:

DATE_EXT 02/15/96

DATE_ANAL 02/16/96

ANALYST KH

D_F 1.0

UNITS Total mg

BATCH_ID SF387

COMMENTS

Received: 02/14/96

REPORT

Results by Sample

Work Order # 96-02 137

SAMPLE ID KBH020996 G

FRACTION 03A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 02/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	02/16/96

Notes and Definitions for this Report:

EXTRACTED 02/15/96

ANALYST KH

UNITS Total mg

BATCH_ID SF387

COMMENTS

Received: 02/14/96

REPORT

Results by Sample

Work Order # 96-02-137

SAMPLE ID KBH020996 G

FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/09/96 Category AIR

ANALYTES	RESULT	LIM
CHROMIUM	ND	0.0002
CADMIUM	ND	0.0003

Notes and Definitions for this Report:

DATE_EXT 02/15/96

DATE_ANAL 02/16/96

ANALYST KH

D_F 1.0

UNITS Total mg

BATCH_ID SF387

COMMENTS

Received: 02/14/96

REPORT

Results by Sample

Work Order # 96-02-137

SAMPLE ID KBH020996 H

FRACTION 04A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 02/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	02/16/96

Notes and Definitions for this Report:

EXTRACTED 02/15/96

ANALYST KH

UNITS Total mg

BATCH_ID SF387

COMMENTS

Received: 02/14/96

REPORT

Results by Sample

Work Order # 96 02 137

SAMPLE ID KBH020996 H

FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/09/96 Category AIR

ANALYTES	RESULT	LIM
CHROMIUM	ND	0.0002
CADMIUM	ND	0.0003

Notes and Definitions for this Report:

DATE_EXT 02/15/96

DATE_ANAL 02/16/96

ANALYST KH

D_F 1.0

UNITS Total mg

BATCH_ID SF387

COMMENTS

Received: 02/14/96

REPORT

Results by Sample

Work Order # 96-02-137

SAMPLE ID KBH020996 I

FRACTION 05A TEST CODE A7082 NAME LEAD IN AIR/NIOSH 7082

Date & Time Collected 02/09/96 Category AIR

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Lead in air	ND	0.0010	1.0	02/16/96

Notes and Definitions for this Report:

EXTRACTED 02/15/96

ANALYST KH

UNITS Total mg

BATCH_ID SF387

COMMENTS

Received: 02/14/96

REPORT

Results by Sample

Work Order # 96-02-137

SAMPLE ID KBH020996 I

FRACTION 05A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/09/96 Category AIR

ANALYTES	RESULT	LIM
CHROMIUM	ND	0.0002
CADMIUM	ND	0.0003

Notes and Definitions for this Report:

DATE_EXT 02/15/96

DATE_ANAL 02/16/96

ANALYST KH

D_F 1.0

UNITS Total mg

BATCH_ID SF387

COMMENTS

Received: 02/14/96

REPORT
02/16/96 15:16:56

Work Order # 96-02-137

NES, INC.

*Please Note: AAL does not have performance data for chromium in air. AAL utilized NIOSH method 7082 for lead samples and added a cadmium and chromium spikes to the preparation batch. These spikes were within acceptable criteria.

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 2137 Date: 1/96

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 797
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES Inc

Address: 3500 Trinity

City / State / Zip: Los Alamos NM

Project Name / Number: DOA/M

Contract / Purchase Order / Quote:

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1754

Fax No.: 662-2436

Samplers: (Signature) Debbie Connell

Analysis Required

Lab Number	Sample Number	Date	Time	Matrix	Description	Volume	No. of Containers	Asbestos	Lead	Chromium	Cadmium						Remarks
	KBH02 0796 A	2-9-96	NA	Broom	Costar 25mm	NA	1	X									
sent to	KBH 02 0796 B			2 ons	3-piece cassette	NA	1	X									Field Blank
Asbestos	KBH 02 0796 C				Lot # 3446	400 l	1	X									Field Blank
Lab	KBH 02 0796 D				⊥	270 l	1	X									D. Uman
01A	KBH 02 0796 E				SKC MEC	NA	1		X	X	X						C. Ortiz
02A	KBH 02 0796 F				3-piece cassette	NA	1		X	X	X						Field Blank
03A	KBH 02 0796 G				Lot #	400 l	1		X	X	X						Field Blank
04A	KBH 02 0796 H				HYHMR 21H/12	270 l	1		X	X	X						D. Uman
05A	KBH 02 0796 I				⊥	280 l	1		X	X	X						C. Ortiz

KBH 2/9/96

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Kirk B Hodges	2/12/96	Signature: [illegible]	Signature: [illegible]	2/15/96	Signature: [illegible]
Printed: Kirk B. Hodges	Time: 0500	Printed: Evan Chavez	Printed: Evan Chavez	Time: 8:10	Printed: [illegible]
Company: IT Corp		Company: ARL	Company: ARL		Company: ARL
Reason: Testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE SGFMO NAME MOLYBDENUM(GFAA)SW846 7481

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	1.0	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SG95

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/14/96 08:00:00 Category SOLID

ANALYTES	RESULT	LIM
LITHIUM	ND	2.5

Notes and Definitions for this Report:

DATE_EXT 02/16/96

DATE_ANAL 02/20/96

ANALYST KH

D_F 1.0

UNITS mg/Kg

BATCH_ID SF388

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE STPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	5.13E	0.010	100	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/Kg

BATCH_ID STPHOS20

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE W6010 NAME METALS-ICP/SW846 6010

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	0.020	1.0	02/16/96	02/20/96
Aluminum, Al	ND	0.50	1.0	02/16/96	02/20/96
Arsenic, As	ND	0.060	1.0	02/16/96	02/20/96
Barium, Ba	2.2	0.010	1.0	02/16/96	02/20/96
Beryllium, Be	ND	0.0010	1.0	02/16/96	02/20/96
Calcium, Ca	4.4	0.30	1.0	02/16/96	02/20/96
Cadmium, Cd	0.009B	0.0040	1.0	02/16/96	02/20/96
Cobalt, Co	ND	0.010	1.0	02/16/96	02/20/96
Chromium, Cr	ND	0.020	1.0	02/16/96	02/20/96
Copper, Cu	29.4	0.010	1.0	02/16/96	02/20/96
Iron, Fe	ND	0.30	1.0	02/16/96	02/20/96
Potassium, K	ND	0.20	1.0	02/16/96	02/20/96
Magnesium, Mg	ND	0.20	1.0	02/16/96	02/20/96
Manganese, Mn	0.080	0.0050	1.0	02/16/96	02/20/96
Sodium, Na	1290	0.30	1.0	02/16/96	02/20/96
Nickel, Ni	ND	0.040	1.0	02/16/96	02/20/96
Lead, Pb	0.06	0.040	1.0	02/16/96	02/20/96
Antimony, Sb	ND	0.030	1.0	02/16/96	02/20/96
Selenium, Se	ND	0.050	1.0	02/16/96	02/20/96
Vanadium, V	ND	0.0030	1.0	02/16/96	02/20/96
Zinc, Zn	0.6	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS

UNITS mg/L

BATCH_ID TI135

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WCVHG NAME MERCURY (CVAA)/EPA 245.1

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.00020	1.0	02/22/96	02/22/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TCV29

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WFAALI NAME LITHIUM (FAA)/SW846 7430

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Lithium, Li	ND	0.050	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WFAASR NAME STRONTIUM(FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	ND	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WFAATL NAME THALLIUM (FAA) EPA 279.1

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WGFMO NAME MOLYBDENUM(GFAA)/EPA 246.2

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	0.020	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TG4

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WTPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	0.07E	0.010	1.0	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/L

BATCH_ID WTPHOS67

COMMENTS

ASSOCIATED ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
February 22, 1996 17:04

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT NES, INC.
TO: 3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9602107
WORK ID : MDAM TA-9
CLIENT CODE : NES01
DATE RECEIVED : 02/12/96

Lab ID: 9602107-01A
Sample ID: METAL

Collected: 02/07/96 14:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
LITHIUM (FAA)/SW846 7430						
Lithium, Li	ND	mg/L	0.050	1.0	02/20/96	TF15
MERCURY (CVAA)/EPA 245.1						
Mercury	ND	mg/L	0.00020	1.0	02/15/96	TCV28
METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	1.0	02/16/96	TI134
Aluminum, Al	ND	mg/L	0.50	1.0	02/16/96	TI134
Arsenic, As	ND	mg/L	0.060	1.0	02/16/96	TI134
Barium, Ba	2.4	mg/L	0.010	1.0	02/16/96	TI134
Beryllium, Be	ND	mg/L	0.0010	10	02/16/96	TI134
Calcium, Ca	28.1	mg/L	0.30	1.0	02/16/96	TI134
Cadmium, Cd	0.012	mg/L	0.0040	1.0	02/16/96	TI134
Cobalt, Co	0.24	mg/L	0.010	1.0	02/16/96	TI134
Chromium, Cr	ND	mg/L	0.020	1.0	02/16/96	TI134
Copper, Cu	ND	mg/L	0.010	1.0	02/16/96	TI134
Iron, Fe	742	mg/L	0.30	10	02/16/96	TI134
Potassium, K	4.0	mg/L	0.20	1.0	02/16/96	TI134
Magnesium, Mg	1.1	mg/L	0.20	1.0	02/16/96	TI134
Manganese, Mn	9.44	mg/L	0.0050	1.0	02/16/96	TI134
Sodium, Na	1300	mg/L	0.30	10	02/16/96	TI134
Nickel, Ni	0.51	mg/L	0.040	1.0	02/16/96	TI134
Lead, Pb	ND	mg/L	0.040	1.0	02/16/96	TI134
Antimony, Sb	ND	mg/L	0.030	1.0	02/16/96	TI134
Selenium, Se	0.10B	mg/L	0.050	1.0	02/16/96	TI134
Vanadium, V	ND	mg/L	0.0030	10	02/16/96	TI134
Zinc, Zn	1.9	mg/L	0.10	10	02/16/96	TI134
MOLYBDENUM(GFAA)/EPA 246.2						
Molybdenum, Mo	ND	mg/L	0.020	1.0	02/21/96	TG3
STRONTIUM(FAA)/SW846 7780						
Strontium, Sr	0.2	mg/L	0.10	1.0	02/20/96	TF15
TCLP (FAA) DIG/1311/3005	02/14/96	N/A				
TCLP (GFAA)DIG/1311/3005	02/14/96	N/A				
TCLP (ICP) DIG/1311/3005	02/14/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/13/96	N/A				
TCLP(CVAA)Hg XT/SW846 7471	02/14/96	N/A				
THALLIUM (FAA) EPA 279.1						
Thallium, Tl	ND	mg/L	0.10	1.0	02/20/96	TF15
TOTAL PHOS/SM 4500 P B&D						
Total Phosphorus as (P)	ND E	mg/L	0.010	1.0	02/20/96	WTPHOS67

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James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 02/22/96
WORKORDER: 9602107

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

*E: AAL's quality control parameters for Total Phosphorus were below acceptance criteria. For this reason, soil Total Phosphorus is reported as estimated. For TCLP phosphorus, all QC parameters were within criteria. However, since the effects of TCLP extraction on phosphorus recovery is unknown, all TCLP phosphorus results are also reported as estimated

Please note: All metals results represent the TCLP concentrations. AAL does not have TCLP performance data for any metals other than the standard TCLP metals.

ASSAGAI ANALYTICAL LABORATORIES
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3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
Attn: DEBORAH O'CONNELL

REVISED 2/23/96

Order #: 96-02-136
Date: 02/23/96 08:18
Work ID: MDAM
Date Received: 02/15/96
Date Completed: 02/22/96

Purchase Order: 23629
Invoice Number:

Client Code: NES01

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	CABLE (B-25 #2046598)
02	CABLE (B-25 #2046587)
03	SOIL (B-25 #2046598)
04	SOIL (B-25 #2046587)

ND = None Detected D_F = Dilution Factor NT = Not Tested
B = Analyte was present in the blank
E = Estimated Value or Result exceeds calibration range
MULTIPLY THE LIMIT(= AAL'S DETECTION LIMIT) BY DILUTION FACTOR

Certified By
JAMES A. SEELY

Member: American Council of Independent Laboratories, Inc.

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Received: 02/15/96

REPORT

Work Order # 96-02 136

Results By Test

TEST CODE Default Units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)
PRCTSX % (Percent)	100.00	100.00	100.00	100.00
S6010X N/A	02/15/96	02/15/96	02/15/96	02/15/96
SCVHGX N/A	02/21/96	02/21/96	02/21/96	02/21/96
SFAAX N/A	02/16/96	02/16/96	02/16/96	02/16/96
SGFAAX N/A	02/16/96	02/16/96	02/16/96	02/16/96
TCLPXX N/A	02/15/96	02/15/96	02/15/96	02/15/96
TCVHGX N/A	02/22/96	02/22/96	02/22/96	02/22/96
TFAAX N/A	02/16/96	02/16/96	02/16/96	02/16/96
TGFAAX N/A	02/16/96	02/16/96	02/16/96	02/16/96
TICPX N/A	02/16/96	02/16/96	02/16/96	02/16/96

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE S6010 NAME METALS-ICP/SW846 6010

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	1.0	50	02/15/96	02/20/96
Aluminum, Al	3910	25	50	02/15/96	02/20/96
Arsenic, As	ND	3.0	50	02/15/96	02/20/96
Barium, Ba	234	0.50	50	02/15/96	02/20/96
Beryllium, Be	ND	0.50	50	02/15/96	02/20/96
Calcium, Ca	3140	15	50	02/15/96	02/20/96
Cadmium, Cd	13.3	0.20	50	02/15/96	02/20/96
Cobalt, Co	ND	0.50	50	02/15/96	02/20/96
Chromium, Cr	ND	1.0	50	02/15/96	02/20/96
Copper, Cu	266000	0.50	500	02/15/96	02/20/96
Iron, Fe	3930	15	50	02/15/96	02/20/96
Potassium, K	585	10	50	02/15/96	02/20/96
Magnesium, Mg	737	10	50	02/15/96	02/20/96
Manganese, Mn	147	0.25	50	02/15/96	02/20/96
Sodium, Na	ND	15	50	02/15/96	02/20/96
Nickel, Ni	ND	2.0	50	02/15/96	02/20/96
Lead, Pb	ND	2.0	500	02/15/96	02/20/96
Antimony, Sb	ND	1.5	50	02/15/96	02/20/96
Selenium, Se	ND	2.5	50	02/15/96	02/20/96
Vanadium, V	9.80	0.15	50	02/15/96	02/20/96
Zinc, Zn	ND	5.0	50	02/15/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS

UNITS mg/Kg

BATCH_ID S6-1

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96 02 136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SCVHG NAME MERCURY (CVAA)/SW846 7471

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.15	1.0	02/21/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SCV91

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02 136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SFAASR NAME STRONTIUM (FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	17.7	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96 02 136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SFAATL NAME THALLIUM (FAA)/SW846 7840

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SGFMO NAME MOLYBDENUM(GFAA)SW846 7481

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	1.0	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SG95

PRCNT_MOIST ___

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/14/96 08:00:00 Category SOLID

ANALYTES	RESULT	LIM
LITHIUM	2.6	2.5

Notes and Definitions for this Report:

DATE_EXT 02/16/96

DATE_ANAL 02/20/96

ANALYST KH

D_F 1.0

UNITS mg/Kg

BATCH_ID SF388

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01A TEST CODE STPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	5.15E	0.010	20	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/Kg

BATCH_ID STPHOS20

COMMENTS

Received: 02/15/96

REPORT
Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE W6010 NAME METALS-ICP/SW846 6010
Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	0.020	1.0	02/16/96	02/20/96
Aluminum, Al	ND	0.50	1.0	02/16/96	02/20/96
Arsenic, As	ND	0.060	1.0	02/16/96	02/20/96
Barium, Ba	0.8	0.010	1.0	02/16/96	02/20/96
Beryllium, Be	ND	0.0010	1.0	02/16/96	02/20/96
Calcium, Ca	29.9	0.30	1.0	02/16/96	02/20/96
Cadmium, Cd	0.202	0.0040	1.0	02/16/96	02/20/96
Cobalt, Co	ND	0.010	1.0	02/16/96	02/20/96
Chromium, Cr	ND	0.020	1.0	02/16/96	02/20/96
Copper, Cu	132	0.010	10	02/16/96	02/20/96
Iron, Fe	0.6	0.30	1.0	02/16/96	02/20/96
Potassium, K	1.8	0.20	1.0	02/16/96	02/20/96
Magnesium, Mg	1.3	0.20	1.0	02/16/96	02/20/96
Manganese, Mn	0.654	0.0050	1.0	02/16/96	02/20/96
Sodium, Na	1270	0.30	1.0	02/16/96	02/20/96
Nickel, Ni	ND	0.040	1.0	02/16/96	02/20/96
Lead, Pb	0.13	0.040	1.0	02/16/96	02/20/96
Antimony, Sb	ND	0.030	1.0	02/16/96	02/20/96
Selenium, Se	ND	0.050	1.0	02/16/96	02/20/96
Vanadium, V	ND	0.0030	1.0	02/16/96	02/20/96
Zinc, Zn	1.2	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS
UNITS mg/L
BATCH_ID TI135

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID **CABLE (B-25 #2046598)** FRACTION **01B** TEST CODE **WCVHG** NAME **MERCURY (CVAA)/EPA 245.1**

Date & Time Collected **02/14/96 08:00:00** Category **SOLID**

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.00020	1.0	02/22/96	02/22/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TCV29

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WFAALI NAME LITHIUM (FAA)/SW846 7430

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Lithium, Li	ND	0.050	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WFAASR NAME STRONTIUM(FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	0.1	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WFAATL NAME THALLIUM (FAA) EPA 279.1

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96 02 136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WGFMO NAME MOLYBDENUM(GFAA)/EPA 246.2

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	0.020	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TG4

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046598) FRACTION 01B TEST CODE WTPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	0.22E	0.010	1.0	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/L

BATCH_ID WTPHOS67

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02 136

SAMPLE ID CABLE (B-25 #2046587)

FRACTION 02A TEST CODE S6010 NAME METALS-ICP/SW846 6010

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	1.0	50	02/15/96	02/20/96
Aluminum, Al	3010	25	50	02/15/96	02/20/96
Arsenic, As	ND	3.0	50	02/15/96	02/20/96
Barium, Ba	293	0.50	50	02/15/96	02/20/96
Beryllium, Be	ND	0.50	50	02/15/96	02/20/96
Calcium, Ca	1070	15	50	02/15/96	02/20/96
Cadmium, Cd	ND	0.20	50	02/15/96	02/20/96
Cobalt, Co	ND	0.50	50	02/15/96	02/20/96
Chromium, Cr	ND	1.0	50	02/15/96	02/20/96
Copper, Cu	300000	0.50	500	02/15/96	02/20/96
Iron, Fe	4150	15	50	02/15/96	02/20/96
Potassium, K	507	10	50	02/15/96	02/20/96
Magnesium, Mg	ND	10	50	02/15/96	02/20/96
Manganese, Mn	142	0.25	50	02/15/96	02/20/96
Sodium, Na	ND	15	50	02/15/96	02/20/96
Nickel, Ni	ND	2.0	50	02/15/96	02/20/96
Lead, Pb	ND	2.0	500	02/15/96	02/20/96
Antimony, Sb	ND	1.5	50	02/15/96	02/20/96
Selenium, Se	ND	2.5	50	02/15/96	02/20/96
Vanadium, V	ND	0.15	50	02/15/96	02/20/96
Zinc, Zn	1420	5.0	50	02/15/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS

UNITS mg/Kg

BATCH_ID S6-1

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID **CABLE (B-25 #2046587)** FRACTION **02A** TEST CODE **SCVHG** NAME **MERCURY (CVAA)/SW846 7471**

Date & Time Collected **02/14/96 08:00:00** Category **SOLID**

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.15	1.0	02/21/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SCV31

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02 136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE SFAASR NAME STRONTIUM (FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	5.0	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE SFAATL NAME THALLIUM (FAA)/SW846 7840

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE SGFMO NAME MOLYBDENUM(GFAA)SW846 7481

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	1.0	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SG95

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/14/96 08:00:00 Category SOLID

ANALYTES	RESULT	LIM
LITHIUM	ND	2.5

Notes and Definitions for this Report:

DATE_EXT 02/16/96

DATE_ANAL 02/20/96

ANALYST KH

D_F 1.0

UNITS mg/Kg

BATCH_ID SF388

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02A TEST CODE STPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	5.13E	0.010	100	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/Kg

BATCH_ID STPHOS20

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE W6010 NAME METALS-ICP/SW846 6010

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	0.020	1.0	02/16/96	02/20/96
Aluminum, Al	ND	0.50	1.0	02/16/96	02/20/96
Arsenic, As	ND	0.060	1.0	02/16/96	02/20/96
Barium, Ba	2.2	0.010	1.0	02/16/96	02/20/96
Beryllium, Be	ND	0.0010	1.0	02/16/96	02/20/96
Calcium, Ca	4.4	0.30	1.0	02/16/96	02/20/96
Cadmium, Cd	0.009B	0.0040	1.0	02/16/96	02/20/96
Cobalt, Co	ND	0.010	1.0	02/16/96	02/20/96
Chromium, Cr	ND	0.020	1.0	02/16/96	02/20/96
Copper, Cu	29.4	0.010	1.0	02/16/96	02/20/96
Iron, Fe	ND	0.30	1.0	02/16/96	02/20/96
Potassium, K	ND	0.20	1.0	02/16/96	02/20/96
Magnesium, Mg	ND	0.20	1.0	02/16/96	02/20/96
Manganese, Mn	0.080	0.0050	1.0	02/16/96	02/20/96
Sodium, Na	1290	0.30	1.0	02/16/96	02/20/96
Nickel, Ni	ND	0.040	1.0	02/16/96	02/20/96
Lead, Pb	0.06	0.040	1.0	02/16/96	02/20/96
Antimony, Sb	ND	0.030	1.0	02/16/96	02/20/96
Selenium, Se	ND	0.050	1.0	02/16/96	02/20/96
Vanadium, V	ND	0.0030	1.0	02/16/96	02/20/96
Zinc, Zn	0.6	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS

UNITS mg/L

BATCH_ID TI135

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WCVHG NAME MERCURY (CVAA)/EPA 245.1

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.00020	1.0	02/22/96	02/22/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TCV29

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96 02 136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WFAALI NAME LITHIUM (FAA)/SW846 7430

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Lithium, Li	ND	0.050	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WFAASR NAME STRONTIUM(FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	ND	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96 02 136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WFAATL NAME THALLIUM (FAA) EPA 279.1

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WGFMO NAME MOLYBDENUM(GFAA)/EPA 246.2

Date & Time Collected 02/14/96 08:00:00 Category SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	0.020	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TG4

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID CABLE (B-25 #2046587) FRACTION 02B TEST CODE WTPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Matrix SOLID

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	0.07E	0.010	1.0	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/L

BATCH_ID WTPHOS67

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03A TEST CODE S6010 NAME METALS-ICP/SW846 6010

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	1.0	1.0	02/15/96	02/16/96
Aluminum, Al	9320	25	1.0	02/15/96	02/16/96
Arsenic, As	ND	3.0	1.0	02/15/96	02/16/96
Barium, Ba	198	0.50	1.0	02/15/96	02/16/96
Beryllium, Be	0.62	0.50	1.0	02/15/96	02/16/96
Calcium, Ca	7970	15	1.0	02/15/96	02/16/96
Cadmium, Cd	0.9	0.20	1.0	02/15/96	02/16/96
Cobalt, Co	5.7	0.50	1.0	02/15/96	02/16/96
Chromium, Cr	7.7	1.0	1.0	02/15/96	02/16/96
Copper, Cu	356	0.50	1.0	02/15/96	02/16/96
Iron, Fe	10700	15	1.0	02/15/96	02/16/96
Potassium, K	1300	10	1.0	02/15/96	02/16/96
Magnesium, Mg	1880	10	1.0	02/15/96	02/16/96
Manganese, Mn	416	0.25	1.0	02/15/96	02/16/96
Sodium, Na	131	15	1.0	02/15/96	02/16/96
Nickel, Ni	7.6	2.0	1.0	02/15/96	02/16/96
Lead, Pb	18.5	2.0	1.0	02/15/96	02/16/96
Antimony, Sb	ND	1.5	1.0	02/15/96	02/16/96
Selenium, Se	ND	2.5	1.0	02/15/96	02/16/96
Vanadium, V	19.1	0.15	1.0	02/15/96	02/16/96
Zinc, Zn	62.9	5.0	1.0	02/15/96	02/16/96

Notes and Definitions for this Report:

ANALYST BS

UNITS mg/Kg

BATCH_ID S6-1

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03A TEST CODE SCVHG NAME MERCURY (CVAA)/SW846 7471

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.15	1.0	02/21/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SCV91

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03A TEST CODE SFAASR NAME STRONTIUM (FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	30.6	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03A TEST CODE SFAATL NAME THALLIUM (FAA)/SW846 7840

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03A TEST CODE SGFMO NAME MOLYBDENUM(GFAA)SW846 7481

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	1.0	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SG95

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/14/96 08:00:00 Category SOIL

ANALYTES	RESULT	LIM
LITHIUM	7.4	2.5

Notes and Definitions for this Report:

DATE_EXT 02/16/96

DATE_ANAL 02/20/96

ANALYST KH

D_F 1.0

UNITS mg/Kg

BATCH_ID SF388

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02 136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03A TEST CODE STPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	68.2E	0.010	200	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/Kg

BATCH_ID STPHOS20

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID **SOIL (B-25 #2046598)** FRACTION **03B** TEST CODE **W6010** NAME **METALS-ICP/SW846 6010**

Date & Time Collected **02/14/96 08:00:00** Category **SOIL**

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	0.020	1.0	02/16/96	02/20/96
Aluminum, Al	15.1	0.50	1.0	02/16/96	02/20/96
Arsenic, As	ND	0.060	1.0	02/16/96	02/20/96
Barium, Ba	2.2	0.010	1.0	02/16/96	02/20/96
Beryllium, Be	ND	0.0010	1.0	02/16/96	02/20/96
Calcium, Ca	258	0.30	1.0	02/16/96	02/20/96
Cadmium, Cd	0.018B	0.0040	1.0	02/16/96	02/20/96
Cobalt, Co	0.03	0.010	1.0	02/16/96	02/20/96
Chromium, Cr	ND	0.020	1.0	02/16/96	02/20/96
Copper, Cu	1.36	0.010	1.0	02/16/96	02/20/96
Iron, Fe	12.7	0.30	1.0	02/16/96	02/20/96
Potassium, K	9.9	0.20	1.0	02/16/96	02/20/96
Magnesium, Mg	15.4	0.20	1.0	02/16/96	02/20/96
Manganese, Mn	4.48	0.0050	1.0	02/16/96	02/20/96
Sodium, Na	1290	0.30	1.0	02/16/96	02/20/96
Nickel, Ni	ND	0.040	1.0	02/16/96	02/20/96
Lead, Pb	ND	0.040	1.0	02/16/96	02/20/96
Antimony, Sb	ND	0.030	1.0	02/16/96	02/20/96
Selenium, Se	ND	0.050	1.0	02/16/96	02/20/96
Vanadium, V	0.024	0.0030	1.0	02/16/96	02/20/96
Zinc, Zn	0.9	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS

UNITS mg/L

BATCH_ID TI135

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96 02 136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03B TEST CODE WCVHG NAME MERCURY (CVAA)/EPA 245.1

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.00020	1.0	02/22/96	02/22/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TCV29

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID **SOIL (B-25 #2046598)** FRACTION **03B** TEST CODE **WFAALI** NAME **LITHIUM (FAA)/SW846 7430**

Date & Time Collected **02/14/96 08:00:00** Category **SOIL**

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Lithium, Li	ND	0.050	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03B TEST CODE WFAASR NAME STRONTIUM(FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	0.7	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03B TEST CODE WFAATL NAME THALLIUM (FAA) EPA 279.1

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598) FRACTION 03B TEST CODE WGFMO NAME MOLYBDENUM(GFAA)/EPA 246.2

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	0.020	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TG4

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046598)

FRACTION 03B TEST CODE WTPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	0.20E	0.010	1.0	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/L

BATCH_ID WTPHOS67

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04A TEST CODE S6010 NAME METALS-ICP/SW846 6010

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	3.2	1.0	1.0	02/15/96	02/16/96
Aluminum, Al	8470	25	1.0	02/15/96	02/16/96
Arsenic, As	ND	3.0	1.0	02/15/96	02/16/96
Barium, Ba	279	0.50	1.0	02/15/96	02/16/96
Beryllium, Be	0.65	0.50	1.0	02/15/96	02/16/96
Calcium, Ca	2600	15	1.0	02/15/96	02/16/96
Cadmium, Cd	0.81	0.20	1.0	02/15/96	02/16/96
Cobalt, Co	6.3	0.50	1.0	02/15/96	02/16/96
Chromium, Cr	8.0	1.0	1.0	02/15/96	02/16/96
Copper, Cu	552	0.50	1.0	02/15/96	02/16/96
Iron, Fe	9720	15	1.0	02/15/96	02/16/96
Potassium, K	1450	10	1.0	02/15/96	02/16/96
Magnesium, Mg	1570	10	1.0	02/15/96	02/16/96
Manganese, Mn	521	0.25	1.0	02/15/96	02/16/96
Sodium, Na	111	15	1.0	02/15/96	02/16/96
Nickel, Ni	8.0	2.0	1.0	02/15/96	02/16/96
Lead, Pb	40.9	2.0	1.0	02/15/96	02/16/96
Antimony, Sb	ND	1.5	1.0	02/15/96	02/16/96
Selenium, Se	ND	2.5	1.0	02/15/96	02/16/96
Vanadium, V	16.0	0.15	1.0	02/15/96	02/16/96
Zinc, Zn	154	5.0	1.0	02/15/96	02/16/96

Notes and Definitions for this Report:

ANALYST BS

UNITS mg/Kg

BATCH_ID S6-1

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04A TEST CODE SCVHG NAME MERCURY (CVAA)/SW846 7471

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.15	1.0	02/21/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SCV91

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04A TEST CODE SFAASR NAME STRONTIUM (FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	21.6	5.0	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02 136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04A TEST CODE SFAATL NAME THALLIUM (FAA)/SW846 7840

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	5.0	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SF388

PRCNT_MOIST ___

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04A TEST CODE SGFMO NAME MOLYBDENUM(GFAA)SW846 7481

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	1.0	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/Kg

BATCH_ID SG95

PRCNT_MOIST

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96 02 136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04A TEST CODE SMSCMT NAME MISC TEST SOIL-METALS

Date & Time Collected 02/14/96 08:00:00 Category SOIL

ANALYTES	RESULT	LIM
LITHIUM	7.9	2.5

Notes and Definitions for this Report:

DATE_EXT 02/16/96

DATE_ANAL 02/20/96

ANALYST KH

D_F 1.0

UNITS mg/Kg

BATCH_ID SF388

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID **SOIL (B-25 #2046587)** FRACTION **04A** TEST CODE **STPHOS** NAME **TOTAL PHOS/SM 4500 P B&D**

Date & Time Collected **02/14/96 08:00:00** Category **SOIL**

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	93.5E	0.010	200	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96
ANALYST DS
UNITS mg/Kg
BATCH_ID STPHOS20
COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04B TEST CODE W6010 NAME METALS-ICP/SW846 6010

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Silver, Ag	ND	0.020	1.0	02/16/96	02/20/96
Aluminum, Al	3.4	0.50	1.0	02/16/96	02/20/96
Arsenic, As	ND	0.060	1.0	02/16/96	02/20/96
Barium, Ba	2.3	0.010	1.0	02/16/96	02/20/96
Beryllium, Be	ND	0.0010	1.0	02/16/96	02/20/96
Calcium, Ca	81.8	0.30	1.0	02/16/96	02/20/96
Cadmium, Cd	0.015B	0.0040	1.0	02/16/96	02/20/96
Cobalt, Co	0.06	0.010	1.0	02/16/96	02/20/96
Chromium, Cr	ND	0.020	1.0	02/16/96	02/20/96
Copper, Cu	0.82	0.010	1.0	02/16/96	02/20/96
Iron, Fe	2.4	0.30	1.0	02/16/96	02/20/96
Potassium, K	11.3	0.20	1.0	02/16/96	02/20/96
Magnesium, Mg	8.7	0.20	1.0	02/16/96	02/20/96
Manganese, Mn	8.80	0.0050	1.0	02/16/96	02/20/96
Sodium, Na	1290	0.30	1.0	02/16/96	02/20/96
Nickel, Ni	ND	0.040	1.0	02/16/96	02/20/96
Lead, Pb	ND	0.040	1.0	02/16/96	02/20/96
Antimony, Sb	ND	0.030	1.0	02/16/96	02/20/96
Selenium, Se	ND	0.050	1.0	02/16/96	02/20/96
Vanadium, V	0.004	0.0030	1.0	02/16/96	02/20/96
Zinc, Zn	2.3	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST WMS

UNITS mg/L

BATCH_ID TI135

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04B TEST CODE WCVHG NAME MERCURY (CVAA)/EPA 245.1

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Mercury	ND	0.00020	1.0	02/22/96	02/22/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TCV3

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04B TEST CODE WFAALI NAME LITHIUM (FAA)/SW846 7430

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Lithium, Li	ND	0.050	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04B TEST CODE WFAASR NAME STRONTIUM(FAA)/SW846 7780

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Strontium, Sr	0.4	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04B TEST CODE WFAATL NAME THALLIUM (FAA) EPA 279.1

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Thallium, Tl	ND	0.10	1.0	02/16/96	02/20/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TF16

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04B TEST CODE WGFMO NAME MOLYBDENUM(GFAA)/EPA 246.2

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_EXT	DATE_ANAL
Molybdenum, Mo	ND	0.020	1.0	02/16/96	02/21/96

Notes and Definitions for this Report:

ANALYST KH

UNITS mg/L

BATCH_ID TG4

COMMENTS

Received: 02/15/96

REPORT

Results by Sample

Work Order # 96-02-136

SAMPLE ID SOIL (B-25 #2046587) FRACTION 04B TEST CODE WTPHOS NAME TOTAL PHOS/SM 4500 P B&D

Date & Time Collected 02/14/96 08:00:00 Category SOIL

PARAMETER	RESULT	LIMIT	D_F	DATE_ANAL
Total Phosphorus as (P)	0.38E	0.010	1.0	02/20/96

Notes and Definitions for this Report:

EXTRACTED 02/16/96

ANALYST DS

UNITS mg/L

BATCH_ID WTPHOS67

COMMENTS

NES, INC.

*E: AAL's quality control parameters for Total Phosphorus were below acceptance criteria. For this reason, soil Total Phosphorus is reported as estimated. For TCLP phosphorus, all QC parameters were within criteria. However, since the effects of TCLP extraction on phosphorus recovery is unknown, all TCLP phosphorus results are also reported as estimated

Please note: All metals results represent the TCLP concentrations. AAL does not have TCLP performance data for any metals other than the standard TCLP metals.

Chain of Custody Record

AIGAI ANALYTICAL LABORATORIES

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MELQUIADES ALANIS
6411 LOCAL UNO
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Lab job no.: _____ Date _____

Page 1 of 1

Client NES

Address [illegible]

City / State / Zip [illegible] 87544

Project Name / Number [illegible]

Contract / Purchase Order / Quote _____

Project Manager / Contact [illegible]

Telephone No. [illegible]

Fax No. [illegible]

Samplers: (Signature) [illegible]

Analysis Required

	B-25 #0003	2/24/96	1000	Soil	8oz glass			1	✓												*5 day turn-around time (3/5/96)
	B-25 #0002	2/24/96	1000	Soil	8oz glass			1	✓												
	B-25 #113	2/24/96	1000	Soil	8oz glass			1	✓												
	B-25 #02831	2/24/96	1000	Soil	8oz glass			1	✓												
	B-25 #02957	2/24/96	1000	Soil	8oz glass			1	✓												
	B-25 #6666	2/24/96	1000	Soil	8oz glass			1	✓												
	B-25 #02771	2/24/96	1000	Soil	8oz glass			1	✓												
	B-25 #[illegible]	2/24/96	1000	Soil	8oz glass			1	✓												
	B-25 #[illegible]	2/24/96	1000	Soil	8oz glass			1	✓												
	B-25 #03609	2/24/96	1000	Soil	8oz glass			1	✓												
	Cell 26	2/24/96	1000	Soil	~~8oz glass~~ plastic			1	✓												
	Piles AA, X	2/24/96	1000	Soil	~~8oz glass~~ plastic			1	✓												

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature [illegible]	2/27/96	Signature [illegible]	Signature		Signature
Printed [illegible]	Time 11:35 AM	Printed Elvin S Chavez	Printed	Time	Printed
Company NES		Company AAI	Company		Company
Reason testing		Reason testing	Reason		Reason

Method of Shipment: _____

Shipment No. _____

Special Instructions: _____

Comments: _____

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

FIELD USE ONLY

FIELD USE

Chain of Custody Record

ASSAIGAI ANALYTICAL LABORATORIES

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87109
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab job no.: 2136 Date: 2/27/96

Page 1 of 1

Client: NES Inc

Project Manager / Contact: Debbie O'Connell

Address: 3300 Trinity Dr. Ste 05

Telephone No.: 662-1981

City / State / Zip: Los Alamos NM

Fax No.:

Project Name / Number:

Samplers: (Signature)

Contract / Purchase Order / Quote:

Air Monitoring Station	Field Sample Number / Location	Date	Time	Matrix	Container															
1A, 1B	B-25 # 2046598	2/27/96	1530	solid	baggie															Sample returned to Client 2/28/96
2A, 2B	B-25 # 2046587																			
3A, 3B	B-25 # 2046598																			
4A, 4B	B-25 # 2046587																			

AO 2/27/96

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: [signature]	2/27/96	Signature: [signature]	Signature:		Signature:
Printed: Eric J. Gaus	Time: 12:30	Printed: Dwight Vann	Printed:	Time:	Printed:
Company: MLI		Company: NES	Company:		Company:
Reason: Sample return		Reason: Sample return	Reason:		Reason:

Method of Shipment:

Shipment No.:

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☒ Returned to customer

FIE

ASSAGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
March 1, 1996 14:10

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9602233
WORK ID : TA-9 MDAM
CLIENT CODE : NES01
DATE RECEIVED : 02/27/96

Lab ID: 9602233-01A
Sample ID: B-25 #0003
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420 Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-02A
Sample ID: B-25 #0002
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420 Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-03A
Sample ID: B-25 #113
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420 Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-04A
Sample ID: B-25 #02831
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				

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Lab ID: 9602233-04A
Sample ID: B-25 #02831

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-05A
Sample ID: B-25 #02957

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.5	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-06A
Sample ID: B-25 #6666

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-07A
Sample ID: B-25 #02771

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.4	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-08A
Sample ID: B-25 #0004

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
OLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
P EXTRACTION/TCLP 1311	02/29/96	N/A				
P LEAD(FAA)/1311/7420						
ead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-09A
Sample ID: B-25 #0001

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.2	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-10A
Sample ID: B-25 #03608

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-11A
Sample ID: CELL 26

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	79.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.2	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-12A
Sample ID: PILES AA,X

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	2.4	mg/L	0.10	1.0	03/01/96	TF18

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 03/01/96
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

Chain of Custody Record

BAIGAI ANALYTICAL LABORATORIES

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab job no.: [illegible] Date [illegible]

Page 1 of 1

Client: NES

Address: [illegible]

City / State / Zip: Las Cruces, NM 88544

Project Name / Number: [illegible]

Contract / Purchase Order / Quote:

Project Manager / Contact: [illegible]

Telephone No.: [illegible]

Fax No.: [illegible]

Samplers: (Signature) [illegible]

Analysis Required: TCLP Lead

01A	B-25 # 0003	2/24/96	1000	Soil	8 oz Glass			1	✓										*5 day turn-around time (2/5/96)
02A	B-25 # 0002	2/24/96	1000	Soil	8 oz Glass			1	✓										
03A	B-25 # 113	2/24/96	1000	Soil	8 oz Glass			1	✓										
04A	B-25 # 02831	2/24/96	1000	Soil	8 oz Glass			1	✓										
05A	B-25 # 02957	2/24/96	1000	Soil	8 oz Glass			1	✓										
06A	B-25 # 6666	2/24/96	1000	Soil	8 oz Glass			1	✓										
07A	B-25 # 02771	2/24/96	1000	Soil	8 oz Glass			1	✓										
08A	B-25 # [illegible]	2/24/96	1000	Soil	8 oz Glass			1	✓										
09A	B-25 # 0001	2/24/96	1000	Soil	8 oz Glass			1	✓										
10A	B-25 # 03609	2/24/96	1000	Soil	8 oz Glass			1	✓										
11A	Cell 26	2/24/96	1000	Soil	~~8 oz Glass~~ plastic			1	✓										
12A	Piles Ht. X	2/24/96	1000	Soil	~~8 oz Glass~~ plastic			1	✓										

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: [illegible]	2/27/96	Signature: [illegible]	Signature: [illegible]	2/27/96	Signature: [illegible]
Printed: M. Cornell	Time: 11:25 AM	Printed: Elvin J. Chavez	Printed: Elvin J. Chavez	Time: 1512	Printed: [illegible]
Company: NES		Company: AAI	Company: AAI		Company: AAI
Reason: testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.:

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

REVISED
3/27/96 CAL

Report Generated:
March 27, 1996 15:21

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9602233
WORK ID : TA-9 MDAM
CLIENT CODE : NES01
DATE RECEIVED : 02/27/96

Lab ID: 9602233-01A
Sample ID: B-25 #0003
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-02A
Sample ID: B-25 #0002
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-03A
Sample ID: B-25 #113
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

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Lab ID: 9602233-04A
Sample ID: B-25 #02831

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-05A
Sample ID: B-25 #02957

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.5	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-06A
Sample ID: B-25 #6666

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-07A
Sample ID: B-25 #02771

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.4	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-08A
Sample ID: B-25 #0004

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				

Lab ID: 9602233-08A
Sample ID: B-25 #0004
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-09A
Sample ID: B-25 #0001
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.2	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-10A
Sample ID: B-25 #03608
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-11A
Sample ID: CELL 26
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	79.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.2	mg/L	0.10	1.0	03/01/96	TF18

Lab ID: 9602233-12A
Sample ID: PILES AA,X
Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	02/29/96	N/A				

o ID: 9602233-12A
Sample ID: PILES AA,X

Collected: 02/24/96 10:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP EXTRACTION/TCLP 1311	02/29/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	2.4	mg/L	0.10	1.0	03/01/96	TF18

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 03/27/96
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

APPENDIX K

GAMMA SPECTROSCOPY RESULTS FOR THE VERIFICATION SURVEY

0:♥♠ Autocal 3/8/96

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                     *
*      G A M M A   S P E C T R U M   R E C A L I B R A T I O N        *
*                                                                     *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 08:35:41

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

Multiplet Analysis Performed.

gular Output.
pectral data read directly from Multichannel Analyzer AN0
Analyzed by: dlv

Sample Description: Eu-152 Standard
COLLECT started on 08-MAR-96 at 08:00:00

COLLECT Live Time: 1200. sec.

hatrw 08-MAR-96 08:35:41

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	80.13	39.78	1.7	31472.	5500.	7.4	
2C	91.64	45.53	1.7	25889.	2217.	10.7	
3	150.50	74.93	1.3	31114.	1440.	20.0	PB-214
4$	170.13	84.74	3.4	86128.	4299.	9.5	
5$	176.32	87.84	3.4	92733.	3829.	10.2	PB-214,CD-109
6$	182.89	91.12	3.4	99732.	1553.	19.8	
7?	235.11	117.21	1.7	39902.	10162.	24.4	
8?	244.38	121.84	1.7	36961.	185513.	1.4	SE-75,SCL-000, CO-57
9?	480.89	240.02	1.7	15349.	1675.	20.9	RA-224
10?	490.14	244.65	1.7	14465.	35333.	2.1	
11?	495.33	247.24	1.7	13970.	1652.	22.0	
12	592.45	295.78	1.7	11128.	1383.	12.6	PB-214
13?	679.66	339.37	1.8	9759.	3305.	19.3	
14?	689.24	344.16	1.8	10493.	89926.	0.8	BA-141, SCM-000
15	736.04	367.55	2.0	7135.	2605.	5.6	
16C	822.86	410.95	1.8	6101.	5462.	4.2	AU-198
17	888.48	443.76	1.9	6375.	7399.	2.1	
18	977.93	488.48	1.7	5980.	627.	20.4	
19	1128.61	563.83	1.9	5866.	1271.	10.2	CS-134,SB-122
20	1172.91	585.98	2.2	5333.	1097.	11.2	
21	1357.58	678.34	2.0	4446.	620.	17.5	AG110M
22	1377.39	688.25	2.3	3897.	1402.	7.4	
23	1438.63	718.89	1.8	4497.	371.	29.0	
24?	1548.92	774.06	2.1	4862.	535.	21.6	TE131M
25?	1557.95	778.58	2.1	4888.	18761.	1.3	MO-99
26	1620.62	809.93	2.2	3785.	563.	18.2	I-132,CO-58
27	1734.75	867.03	2.1	4602.	5275.	2.5	
28C	1919.28	959.38	2.3	2657.	807.	10.0	
29C	1928.03	963.76	2.3	2579.	18158.	1.3	EU-152
30C	1934.47	966.98	2.3	2522.	527.	16.9	
31	2010.23	1004.90	2.3	2124.	861.	9.7	
32C	2162.14	1080.94	2.4	2054.	546.	8.3	
33C	2171.49	1085.62	2.4	2068.	12093.	1.4	EU-152
34C	2179.16	1089.46	2.4	2079.	2167.	3.3	
35C	2215.32	1107.56	2.4	2150.	730.	11.7	
36C	2223.94	1111.88	2.4	2370.	15072.	1.2	TE-129,EU-152
37	2425.54	1212.81	2.5	1158.	1385.	4.9	
38	2597.94	1299.14	2.4	537.	1448.	3.7	I-133
39C	2806.51	1403.61	2.6	426.	804.	5.7	
40C	2815.63	1408.18	2.6	643.	18724.	0.8	EU-152,BI-214, SCH-000
41C	2914.57	1457.74	2.6	106.	459.	6.5	I-135
42C	2921.27	1461.10	2.6	86.	267.	8.9	K-40
3	3056.71	1528.95	3.6	97.	479.	5.9	KR-88

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

12 Multiplets processed.

. - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

ENERGY RECALIBRATION REPORT

Old Calibration Coefficients:

Energy = 2.494007E-07*Ch^2 + 4.995148E-01*Ch +-2.470095E-01

New Calibration Coefficients:

Energy = 2.522740E-07*Ch^2 + 4.994586E-01*Ch +-1.037588E-01

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3/8/96

0↕♥♠ Daily Source check

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*                                                                   *
*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 08:57:29

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels from MCA Region FULL
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Spectral data read directly from Multichannel Analyzer AN0
Analyzed by:

Sample Description:
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.8840E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 08:38:09

COLLECT Live Time: 600. seconds
Real Time: 754. seconds
Dead Time: 20.42 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

h~rw 08-MAR-96 08:57:29

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	79.00	39.36	1.9	18757.	3009.	8.8	
2C	90.80	45.25	1.9	15350.	1334.	10.5	
3$	169.08	84.35	3.6	46169.	1896.	16.5	
4$	175.10	87.36	3.6	50631.	1875.	16.6	PB-214,CD-109
5?	233.65	116.61	1.8	22061.	4840.	24.6	
6?	243.41	121.48	1.8	20488.	91897.	1.4	SE-75,SCL-000, CO-57
7$	479.58	239.49	1.8	7959.	855.	16.0	PB-212
8$	489.25	244.32	1.8	7538.	17262.	2.4	
9$	493.87	246.62	1.8	7337.	1202.	14.4	
10	591.67	295.50	1.7	5065.	853.	13.6	PB-214
11?	678.70	338.99	1.9	5295.	1561.	18.7	AC-228
12?	688.44	343.86	1.9	5907.	43958.	0.9	BA-141, SCM-000
13	735.50	367.38	2.4	2918.	1448.	6.3	
14C	822.12	410.68	1.9	3130.	2819.	5.4	
15	887.74	443.48	1.9	3378.	3607.	3.1	
16	977.39	488.30	1.6	2472.	477.	16.7	
17$	1127.78	563.50	1.8	2561.	392.	23.0	CS-134,SB-122
18	1171.64	585.43	2.9	2847.	370.	23.9	
19	1377.24	688.25	2.5	1730.	679.	10.0	
20	1438.85	719.06	2.1	2145.	266.	28.2	
21C	1547.90	773.61	2.2	2556.	220.	29.2	W-187,TE131M
22C	1557.51	778.42	2.2	2570.	9367.	1.9	MO-99
23	1734.45	866.94	2.0	2428.	2608.	3.8	
24?	1918.79	959.18	2.3	1470.	303.	23.3	
25?	1927.76	963.67	2.3	1470.	9105.	1.7	EU-152
26	2009.72	1004.69	1.9	1008.	418.	13.5	
27C	2171.33	1085.58	2.2	1291.	5690.	1.9	EU-152
28C	2178.83	1089.33	2.2	1106.	1025.	4.7	
29C	2214.50	1107.18	2.4	928.	443.	9.4	
30C	2223.76	1111.82	2.4	930.	7645.	1.8	TE-129,EU-152
31C	2231.03	1115.46	2.4	932.	294.	14.5	ZN-65
32	2425.34	1212.74	2.2	578.	621.	7.4	
33	2597.69	1299.04	2.4	318.	665.	5.9	I-133
34C	2806.42	1403.57	2.5	220.	400.	9.0	
35C	2815.77	1408.26	2.5	361.	9362.	1.2	EU-152,BI-214, SCH-000
36	2914.72	1457.82	1.8	116.	227.	10.4	I-135
37	3057.35	1529.27	3.5	29.	274.	7.0	KR-88

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

12 Multiplets processed.

C - Multiplet Analysis converged normally
$ - Multiplet Analysis Terminated because of no CHI-SQ improvement
? - Multiplet Analysis converged but GFIT > 4

hgtrw 08-MAR-96 08:57:29

ple:
Data collected on 08-MAR-96 at 08:38:09
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.89E+01		LLD<2.89E+01	
TH-234	LLD<2.20E+02		LLD<2.20E+02	
TH-230	LLD<1.83E+03		LLD<1.83E+03	
XE-133	LLD<1.31E+01		LLD<1.31E+01	
CD-109	2.58E+02	+- 4.31E+01	2.58E+02	+- 4.31E+01
SCL-000	9.69E+02	+- 1.49E+01	9.69E+02	+- 1.49E+01
CO-57	3.22E+02	+- 4.94E+00	3.22E+02	+- 4.94E+00
PA-234	LLD<9.15E+00		LLD<9.15E+00	
CE-144	LLD<1.64E+01		LLD<1.64E+01	
TC-99M	LLD<1.94E+00		LLD<1.94E+00	
U-235	LLD<1.57E+01		LLD<1.57E+01	
CE-141	LLD<3.57E+00		LLD<3.57E+00	
KR-85M	LLD<2.35E+00		LLD<2.35E+00	
XE-131M	LLD<8.80E+01		LLD<8.80E+01	
[illegible]-139	LLD<1.08E+01		LLD<1.08E+01	
[illegible]-139	LLD<2.16E+00		LLD<2.16E+00	
RA-226	LLD<5.26E+01		LLD<5.26E+01	
BA-141	LLD<4.46E+00		LLD<4.46E+00	
KR-89	LLD<2.71E+01		LLD<2.71E+01	
TE-132	LLD<2.16E+00		LLD<2.16E+00	
XE-133M	LLD<1.90E+01		LLD<1.90E+01	
TH-227	LLD<1.37E+01		LLD<1.37E+01	
PB-212	7.62E+00	+- 1.22E+00	7.62E+00	+- 1.22E+00
RA-224	LLD<9.04E+01		LLD<9.04E+01	
XE-135	LLD<3.54E+00		LLD<3.54E+00	
XE-138	LLD<8.23E+00		LLD<8.23E+00	
SE-75	LLD<3.21E+00		LLD<3.21E+00	
NP-239	LLD<1.39E+01		LLD<1.39E+01	
HG-203	LLD<2.53E+00		LLD<2.53E+00	
IR-192	LLD<2.38E+00		LLD<2.38E+00	
CR-51	LLD<2.04E+01		LLD<2.04E+01	
SCM-000	9.26E+02	+- 1.14E+01	9.26E+02	+- 1.14E+01
BI-211	LLD<9.19E+01		LLD<9.19E+01	
PB-214	LLD<7.20E+00		LLD<7.20E+00	
BA-133	LLD<3.08E+00		LLD<3.08E+00	
I-131	LLD<2.64E+00		LLD<2.64E+00	
SN-113	LLD<2.95E+00		LLD<2.95E+00	
KR-87	LLD<4.27E+00		LLD<4.27E+00	
PB-211	LLD<8.52E+01		LLD<8.52E+01	
AU-198	LLD<2.17E+00		LLD<2.17E+00	
[illegible]-125	LLD<6.92E+00		LLD<6.92E+00	
[illegible]-212	LLD<6.65E+02		LLD<6.65E+02	
BE-7	LLD<2.29E+01		LLD<2.29E+01	
HF-181	LLD<2.74E+00		LLD<2.74E+00	
RU-103	LLD<2.86E+00		LLD<2.86E+00	
KR-85	LLD<5.47E+02		LLD<5.47E+02	

SR-85	LLD<2.39E+00	LLD<2.39E+00
I-133	LLD<2.85E+00	LLD<2.85E+00
BA-140	LLD<1.01E+01	LLD<1.01E+01
[illegible]91M	LLD<3.27E+00	LLD<3.27E+00
[illegible]-207	LLD<3.13E+00	LLD<3.13E+00
TL-208	LLD<1.08E+01	LLD<1.08E+01
SB-124	LLD<2.72E+00	LLD<2.72E+00
CS-134	LLD<2.87E+00	LLD<2.87E+00
BI-214	LLD<7.12E+00	LLD<7.12E+00
RU-106	LLD<2.71E+01	LLD<2.71E+01
LA-142	LLD<5.83E+00	LLD<5.83E+00
AG-110M	LLD<3.03E+00	LLD<3.03E+00
NB-97	LLD<3.09E+00	LLD<3.09E+00
CS-137	LLD<3.38E+00	LLD<3.38E+00
I-132	LLD<3.27E+00	LLD<3.27E+00
W-187	LLD<1.06E+01	LLD<1.06E+01
ZR-97	LLD<3.30E+00	LLD<3.30E+00
ZR-95	LLD<6.17E+00	LLD<6.17E+00
NB-95	LLD<3.36E+00	LLD<3.36E+00
TL-210	LLD<2.27E+01	LLD<2.27E+01
CO-58	LLD<3.32E+00	LLD<3.32E+00
CS-136	LLD<3.36E+00	LLD<3.36E+00
MN-54	LLD<3.38E+00	LLD<3.38E+00
CO-56	LLD<3.49E+00	LLD<3.49E+00
I-134	LLD<3.94E+00	LLD<3.94E+00
TL-207	LLD<3.07E+03	LLD<3.07E+03
Y-88	LLD<3.84E+00	LLD<3.84E+00
AC-228	LLD<1.20E+01	LLD<1.20E+01
[illegible]-152	9.76E+02 +- 2.02E+01	9.76E+02 +- 2.02E+01
[illegible]-234M	LLD<4.50E+01	LLD<4.50E+01
SR-91	LLD<8.37E+00	LLD<8.37E+00
RB-89	LLD<6.67E+00	LLD<6.67E+00
FE-59	LLD<5.19E+00	LLD<5.19E+00
ZN-65	1.01E+01 +- 1.46E+00	1.01E+01 +- 1.46E+00
SC-46	LLD<3.97E+00	LLD<3.97E+00
TA-182	LLD<1.00E+01	LLD<1.00E+01
I-135	LLD<8.05E+00	LLD<8.05E+00
CL-39	LLD<5.17E+00	LLD<5.17E+00
NA-22	LLD<2.14E+00	LLD<2.14E+00
AR-41	LLD<3.84E+00	LLD<3.84E+00
CO-60	LLD<1.28E+00	LLD<1.28E+00
NA-24	LLD<1.32E+00	LLD<1.32E+00
SR-92	LLD<1.48E+00	LLD<1.48E+00
SCH-000	9.15E+02 +- 1.81E+01	9.15E+02 +- 1.81E+01
CS-138	LLD<1.34E+00	LLD<1.34E+00
K-40	LLD<9.55E+00	LLD<9.55E+00
KR-88	LLD<7.20E+00	LLD<7.20E+00
TL-209	LLD<2.18E+00	LLD<2.18E+00
LA-140	LLD<5.35E-01	LLD<5.35E-01
AL-26	LLD<2.46E-01	LLD<2.46E-01
MN-56	LLD<1.38E+00	LLD<1.38E+00
RB-88	LLD<2.17E+00	LLD<2.17E+00
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Total	4.38E+03 +- 5.46E+01	4.38E+03 +- 5.46E+01

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

PEAKS NOT USED IN ANALYSIS

ıtroid channel	Energy keV	Net Area counts	Error %	Gammas/sec
79.00	39.36	3009.	8.8	1.26E+04
90.80	45.25	1334.	10.5	2.65E+03
169.08	84.35	1896.	16.5	3.54E+02
233.65	116.61	4840.	24.6	5.00E+02
489.25	244.32	17262.	2.4	2.36E+03
493.87	246.62	1202.	14.4	1.65E+02
591.67	295.50	853.	13.6	1.37E+02
678.70	338.99	1561.	18.7	2.84E+02
735.50	367.38	1448.	6.3	2.84E+02
822.12	410.68	2819.	5.4	6.18E+02
887.74	443.48	3607.	3.1	8.54E+02
977.39	488.30	477.	16.7	1.25E+02
1127.78	563.50	392.	23.0	1.19E+02
1171.64	585.43	370.	23.9	1.17E+02
1377.24	688.25	679.	10.0	2.52E+02
1438.85	719.06	266.	28.2	1.03E+02
1547.90	773.61	220.	29.2	9.16E+01
1557.51	778.42	9367.	1.9	3.92E+03
1734.45	866.94	2608.	3.8	1.21E+03
1918.79	959.18	303.	23.3	1.53E+02
2009.72	1004.69	418.	13.5	2.20E+02
2178.83	1089.33	1025.	4.7	5.75E+02
214.50	1107.18	443.	9.4	2.52E+02
425.34	1212.74	621.	7.4	3.77E+02
2597.69	1299.04	665.	5.9	4.23E+02
2806.42	1403.57	400.	9.0	2.67E+02
2914.72	1457.82	227.	10.4	1.54E+02
3057.35	1529.27	274.	7.0	1.91E+02

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*            G A M M A   S P E C T R U M   A N A L Y S I S            *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 09:30:07

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0107
Measured by: dlv

Sample Description: G-1, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.7800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 09:11:59

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 09:30:07

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.04	238.22	1.3	70.	169.	11.0	PB-212
2	589.79	294.56	2.2	37.	23.	48.6	PB-214
3	643.06	321.18	0.7	15.	17.	41.9	
4	675.65	337.47	1.7	21.	45.	21.9	AC-228
5	703.72	351.50	1.5	13.	78.	13.6	BI-211,PB-214
6	773.22	386.24	2.0	12.	17.	40.8	
7	1165.68	582.45	1.5	16.	30.	27.4	TL-208
8	1217.24	608.23	0.9	6.	32.	21.4	XE-135
9	2919.51	1460.22	3.3	0.	91.	10.5	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 08-MAR-96 09:30:07

ıple: G-1, Soil Composite
ıta collected on 08-MAR-96 at 09:11:59
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.69E+00		LLD<3.69E+00	
TH-234	LLD<2.94E+01		LLD<2.94E+01	
TH-230	LLD<2.25E+02		LLD<2.25E+02	
XE-133	LLD<1.74E+00		LLD<1.74E+00	
CD-109	LLD<1.13E+01		LLD<1.13E+01	
SCL-000	LLD<7.21E-01		LLD<7.21E-01	
CO-57	LLD<2.39E-01		LLD<2.39E-01	
PA-234	LLD<1.01E+00		LLD<1.01E+00	
CE-144	LLD<1.96E+00		LLD<1.96E+00	
TC-99M	LLD<2.38E-01		LLD<2.38E-01	
U-235	LLD<1.54E+00		LLD<1.54E+00	
CE-141	LLD<4.10E-01		LLD<4.10E-01	
KR-85M	LLD<2.35E-01		LLD<2.35E-01	
XE-131M	LLD<8.70E+00		LLD<8.70E+00	
[illegible]-139	LLD<1.07E+00		LLD<1.07E+00	
[illegible]139	LLD<2.17E-01		LLD<2.17E-01	
RA-226	LLD<4.93E+00		LLD<4.93E+00	
BA-141	LLD<5.29E-01		LLD<5.29E-01	
KR-89	LLD<2.68E+00		LLD<2.68E+00	
TE-132	LLD<2.64E-01		LLD<2.64E-01	
XE-133M	LLD<3.24E+00		LLD<3.24E+00	
TH-227	LLD<1.94E+00		LLD<1.94E+00	
PB-212	1.98E+00	+- 2.20E-01	1.98E+00	+- 2.20E-01
RA-224	LLD<7.37E+00		LLD<7.37E+00	
XE-135	LLD<2.30E-01		LLD<2.30E-01	
XE-138	LLD<8.69E-01		LLD<8.69E-01	
SE-75	LLD<3.56E-01		LLD<3.56E-01	
NP-239	LLD<1.50E+00		LLD<1.50E+00	
HG-203	LLD<2.72E-01		LLD<2.72E-01	
IR-192	LLD<3.11E-01		LLD<3.11E-01	
CR-51	LLD<2.43E+00		LLD<2.43E+00	
SCM-000	LLD<1.07E+00		LLD<1.07E+00	
BI-211	1.53E+01	+- 2.08E+00	1.53E+01	+- 2.08E+00
PB-214	1.79E+00	+- 2.43E-01	1.79E+00	+- 2.43E-01
BA-133	LLD<7.11E-01		LLD<7.11E-01	
I-131	LLD<2.70E-01		LLD<2.70E-01	
SN-113	LLD<3.89E-01		LLD<3.89E-01	
KR-87	LLD<5.77E-01		LLD<5.77E-01	
PB-211	LLD<9.41E+00		LLD<9.41E+00	
AU-198	LLD<2.38E-01		LLD<2.38E-01	
[illegible]-125	LLD<7.47E-01		LLD<7.47E-01	
[illegible]-212	LLD<7.32E+01		LLD<7.32E+01	
BE-7	LLD<2.38E+00		LLD<2.38E+00	
HF-181	LLD<2.67E-01		LLD<2.67E-01	
RU-103	LLD<3.28E-01		LLD<3.28E-01	
KR-85	LLD<7.95E+01		LLD<7.95E+01	

SR-85	LLD<3.48E-01	LLD<3.48E-01
I-133	LLD<2.84E-01	LLD<2.84E-01
BA-140	LLD<1.05E+00	LLD<1.05E+00
91M	LLD<2.84E-01	LLD<2.84E-01
-207	LLD<2.75E-01	LLD<2.75E-01
TL-208	LLD<1.19E+00	LLD<1.19E+00
SB-124	LLD<3.19E-01	LLD<3.19E-01
CS-134	LLD<5.41E-01	LLD<5.41E-01
BI-214	LLD<8.10E-01	LLD<8.10E-01
RU-106	LLD<3.11E+00	LLD<3.11E+00
LA-142	LLD<5.98E-01	LLD<5.98E-01
AG-110M	LLD<3.63E-01	LLD<3.63E-01
NB-97	LLD<3.66E-01	LLD<3.66E-01
CS-137	LLD<4.20E-01	LLD<4.20E-01
I-132	LLD<3.37E-01	LLD<3.37E-01
W-187	LLD<1.04E+00	LLD<1.04E+00
ZR-97	LLD<3.41E-01	LLD<3.41E-01
ZR-95	LLD<4.91E-01	LLD<4.91E-01
NB-95	LLD<3.42E-01	LLD<3.42E-01
TL-210	LLD<2.27E+00	LLD<2.27E+00
CO-58	LLD<3.52E-01	LLD<3.52E-01
CS-136	LLD<3.13E-01	LLD<3.13E-01
MN-54	LLD<3.71E-01	LLD<3.71E-01
CO-56	LLD<3.35E-01	LLD<3.35E-01
I-134	LLD<4.09E-01	LLD<4.09E-01
TL-207	LLD<3.13E+02	LLD<3.13E+02
Y-88	LLD<4.26E-01	LLD<4.26E-01
AC-228	LLD<1.84E+00	LLD<1.84E+00
EU-152	LLD<4.21E+00	LLD<4.21E+00
-234M	LLD<3.72E+00	LLD<3.72E+00
-91	LLD<7.89E-01	LLD<7.89E-01
RB-89	LLD<7.99E-01	LLD<7.99E-01
FE-59	LLD<9.07E-01	LLD<9.07E-01
ZN-65	LLD<9.70E-01	LLD<9.70E-01
SC-46	LLD<4.30E-01	LLD<4.30E-01
TA-182	LLD<1.29E+00	LLD<1.29E+00
I-135	LLD<1.61E+00	LLD<1.61E+00
CL-39	LLD<1.02E+00	LLD<1.02E+00
NA-22	LLD<4.96E-01	LLD<4.96E-01
AR-41	LLD<4.95E-01	LLD<4.95E-01
CO-60	LLD<3.70E-01	LLD<3.70E-01
NA-24	LLD<5.15E-01	LLD<5.15E-01
SR-92	LLD<4.50E-01	LLD<4.50E-01
SCH-000	LLD<1.42E+00	LLD<1.42E+00
CS-138	LLD<6.24E-01	LLD<6.24E-01
K-40	2.32E+01 +- 2.47E+00	2.32E+01 +- 2.47E+00
KR-88	LLD<2.98E+00	LLD<2.98E+00
TL-209	LLD<1.15E+00	LLD<1.15E+00
LA-140	LLD<3.68E-01	LLD<3.68E-01
AL-26	LLD<3.46E-01	LLD<3.46E-01
MN-56	LLD<6.73E-01	LLD<6.73E-01
RB-88	LLD<1.85E+00	LLD<1.85E+00
	---	---
Total	4.22E+01 +- 3.24E+00	4.22E+01 +- 3.24E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0107

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
589.79	294.56	23.	48.6	3.61E+00
643.06	321.18	17.	41.9	2.93E+00
675.65	337.47	45.	21.9	8.14E+00
773.22	386.24	17.	40.8	3.43E+00
1165.68	582.45	30.	27.4	9.56E+00
1217.24	608.23	32.	21.4	1.05E+01

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G-2

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*                                                                     *
*            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 09:45:35

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0108
Measured by: dlv

Sample Description: G-2, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 8.1400E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 09:32:23

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 09:45:35

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.10	238.24	1.5	59.	139.	12.0	PB-212
2	703.42	351.35	1.9	24.	72.	16.3	BI-211,PB-214
3	1218.32	608.77	1.1	11.	51.	17.7	XE-135,BI-214
4	1555.30	777.32	1.4	4.	8.	53.4	BR-82,MO-99
5	1820.63	910.06	1.2	3.	26.	22.3	
6	2919.59	1460.26	2.0	4.	93.	11.1	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 08-MAR-96 09:45:35

Sample: G-2, Soil Composite
:a collected on 08-MAR-96 at 09:32:23
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.05E+00		LLD<3.05E+00	
TH-234	LLD<2.00E+01		LLD<2.00E+01	
TH-230	LLD<1.85E+02		LLD<1.85E+02	
XE-133	LLD<1.41E+00		LLD<1.41E+00	
CD-109	LLD<9.25E+00		LLD<9.25E+00	
SCL-000	LLD<6.47E-01		LLD<6.47E-01	
CO-57	LLD<2.15E-01		LLD<2.15E-01	
PA-234	LLD<8.15E-01		LLD<8.15E-01	
CE-144	LLD<1.73E+00		LLD<1.73E+00	
TC-99M	LLD<1.68E-01		LLD<1.68E-01	
U-235	LLD<1.52E+00		LLD<1.52E+00	
CE-141	LLD<3.41E-01		LLD<3.41E-01	
KR-85M	LLD<2.09E-01		LLD<2.09E-01	
XE-131M	LLD<7.47E+00		LLD<7.47E+00	
BA-139	LLD<8.82E-01		LLD<8.82E-01	
[illegible]-139	LLD<1.79E-01		LLD<1.79E-01	
[illegible]-226	LLD<4.53E+00		LLD<4.53E+00	
BA-141	LLD<4.24E-01		LLD<4.24E-01	
KR-89	LLD<2.02E+00		LLD<2.02E+00	
TE-132	LLD<1.88E-01		LLD<1.88E-01	
XE-133M	LLD<2.34E+00		LLD<2.34E+00	
TH-227	LLD<1.61E+00		LLD<1.61E+00	
PB-212	1.35E+00	+- 1.64E-01	1.35E+00	+- 1.64E-01
RA-224	LLD<4.92E+00		LLD<4.92E+00	
XE-135	LLD<1.85E-01		LLD<1.85E-01	
XE-138	LLD<6.74E-01		LLD<6.74E-01	
SE-75	LLD<2.71E-01		LLD<2.71E-01	
NP-239	LLD<1.38E+00		LLD<1.38E+00	
HG-203	LLD<2.35E-01		LLD<2.35E-01	
IR-192	LLD<2.28E-01		LLD<2.28E-01	
CR-51	LLD<1.79E+00		LLD<1.79E+00	
SCM-000	LLD<7.61E-01		LLD<7.61E-01	
BI-211	1.17E+01	+- 1.90E+00	1.17E+01	+- 1.90E+00
PB-214	1.37E+00	+- 2.22E-01	1.37E+00	+- 2.22E-01
BA-133	LLD<6.05E-01		LLD<6.05E-01	
I-131	LLD<2.18E-01		LLD<2.18E-01	
SN-113	LLD<2.87E-01		LLD<2.87E-01	
KR-87	LLD<4.21E-01		LLD<4.21E-01	
PB-211	LLD<7.04E+00		LLD<7.04E+00	
AU-198	LLD<2.01E-01		LLD<2.01E-01	
SB-125	LLD<6.89E-01		LLD<6.89E-01	
[illegible]-212	LLD<6.04E+01		LLD<6.04E+01	
[illegible]-7	LLD<1.97E+00		LLD<1.97E+00	
HF-181	LLD<2.55E-01		LLD<2.55E-01	
RU-103	LLD<2.13E-01		LLD<2.13E-01	
KR-85	LLD<7.59E+01		LLD<7.59E+01	

SR-85	LLD<3.32E-01	LLD<3.32E-01
I-133	LLD<2.29E-01	LLD<2.29E-01
BA-140	LLD<9.80E-01	LLD<9.80E-01
Y 91M	LLD<2.56E-01	LLD<2.56E-01
207	LLD<2.20E-01	LLD<2.20E-01
-208	LLD<1.03E+00	LLD<1.03E+00
SB-124	LLD<3.27E-01	LLD<3.27E-01
CS-134	LLD<5.69E-01	LLD<5.69E-01
BI-214	1.41E+00 +- 2.51E-01	1.41E+00 +- 2.51E-01
RU-106	LLD<2.26E+00	LLD<2.26E+00
LA-142	LLD<4.99E-01	LLD<4.99E-01
AG-110M	LLD<2.93E-01	LLD<2.93E-01
NB-97	LLD<2.95E-01	LLD<2.95E-01
CS-137	LLD<3.18E-01	LLD<3.18E-01
I-132	LLD<2.83E-01	LLD<2.83E-01
W-187	LLD<6.93E-01	LLD<6.93E-01
ZR-97	LLD<2.42E-01	LLD<2.42E-01
ZR-95	LLD<5.23E-01	LLD<5.23E-01
NB-95	LLD<3.09E-01	LLD<3.09E-01
TL-210	LLD<1.68E+00	LLD<1.68E+00
CO-58	LLD<2.75E-01	LLD<2.75E-01
CS-136	LLD<2.44E-01	LLD<2.44E-01
MN-54	LLD<3.39E-01	LLD<3.39E-01
CO-56	LLD<2.46E-01	LLD<2.46E-01
I-134	LLD<2.75E-01	LLD<2.75E-01
TL-207	LLD<2.90E+02	LLD<2.90E+02
Y-88	LLD<3.99E-01	LLD<3.99E-01
AC-228	LLD<1.37E+00	LLD<1.37E+00
EU-152	LLD<3.55E+00	LLD<3.55E+00
234M	LLD<3.51E+00	LLD<3.51E+00
91	LLD<1.17E+00	LLD<1.17E+00
RB-89	LLD<8.32E-01	LLD<8.32E-01
FE-59	LLD<7.64E-01	LLD<7.64E-01
ZN-65	LLD<8.50E-01	LLD<8.50E-01
SC-46	LLD<4.17E-01	LLD<4.17E-01
TA-182	LLD<1.28E+00	LLD<1.28E+00
I-135	LLD<1.36E+00	LLD<1.36E+00
CL-39	LLD<7.01E-01	LLD<7.01E-01
NA-22	LLD<2.51E-01	LLD<2.51E-01
AR-41	LLD<4.98E-01	LLD<4.98E-01
CO-60	LLD<3.70E-01	LLD<3.70E-01
NA-24	LLD<4.49E-01	LLD<4.49E-01
SR-92	LLD<3.27E-01	LLD<3.27E-01
SCH-000	LLD<1.40E+00	LLD<1.40E+00
CS-138	LLD<4.47E-01	LLD<4.47E-01
K-40	1.97E+01 +- 2.21E+00	1.97E+01 +- 2.21E+00
KR-88	LLD<2.19E+00	LLD<2.19E+00
TL-209	LLD<1.17E+00	LLD<1.17E+00
LA-140	LLD<3.86E-01	LLD<3.86E-01
AL-26	LLD<3.03E-01	LLD<3.03E-01
MN-56	LLD<6.87E-01	LLD<6.87E-01
RB-88	LLD<1.54E+00	LLD<1.54E+00
	---	---
Total	3.55E+01 +- 2.94E+00	3.55E+01 +- 2.94E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0108

PEAKS NOT USED IN ANALYSIS

Centroid ınnel	Energy keV	Net Area counts	Error %	Gammas/sec
1555.30	777.32	8.	53.4	3.29E+00
1820.63	910.06	26.	22.3	1.26E+01

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G-3

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 10:00:34

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0109
Measured by: dlv

Sample Description: G-3, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.6500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 09:46:48

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 10:00:34

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.12	238.26	1.4	55.	141.	12.0	PB-212
2	590.53	294.93	1.9	21.	33.	28.0	PB-214
3	675.66	337.48	0.7	11.	29.	25.6	AC-228
4	704.00	351.64	1.6	18.	63.	16.3	BI-211,PB-214
5	1165.33	582.27	2.0	6.	37.	18.8	TL-208
6	1217.71	608.47	2.4	7.	39.	19.0	XE-135,BI-214
7	1936.78	968.19	0.8	10.	11.	53.4	AC-228
8	2919.83	1460.38	1.8	4.	74.	12.5	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 08-MAR-96 10:00:34

Sample: G-3, Soil Composite
Data collected on 08-MAR-96 at 09:46:48
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.20E+00		LLD<3.20E+00	
TH-234	LLD<2.51E+01		LLD<2.51E+01	
TH-230	LLD<2.13E+02		LLD<2.13E+02	
XE-133	LLD<1.58E+00		LLD<1.58E+00	
CD-109	LLD<1.15E+01		LLD<1.15E+01	
SCL-000	LLD<7.35E-01		LLD<7.35E-01	
CO-57	LLD<2.44E-01		LLD<2.44E-01	
PA-234	LLD<1.01E+00		LLD<1.01E+00	
CE-144	LLD<1.52E+00		LLD<1.52E+00	
TC-99M	LLD<2.01E-01		LLD<2.01E-01	
U-235	LLD<1.66E+00		LLD<1.66E+00	
CE-141	LLD<3.88E-01		LLD<3.88E-01	
KR-85M	LLD<2.62E-01		LLD<2.62E-01	
XE-131M	LLD<7.77E+00		LLD<7.77E+00	
BA-139	LLD<9.24E-01		LLD<9.24E-01	
[illegible]-139	LLD<1.88E-01		LLD<1.88E-01	
[illegible]-226	LLD<5.95E+00		LLD<5.95E+00	
BA-141	LLD<5.52E-01		LLD<5.52E-01	
KR-89	LLD<2.08E+00		LLD<2.08E+00	
TE-132	LLD<2.19E-01		LLD<2.19E-01	
XE-133M	LLD<2.97E+00		LLD<2.97E+00	
TH-227	LLD<1.63E+00		LLD<1.63E+00	
PB-212	1.68E+00	+- 2.03E-01	1.68E+00	+- 2.03E-01
RA-224	LLD<6.95E+00		LLD<6.95E+00	
XE-135	LLD<2.26E-01		LLD<2.26E-01	
XE-138	LLD<8.37E-01		LLD<8.37E-01	
SE-75	LLD<3.56E-01		LLD<3.56E-01	
NP-239	LLD<1.47E+00		LLD<1.47E+00	
HG-203	LLD<2.74E-01		LLD<2.74E-01	
IR-192	LLD<2.50E-01		LLD<2.50E-01	
CR-51	LLD<2.42E+00		LLD<2.42E+00	
SCM-000	LLD<1.01E+00		LLD<1.01E+00	
BI-211	1.26E+01	+- 2.06E+00	1.26E+01	+- 2.06E+00
PB-214	1.47E+00	+- 2.40E-01	1.47E+00	+- 2.40E-01
BA-133	LLD<7.19E-01		LLD<7.19E-01	
I-131	LLD<2.68E-01		LLD<2.68E-01	
SN-113	LLD<3.16E-01		LLD<3.16E-01	
KR-87	LLD<4.53E-01		LLD<4.53E-01	
PB-211	LLD<9.57E+00		LLD<9.57E+00	
AU-198	LLD<2.54E-01		LLD<2.54E-01	
[illegible]-125	LLD<8.78E-01		LLD<8.78E-01	
[illegible]-212	LLD<7.75E+01		LLD<7.75E+01	
[illegible]-7	LLD<2.33E+00		LLD<2.33E+00	
HF-181	LLD<2.30E-01		LLD<2.30E-01	
RU-103	LLD<2.46E-01		LLD<2.46E-01	
KR-85	LLD<7.31E+01		LLD<7.31E+01	

SR-85	LLD<3.20E-01		LLD<3.20E-01		
I-133	LLD<3.03E-01		LLD<3.03E-01		
BA-140	LLD<1.02E+00		LLD<1.02E+00		
Y 91M	LLD<2.94E-01		LLD<2.94E-01		
207	LLD<2.50E-01		LLD<2.50E-01		
TL-208	LLD<1.13E+00		LLD<1.13E+00		
SB-124	LLD<3.62E-01		LLD<3.62E-01		
CS-134	LLD<6.12E-01		LLD<6.12E-01		
BI-214	1.33E+00	+- 2.55E-01	1.33E+00	+-	2.55E-01
RU-106	LLD<3.05E+00		LLD<3.05E+00		
LA-142	LLD<5.61E-01		LLD<5.61E-01		
AG-110M	LLD<3.49E-01		LLD<3.49E-01		
NB-97	LLD<3.52E-01		LLD<3.52E-01		
CS-137	LLD<4.10E-01		LLD<4.10E-01		
I-132	LLD<3.07E-01		LLD<3.07E-01		
W-187	LLD<8.75E-01		LLD<8.75E-01		
ZR-97	LLD<3.98E-01		LLD<3.98E-01		
ZR-95	LLD<4.90E-01		LLD<4.90E-01		
NB-95	LLD<3.17E-01		LLD<3.17E-01		
TL-210	LLD<1.76E+00		LLD<1.76E+00		
CO-58	LLD<3.11E-01		LLD<3.11E-01		
CS-136	LLD<3.62E-01		LLD<3.62E-01		
MN-54	LLD<3.73E-01		LLD<3.73E-01		
CO-56	LLD<3.94E-01		LLD<3.94E-01		
I-134	LLD<4.47E-01		LLD<4.47E-01		
TL-207	LLD<2.24E+02		LLD<2.24E+02		
Y-88	LLD<3.42E-01		LLD<3.42E-01		
AC-228	LLD<1.41E+00		LLD<1.41E+00		
EU-152	LLD<4.35E+00		LLD<4.35E+00		
234M	LLD<2.98E+00		LLD<2.98E+00		
91	LLD<1.39E+00		LLD<1.39E+00		
RB-89	LLD<8.32E-01		LLD<8.32E-01		
FE-59	LLD<6.70E-01		LLD<6.70E-01		
ZN-65	LLD<1.09E+00		LLD<1.09E+00		
SC-46	LLD<5.48E-01		LLD<5.48E-01		
TA-182	LLD<1.47E+00		LLD<1.47E+00		
I-135	LLD<1.29E+00		LLD<1.29E+00		
CL-39	LLD<1.09E+00		LLD<1.09E+00		
NA-22	LLD<4.26E-01		LLD<4.26E-01		
AR-41	LLD<4.36E-01		LLD<4.36E-01		
CO-60	LLD<2.92E-01		LLD<2.92E-01		
NA-24	LLD<2.96E-01		LLD<2.96E-01		
SR-92	LLD<5.70E-01		LLD<5.70E-01		
SCH-000	LLD<7.83E-01		LLD<7.83E-01		
CS-138	LLD<4.31E-01		LLD<4.31E-01		
K-40	1.92E+01	+- 2.43E+00	1.92E+01	+-	2.43E+00
KR-88	LLD<3.20E+00		LLD<3.20E+00		
TL-209	LLD<7.98E-01		LLD<7.98E-01		
LA-140	LLD<3.05E-01		LLD<3.05E-01		
AL-26	LLD<2.56E-01		LLD<2.56E-01		
MN-56	LLD<1.39E+00		LLD<1.39E+00		
RB-88	LLD<1.45E+00		LLD<1.45E+00		
	---		---		
Total	3.63E+01	+- 3.21E+00	3.63E+01	+-	3.21E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0109

PEAKS NOT USED IN ANALYSIS

Centroid nnel	Energy keV	Net Area counts	Error %	Gammas/sec
590.53	294.93	33.	28.0	5.27E+00
675.66	337.48	29.	25.6	5.24E+00
1165.33	582.27	37.	18.8	1.17E+01
1936.78	968.19	11.	53.4	5.86E+00

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G-4

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            G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                    *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 10:20:58

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

ular Output.
nalysis of Spectrum saved in Disk File SD0110
Measured by: dlv

Sample Description: G-4, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.5500E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 10:02:03

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 10:20:58

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.21	238.30	1.0	93.	153.	13.0	PB-212
2	590.54	294.93	1.7	29.	56.	19.6	PB-214
3	703.78	351.53	1.2	34.	56.	21.6	BI-211,PB-214
4	1020.72	509.97	0.8	11.	22.	33.2	TL-208
5C	1166.32	582.77	2.5	12.	32.	24.7	TL-208
6	1217.96	608.59	1.8	17.	36.	25.2	XE-135,BI-214
7	1453.52	726.40	1.0	6.	14.	38.5	BI-212
8	1821.04	910.27	3.1	10.	31.	24.1	AC-228
9	2919.95	1460.44	1.9	9.	75.	13.6	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 08-MAR-96 10:20:58

ple: G-4, Soil Composite
a collected on 08-MAR-96 at 10:02:03
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.88E+00		LLD<2.88E+00	
TH-234	LLD<2.43E+01		LLD<2.43E+01	
TH-230	LLD<2.08E+02		LLD<2.08E+02	
XE-133	LLD<1.64E+00		LLD<1.64E+00	
CD-109	LLD<1.24E+01		LLD<1.24E+01	
SCL-000	LLD<7.28E-01		LLD<7.28E-01	
CO-57	LLD<2.42E-01		LLD<2.42E-01	
PA-234	LLD<8.41E-01		LLD<8.41E-01	
CE-144	LLD<1.59E+00		LLD<1.59E+00	
TC-99M	LLD<2.32E-01		LLD<2.32E-01	
U-235	LLD<1.47E+00		LLD<1.47E+00	
CE-141	LLD<3.32E-01		LLD<3.32E-01	
KR-85M	LLD<2.50E-01		LLD<2.50E-01	
XE-131M	LLD<8.66E+00		LLD<8.66E+00	
BA-139	LLD<9.42E-01		LLD<9.42E-01	
[illegible]-139	LLD<1.91E-01		LLD<1.91E-01	
[illegible]-226	LLD<4.66E+00		LLD<4.66E+00	
BA-141	LLD<5.83E-01		LLD<5.83E-01	
KR-89	LLD<2.24E+00		LLD<2.24E+00	
TE-132	LLD<2.17E-01		LLD<2.17E-01	
XE-133M	LLD<2.77E+00		LLD<2.77E+00	
TH-227	LLD<1.80E+00		LLD<1.80E+00	
PB-212	1.61E+00	+- 2.10E-01	1.61E+00	+- 2.10E-01
RA-224	LLD<6.29E+00		LLD<6.29E+00	
XE-135	LLD<2.10E-01		LLD<2.10E-01	
XE-138	LLD<6.66E-01		LLD<6.66E-01	
SE-75	LLD<2.88E-01		LLD<2.88E-01	
NP-239	LLD<1.20E+00		LLD<1.20E+00	
HG-203	LLD<2.73E-01		LLD<2.73E-01	
IR-192	LLD<2.36E-01		LLD<2.36E-01	
CR-51	LLD<2.02E+00		LLD<2.02E+00	
SCM-000	LLD<1.03E+00		LLD<1.03E+00	
BI-211	9.84E+00	+- 2.13E+00	9.84E+00	+- 2.13E+00
PB-214	1.15E+00	+- 2.48E-01	1.15E+00	+- 2.48E-01
BA-133	LLD<7.17E-01		LLD<7.17E-01	
I-131	LLD<2.69E-01		LLD<2.69E-01	
SN-113	LLD<3.52E-01		LLD<3.52E-01	
KR-87	LLD<4.20E-01		LLD<4.20E-01	
PB-211	LLD<8.38E+00		LLD<8.38E+00	
AU-198	LLD<2.11E-01		LLD<2.11E-01	
[illegible]-125	LLD<7.70E-01		LLD<7.70E-01	
[illegible]-212	LLD<5.68E+01		LLD<5.68E+01	
BE-7	LLD<2.47E+00		LLD<2.47E+00	
HF-181	LLD<2.80E-01		LLD<2.80E-01	
RU-103	LLD<2.92E-01		LLD<2.92E-01	
KR-85	LLD<7.24E+01		LLD<7.24E+01	

SR-85	LLD<3.17E-01		LLD<3.17E-01		
I-133	LLD<2.16E-01		LLD<2.16E-01		
BA-140	LLD<9.02E-01		LLD<9.02E-01		
[illegible]91M	LLD<3.25E-01		LLD<3.25E-01		
[illegible]207	LLD<2.96E-01		LLD<2.96E-01		
[illegible]L-208	1.07E+00	+- 2.64E-01	1.07E+00	+-	2.64E-01
SB-124	LLD<3.18E-01		LLD<3.18E-01		
CS-134	LLD<5.81E-01		LLD<5.81E-01		
BI-214	1.10E+00	+- 2.77E-01	1.10E+00	+-	2.77E-01
RU-106	LLD<2.31E+00		LLD<2.31E+00		
LA-142	LLD<6.16E-01		LLD<6.16E-01		
AG-110M	LLD<2.94E-01		LLD<2.94E-01		
NB-97	LLD<2.97E-01		LLD<2.97E-01		
CS-137	LLD<3.12E-01		LLD<3.12E-01		
I-132	LLD<2.94E-01		LLD<2.94E-01		
W-187	LLD<8.80E-01		LLD<8.80E-01		
ZR-97	LLD<3.03E-01		LLD<3.03E-01		
ZR-95	LLD<5.80E-01		LLD<5.80E-01		
NB-95	LLD<3.03E-01		LLD<3.03E-01		
TL-210	LLD<2.10E+00		LLD<2.10E+00		
CO-58	LLD<3.12E-01		LLD<3.12E-01		
CS-136	LLD<2.38E-01		LLD<2.38E-01		
MN-54	LLD<3.83E-01		LLD<3.83E-01		
CO-56	LLD<3.66E-01		LLD<3.66E-01		
I-134	LLD<3.99E-01		LLD<3.99E-01		
TL-207	LLD<2.32E+02		LLD<2.32E+02		
Y-88	LLD<2.71E-01		LLD<2.71E-01		
AC-228	1.95E+00	+- 4.71E-01	1.95E+00	+-	4.71E-01
EU-152	LLD<3.62E+00		LLD<3.62E+00		
[illegible]234M	LLD<3.44E+00		LLD<3.44E+00		
[illegible]-91	LLD<1.17E+00		LLD<1.17E+00		
RB-89	LLD<7.17E-01		LLD<7.17E-01		
FE-59	LLD<6.30E-01		LLD<6.30E-01		
ZN-65	LLD<9.74E-01		LLD<9.74E-01		
SC-46	LLD<3.79E-01		LLD<3.79E-01		
TA-182	LLD<9.30E-01		LLD<9.30E-01		
I-135	LLD<1.62E+00		LLD<1.62E+00		
CL-39	LLD<9.12E-01		LLD<9.12E-01		
NA-22	LLD<4.52E-01		LLD<4.52E-01		
AR-41	LLD<4.03E-01		LLD<4.03E-01		
CO-60	LLD<3.90E-01		LLD<3.90E-01		
NA-24	LLD<3.09E-01		LLD<3.09E-01		
SR-92	LLD<4.04E-01		LLD<4.04E-01		
SCH-000	LLD<1.24E+00		LLD<1.24E+00		
CS-138	LLD<4.03E-01		LLD<4.03E-01		
K-40	1.72E+01	+- 2.36E+00	1.72E+01	+-	2.36E+00
KR-88	LLD<2.36E+00		LLD<2.36E+00		
TL-209	LLD<2.26E-01		LLD<2.26E-01		
LA-140	LLD<4.55E-01		LLD<4.55E-01		
AL-26	LLD<2.26E-01		LLD<2.26E-01		
MN-56	LLD<1.53E+00		LLD<1.53E+00		
RB-88	LLD<9.11E-01		LLD<9.11E-01		
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Total	3.39E+01	+- 3.25E+00	3.39E+01	+-	3.25E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0110

PEAKS NOT USED IN ANALYSIS

ntroid nnel	Energy keV	Net Area counts	Error %	Gammas/sec
590.54	294.93	56.	19.6	8.99E+00
1453.52	726.40	14.	38.5	5.48E+00

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*              G A M M A   S P E C T R U M   A N A L Y S I S          *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 10:36:49

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0111
Measured by: dlv

Sample Description: G-5, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.9000E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 10:22:01

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw

08-MAR-96 10:36:49

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.31	238.35	1.6	80.	148.	12.7	PB-212
2	703.65	351.46	1.6	18.	70.	15.3	BI-211,PB-214
3	1166.28	582.75	1.7	4.	45.	16.2	TL-208
4	1218.37	608.80	2.2	13.	51.	18.1	XE-135,BI-214
5	1820.34	909.92	0.8	7.	30.	23.0	
6	2920.00	1460.47	1.8	9.	88.	12.3	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 08-MAR-96 10:36:49

Sample: G-5, Soil Composite
a collected on 08-MAR-96 at 10:22:01
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.12E+00		LLD<3.12E+00	
TH-234	LLD<2.04E+01		LLD<2.04E+01	
TH-230	LLD<2.06E+02		LLD<2.06E+02	
XE-133	LLD<1.40E+00		LLD<1.40E+00	
CD-109	LLD<1.14E+01		LLD<1.14E+01	
SCL-000	LLD<6.61E-01		LLD<6.61E-01	
CO-57	LLD<2.19E-01		LLD<2.19E-01	
PA-234	LLD<7.74E-01		LLD<7.74E-01	
CE-144	LLD<1.74E+00		LLD<1.74E+00	
TC-99M	LLD<1.69E-01		LLD<1.69E-01	
U-235	LLD<1.47E+00		LLD<1.47E+00	
CE-141	LLD<3.35E-01		LLD<3.35E-01	
KR-85M	LLD<2.31E-01		LLD<2.31E-01	
XE-131M	LLD<7.92E+00		LLD<7.92E+00	
BA-139	LLD<9.89E-01		LLD<9.89E-01	
[illegible]139	LLD<2.01E-01		LLD<2.01E-01	
[illegible]226	LLD<4.96E+00		LLD<4.96E+00	
BA-141	LLD<5.10E-01		LLD<5.10E-01	
KR-89	LLD<2.11E+00		LLD<2.11E+00	
TE-132	LLD<1.82E-01		LLD<1.82E-01	
XE-133M	LLD<2.66E+00		LLD<2.66E+00	
TH-227	LLD<1.44E+00		LLD<1.44E+00	
PB-212	1.49E+00	+- 1.91E-01	1.49E+00	+- 1.91E-01
RA-224	LLD<5.68E+00		LLD<5.68E+00	
XE-135	LLD<2.17E-01		LLD<2.17E-01	
XE-138	LLD<7.95E-01		LLD<7.95E-01	
SE-75	LLD<3.16E-01		LLD<3.16E-01	
NP-239	LLD<1.37E+00		LLD<1.37E+00	
HG-203	LLD<2.48E-01		LLD<2.48E-01	
IR-192	LLD<2.28E-01		LLD<2.28E-01	
CR-51	LLD<1.98E+00		LLD<1.98E+00	
SCM-000	LLD<7.50E-01		LLD<7.50E-01	
BI-211	1.18E+01	+- 1.81E+00	1.18E+01	+- 1.81E+00
PB-214	1.38E+00	+- 2.11E-01	1.38E+00	+- 2.11E-01
BA-133	LLD<6.24E-01		LLD<6.24E-01	
I-131	LLD<2.42E-01		LLD<2.42E-01	
SN-113	LLD<3.35E-01		LLD<3.35E-01	
KR-87	LLD<4.40E-01		LLD<4.40E-01	
PB-211	LLD<8.30E+00		LLD<8.30E+00	
AU-198	LLD<2.56E-01		LLD<2.56E-01	
SB-125	LLD<6.32E-01		LLD<6.32E-01	
212	LLD<6.22E+01		LLD<6.22E+01	
[illegible]-7	LLD<1.91E+00		LLD<1.91E+00	
HF-181	LLD<2.53E-01		LLD<2.53E-01	
RU-103	LLD<2.31E-01		LLD<2.31E-01	
KR-85	LLD<6.88E+01		LLD<6.88E+01	

SR-85	LLD<3.01E-01		LLD<3.01E-01		
I-133	LLD<2.52E-01		LLD<2.52E-01		
BA-140	LLD<8.50E-01		LLD<8.50E-01		
[illegible] 91M	LLD<2.64E-01		LLD<2.64E-01		
[illegible] 207	LLD<2.70E-01		LLD<2.70E-01		
[illegible]L-208	LLD<1.01E+00		LLD<1.01E+00		
SB-124	LLD<3.38E-01		LLD<3.38E-01		
CS-134	LLD<6.15E-01		LLD<6.15E-01		
BI-214	1.46E+00	+- 2.66E-01	1.46E+00	+-	2.66E-01
RU-106	LLD<2.69E+00		LLD<2.69E+00		
LA-142	LLD<4.58E-01		LLD<4.58E-01		
AG-110M	LLD<2.60E-01		LLD<2.60E-01		
NB-97	LLD<2.62E-01		LLD<2.62E-01		
CS-137	LLD<2.98E-01		LLD<2.98E-01		
I-132	LLD<2.38E-01		LLD<2.38E-01		
W-187	LLD<8.37E-01		LLD<8.37E-01		
ZR-97	LLD<2.82E-01		LLD<2.82E-01		
ZR-95	LLD<4.92E-01		LLD<4.92E-01		
NB-95	LLD<3.62E-01		LLD<3.62E-01		
TL-210	LLD<1.61E+00		LLD<1.61E+00		
CO-58	LLD<2.93E-01		LLD<2.93E-01		
CS-136	LLD<2.52E-01		LLD<2.52E-01		
MN-54	LLD<3.53E-01		LLD<3.53E-01		
CO-56	LLD<2.65E-01		LLD<2.65E-01		
I-134	LLD<3.10E-01		LLD<3.10E-01		
TL-207	LLD<2.31E+02		LLD<2.31E+02		
Y-88	LLD<3.47E-01		LLD<3.47E-01		
AC-228	LLD<1.71E+00		LLD<1.71E+00		
EU-152	LLD<4.65E+00		LLD<4.65E+00		
[illegible]234M	LLD<3.89E+00		LLD<3.89E+00		
[illegible]91	LLD<1.07E+00		LLD<1.07E+00		
RB-89	LLD<7.00E-01		LLD<7.00E-01		
FE-59	LLD<6.09E-01		LLD<6.09E-01		
ZN-65	LLD<9.78E-01		LLD<9.78E-01		
SC-46	LLD<4.51E-01		LLD<4.51E-01		
TA-182	LLD<1.29E+00		LLD<1.29E+00		
I-135	LLD<1.33E+00		LLD<1.33E+00		
CL-39	LLD<6.83E-01		LLD<6.83E-01		
NA-22	LLD<2.93E-01		LLD<2.93E-01		
AR-41	LLD<2.71E-01		LLD<2.71E-01		
CO-60	LLD<4.09E-01		LLD<4.09E-01		
NA-24	LLD<3.28E-01		LLD<3.28E-01		
SR-92	LLD<3.16E-01		LLD<3.16E-01		
SCH-000	LLD<1.55E+00		LLD<1.55E+00		
CS-138	LLD<4.42E-01		LLD<4.42E-01		
K-40	1.92E+01	+- 2.39E+00	1.92E+01	+-	2.39E+00
KR-88	LLD<3.17E+00		LLD<3.17E+00		
TL-209	LLD<6.72E-01		LLD<6.72E-01		
LA-140	LLD<2.57E-01		LLD<2.57E-01		
AL-26	LLD<6.94E-02		LLD<6.94E-02		
MN-56	LLD<2.60E-01		LLD<2.60E-01		
RB-88	LLD<8.70E-01		LLD<8.70E-01		
	---	---	---	---	---
Total	3.53E+01	+- 3.02E+00	3.53E+01	+-	3.02E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0111

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
1166.28	582.75	45.	16.2	1.42E+01
1820.34	909.92	30.	23.0	1.47E+01

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G-6

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                                                                       *
            G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                      *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 11:01:43

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

gular Output.
Analysis of Spectrum saved in Disk File SD0112
Measured by: dlv

Sample Description: G-6, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.9900E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 10:44:10

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 11:01:43

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.16	238.28	1.7	67.	126.	13.6	PB-212
2	703.56	351.42	2.2	31.	58.	20.0	BI-211,PB-214
3	1020.24	509.73	0.6	8.	17.	36.0	TL-208
4	1165.32	582.27	2.0	5.	44.	17.0	TL-208
5$	1217.34	608.28	1.2	13.	35.	23.8	XE-135
6	1820.09	909.79	1.3	4.	23.	25.0	

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

$ - Multiplet Analysis Terminated because of no CHI-SQ improvement

hgtrw 08-MAR-96 11:01:43

ple: G-6, Soil Composite
a collected on 08-MAR-96 at 10:44:10
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.42E+00		LLD<3.42E+00	
TH-234	LLD<2.48E+01		LLD<2.48E+01	
TH-230	LLD<2.15E+02		LLD<2.15E+02	
XE-133	LLD<1.51E+00		LLD<1.51E+00	
CD-109	LLD<1.10E+01		LLD<1.10E+01	
SCL-000	LLD<7.59E-01		LLD<7.59E-01	
CO-57	LLD<2.52E-01		LLD<2.52E-01	
PA-234	LLD<1.05E+00		LLD<1.05E+00	
CE-144	LLD<2.01E+00		LLD<2.01E+00	
TC-99M	LLD<2.28E-01		LLD<2.28E-01	
U-235	LLD<1.55E+00		LLD<1.55E+00	
CE-141	LLD<3.62E-01		LLD<3.62E-01	
KR-85M	LLD<2.61E-01		LLD<2.61E-01	
XE-131M	LLD<7.98E+00		LLD<7.98E+00	
BA-139	LLD<9.62E-01		LLD<9.62E-01	
[illegible]-139	LLD<1.95E-01		LLD<1.95E-01	
[illegible]-226	LLD<5.44E+00		LLD<5.44E+00	
BA-141	LLD<5.80E-01		LLD<5.80E-01	
KR-89	LLD<2.09E+00		LLD<2.09E+00	
TE-132	LLD<2.19E-01		LLD<2.19E-01	
XE-133M	LLD<2.94E+00		LLD<2.94E+00	
TH-227	LLD<1.66E+00		LLD<1.66E+00	
PB-212	1.43E+00	+- 1.96E-01	1.43E+00	+- 1.96E-01
RA-224	LLD<6.48E+00		LLD<6.48E+00	
XE-135	LLD<2.42E-01		LLD<2.42E-01	
XE-138	LLD<8.98E-01		LLD<8.98E-01	
SE-75	LLD<3.76E-01		LLD<3.76E-01	
NP-239	LLD<1.34E+00		LLD<1.34E+00	
HG-203	LLD<2.70E-01		LLD<2.70E-01	
IR-192	LLD<2.35E-01		LLD<2.35E-01	
CR-51	LLD<2.11E+00		LLD<2.11E+00	
SCM-000	LLD<1.05E+00		LLD<1.05E+00	
BI-211	1.11E+01	+- 2.23E+00	1.11E+01	+- 2.23E+00
PB-214	1.30E+00	+- 2.60E-01	1.30E+00	+- 2.60E-01
BA-133	LLD<7.20E-01		LLD<7.20E-01	
I-131	LLD<2.55E-01		LLD<2.55E-01	
SN-113	LLD<3.26E-01		LLD<3.26E-01	
KR-87	LLD<4.44E-01		LLD<4.44E-01	
PB-211	LLD<7.98E+00		LLD<7.98E+00	
AU-198	LLD<2.27E-01		LLD<2.27E-01	
[illegible]-125	LLD<7.80E-01		LLD<7.80E-01	
[illegible]-212	LLD<7.48E+01		LLD<7.48E+01	
BE-7	LLD<2.22E+00		LLD<2.22E+00	
HF-181	LLD<2.94E-01		LLD<2.94E-01	
RU-103	LLD<2.89E-01		LLD<2.89E-01	
KR-85	LLD<7.54E+01		LLD<7.54E+01	

SR-85	LLD<3.30E-01	LLD<3.30E-01
I-133	LLD<3.08E-01	LLD<3.08E-01
BA-140	LLD<1.08E+00	LLD<1.08E+00
[illegible]01M	LLD<3.02E-01	LLD<3.02E-01
[illegible] 207	LLD<2.99E-01	LLD<2.99E-01
TL-208	LLD<1.12E+00	LLD<1.12E+00
SB-124	LLD<4.70E-01	LLD<4.70E-01
CS-134	LLD<5.82E-01	LLD<5.82E-01
BI-214	LLD<9.78E-01	LLD<9.78E-01
RU-106	LLD<3.29E+00	LLD<3.29E+00
LA-142	LLD<5.50E-01	LLD<5.50E-01
AG-110M	LLD<3.09E-01	LLD<3.09E-01
NB-97	LLD<3.12E-01	LLD<3.12E-01
CS-137	LLD<3.05E-01	LLD<3.05E-01
I-132	LLD<3.18E-01	LLD<3.18E-01
W-187	LLD<1.00E+00	LLD<1.00E+00
ZR-97	LLD<3.16E-01	LLD<3.16E-01
ZR-95	LLD<6.73E-01	LLD<6.73E-01
NB-95	LLD<3.47E-01	LLD<3.47E-01
TL-210	LLD<1.85E+00	LLD<1.85E+00
CO-58	LLD<3.68E-01	LLD<3.68E-01
CS-136	LLD<2.14E-01	LLD<2.14E-01
MN-54	LLD<3.27E-01	LLD<3.27E-01
CO-56	LLD<3.12E-01	LLD<3.12E-01
I-134	LLD<3.49E-01	LLD<3.49E-01
TL-207	LLD<2.66E+02	LLD<2.66E+02
Y-88	LLD<3.72E-01	LLD<3.72E-01
AC-228	LLD<1.42E+00	LLD<1.42E+00
EU-152	LLD<3.38E+00	LLD<3.38E+00
[illegible]234M	LLD<3.03E+00	LLD<3.03E+00
[illegible]-91	LLD<1.14E+00	LLD<1.14E+00
RB-89	LLD<7.42E-01	LLD<7.42E-01
FE-59	LLD<7.54E-01	LLD<7.54E-01
ZN-65	LLD<1.01E+00	LLD<1.01E+00
SC-46	LLD<5.38E-01	LLD<5.38E-01
TA-182	LLD<1.24E+00	LLD<1.24E+00
I-135	LLD<1.59E+00	LLD<1.59E+00
CL-39	LLD<1.03E+00	LLD<1.03E+00
NA-22	LLD<4.96E-01	LLD<4.96E-01
AR-41	LLD<4.25E-01	LLD<4.25E-01
CO-60	LLD<4.49E-01	LLD<4.49E-01
NA-24	LLD<2.56E-01	LLD<2.56E-01
SR-92	LLD<7.85E-02	LLD<7.85E-02
SCH-000	LLD<7.44E-01	LLD<7.44E-01
CS-138	LLD<7.19E-01	LLD<7.19E-01
K-40	LLD<8.82E+00	LLD<8.82E+00
KR-88	LLD<2.89E+00	LLD<2.89E+00
TL-209	LLD<6.65E-01	LLD<6.65E-01
LA-140	LLD<4.49E-01	LLD<4.49E-01
AL-26	LLD<3.52E-01	LLD<3.52E-01
MN-56	LLD<9.14E-01	LLD<9.14E-01
RB-88	LLD<2.57E+00	LLD<2.57E+00
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Total	1.39E+01 +- 2.25E+00	1.39E+01 +- 2.25E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0112

PEAKS NOT USED IN ANALYSIS

troid .nnel	Energy keV	Net Area counts	Error %	Gammas/sec
1020.24	509.73	17.	36.0	4.58E+00
1165.32	582.27	44.	17.0	1.39E+01
1217.34	608.28	35.	23.8	1.15E+01
1820.09	909.79	23.	25.0	1.10E+01

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*              G A M M A   S P E C T R U M   A N A L Y S I S        *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 11:16:24

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0113
Measured by: dlv

Sample Description: G-7, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.1100E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 11:02:40

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 11:16:24

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.24	238.31	1.3	45.	145.	11.1	PB-212
2	703.44	351.36	1.6	22.	71.	15.6	BI-211,PB-214
3	1021.38	510.29	2.6	6.	27.	24.3	TL-208,NA-22, ANN-RD
4	1165.56	582.39	2.5	13.	37.	22.8	TL-208
5	1217.64	608.43	1.5	15.	32.	26.0	XE-135,BI-214
6	1821.10	910.30	1.3	7.	22.	27.9	AC-228
7	2919.67	1460.30	1.8	4.	94.	11.0	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 08-MAR-96 11:16:24

ple: G-7, Soil Composite
a collected on 08-MAR-96 at 11:02:40
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.37E+00		LLD<3.37E+00	
TH-234	LLD<2.33E+01		LLD<2.33E+01	
TH-230	LLD<2.25E+02		LLD<2.25E+02	
XE-133	LLD<1.54E+00		LLD<1.54E+00	
CD-109	LLD<1.10E+01		LLD<1.10E+01	
SCL-000	LLD<7.11E-01		LLD<7.11E-01	
CO-57	LLD<2.36E-01		LLD<2.36E-01	
PA-234	LLD<8.77E-01		LLD<8.77E-01	
CE-144	LLD<1.73E+00		LLD<1.73E+00	
TC-99M	LLD<2.01E-01		LLD<2.01E-01	
U-235	LLD<1.40E+00		LLD<1.40E+00	
CE-141	LLD<3.53E-01		LLD<3.53E-01	
KR-85M	LLD<2.37E-01		LLD<2.37E-01	
XE-131M	LLD<8.29E+00		LLD<8.29E+00	
BA-139	LLD<9.79E-01		LLD<9.79E-01	
[illegible]-139	LLD<1.99E-01		LLD<1.99E-01	
[illegible]-226	LLD<5.51E+00		LLD<5.51E+00	
BA-141	LLD<5.01E-01		LLD<5.01E-01	
KR-89	LLD<1.96E+00		LLD<1.96E+00	
TE-132	LLD<2.18E-01		LLD<2.18E-01	
XE-133M	LLD<2.85E+00		LLD<2.85E+00	
TH-227	LLD<1.72E+00		LLD<1.72E+00	
PB-212	1.61E+00	+- 1.81E-01	1.61E+00	+- 1.81E-01
RA-224	LLD<6.31E+00		LLD<6.31E+00	
XE-135	LLD<2.19E-01		LLD<2.19E-01	
XE-138	LLD<7.36E-01		LLD<7.36E-01	
SE-75	LLD<3.33E-01		LLD<3.33E-01	
NP-239	LLD<1.30E+00		LLD<1.30E+00	
HG-203	LLD<2.67E-01		LLD<2.67E-01	
IR-192	LLD<2.37E-01		LLD<2.37E-01	
CR-51	LLD<2.44E+00		LLD<2.44E+00	
SCM-000	LLD<8.53E-01		LLD<8.53E-01	
BI-211	1.33E+01	+- 2.08E+00	1.33E+01	+- 2.08E+00
PB-214	1.55E+00	+- 2.43E-01	1.55E+00	+- 2.43E-01
BA-133	LLD<7.47E-01		LLD<7.47E-01	
I-131	LLD<2.60E-01		LLD<2.60E-01	
SN-113	LLD<3.68E-01		LLD<3.68E-01	
KR-87	LLD<4.50E-01		LLD<4.50E-01	
PB-211	LLD<8.84E+00		LLD<8.84E+00	
AU-198	LLD<2.48E-01		LLD<2.48E-01	
[illegible]-125	LLD<7.27E-01		LLD<7.27E-01	
[illegible]-212	LLD<6.92E+01		LLD<6.92E+01	
BE-7	LLD<2.37E+00		LLD<2.37E+00	
HF-181	LLD<3.11E-01		LLD<3.11E-01	
RU-103	LLD<3.15E-01		LLD<3.15E-01	
KR-85	LLD<7.17E+01		LLD<7.17E+01	

SR-85	LLD<3.13E-01		LLD<3.13E-01		
I-133	LLD<2.70E-01		LLD<2.70E-01		
BA-140	LLD<7.93E-01		LLD<7.93E-01		
1M	LLD<2.55E-01		LLD<2.55E-01		
207	LLD<2.79E-01		LLD<2.79E-01		
TL-208	1.33E+00	+- 3.03E-01	1.33E+00	+-	3.03E-01
SB-124	LLD<3.36E-01		LLD<3.36E-01		
CS-134	LLD<5.72E-01		LLD<5.72E-01		
BI-214	1.03E+00	+- 2.69E-01	1.03E+00	+-	2.69E-01
RU-106	LLD<2.68E+00		LLD<2.68E+00		
LA-142	LLD<4.45E-01		LLD<4.45E-01		
AG-110M	LLD<3.55E-01		LLD<3.55E-01		
NB-97	LLD<3.57E-01		LLD<3.57E-01		
CS-137	LLD<3.48E-01		LLD<3.48E-01		
I-132	LLD<3.01E-01		LLD<3.01E-01		
W-187	LLD<1.00E+00		LLD<1.00E+00		
ZR-97	LLD<2.39E-01		LLD<2.39E-01		
ZR-95	LLD<4.46E-01		LLD<4.46E-01		
NB-95	LLD<2.74E-01		LLD<2.74E-01		
TL-210	LLD<1.99E+00		LLD<1.99E+00		
CO-58	LLD<2.97E-01		LLD<2.97E-01		
CS-136	LLD<3.28E-01		LLD<3.28E-01		
MN-54	LLD<3.53E-01		LLD<3.53E-01		
CO-56	LLD<3.14E-01		LLD<3.14E-01		
I-134	LLD<3.37E-01		LLD<3.37E-01		
TL-207	LLD<1.64E+02		LLD<1.64E+02		
Y-88	LLD<2.22E-01		LLD<2.22E-01		
AC-228	1.49E+00	+- 4.17E-01	1.49E+00	+-	4.17E-01
EU-152	LLD<2.88E+00		LLD<2.88E+00		
234M	LLD<4.32E+00		LLD<4.32E+00		
R-91	LLD<7.90E-01		LLD<7.90E-01		
RB-89	LLD<4.99E-01		LLD<4.99E-01		
FE-59	LLD<6.41E-01		LLD<6.41E-01		
ZN-65	LLD<1.13E+00		LLD<1.13E+00		
SC-46	LLD<5.40E-01		LLD<5.40E-01		
TA-182	LLD<1.26E+00		LLD<1.26E+00		
I-135	LLD<1.64E+00		LLD<1.64E+00		
CL-39	LLD<7.81E-01		LLD<7.81E-01		
NA-22	LLD<5.02E-01		LLD<5.02E-01		
AR-41	LLD<3.65E-01		LLD<3.65E-01		
CO-60	LLD<4.24E-01		LLD<4.24E-01		
NA-24	LLD<4.36E-01		LLD<4.36E-01		
SR-92	LLD<2.40E-01		LLD<2.40E-01		
SCH-000	LLD<1.66E+00		LLD<1.66E+00		
CS-138	LLD<6.69E-01		LLD<6.69E-01		
K-40	2.28E+01	+- 2.54E+00	2.28E+01	+-	2.54E+00
KR-88	LLD<3.96E+00		LLD<3.96E+00		
TL-209	LLD<1.22E+00		LLD<1.22E+00		
LA-140	LLD<5.04E-01		LLD<5.04E-01		
AL-26	LLD<4.46E-01		LLD<4.46E-01		
MN-56	LLD<1.08E+00		LLD<1.08E+00		
RB-88	LLD<2.79E+00		LLD<2.79E+00		
	---		---		
Total	4.31E+01	+- 3.34E+00	4.31E+01	+-	3.34E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0113

ALL PEAKS USED IN ANALYSIS

G-8

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*                                                             *
*          G A M M A   S P E C T R U M   A N A L Y S I S      *
*                                                             *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 11:32:28

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0114
Measured by: dlv

Sample Description: G-8, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.4800E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 11:17:49

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 11:32:28

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	477.35	238.37	1.4	93.	127.	15.1	PB-212
2	590.26	294.79	1.3	22.	38.	24.1	PB-214
3	1821.32	910.41	1.5	3.	40.	17.2	AC-228
4	2920.27	1460.60	2.5	8.	80.	12.9	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 08-MAR-96 11:32:28

ple: G-8, Soil Composite
a collected on 08-MAR-96 at 11:17:49
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.30E+00		LLD<3.30E+00	
TH-234	LLD<2.39E+01		LLD<2.39E+01	
TH-230	LLD<2.02E+02		LLD<2.02E+02	
XE-133	LLD<1.53E+00		LLD<1.53E+00	
CD-109	LLD<1.17E+01		LLD<1.17E+01	
SCL-000	LLD<7.09E-01		LLD<7.09E-01	
CO-57	LLD<2.35E-01		LLD<2.35E-01	
PA-234	LLD<9.01E-01		LLD<9.01E-01	
CE-144	LLD<1.63E+00		LLD<1.63E+00	
TC-99M	LLD<1.75E-01		LLD<1.75E-01	
U-235	LLD<1.63E+00		LLD<1.63E+00	
CE-141	LLD<4.06E-01		LLD<4.06E-01	
KR-85M	LLD<2.40E-01		LLD<2.40E-01	
XE-131M	LLD<8.44E+00		LLD<8.44E+00	
BA-139	LLD<1.13E+00		LLD<1.13E+00	
[illegible]139	LLD<2.30E-01		LLD<2.30E-01	
[illegible]-226	LLD<5.44E+00		LLD<5.44E+00	
BA-141	LLD<5.22E-01		LLD<5.22E-01	
KR-89	LLD<1.92E+00		LLD<1.92E+00	
TE-132	LLD<2.35E-01		LLD<2.35E-01	
XE-133M	LLD<2.81E+00		LLD<2.81E+00	
TH-227	LLD<1.62E+00		LLD<1.62E+00	
PB-212	1.35E+00	+- 2.05E-01	1.35E+00	+- 2.05E-01
RA-224	LLD<6.00E+00		LLD<6.00E+00	
XE-135	LLD<2.08E-01		LLD<2.08E-01	
XE-138	LLD<7.60E-01		LLD<7.60E-01	
SE-75	LLD<3.67E-01		LLD<3.67E-01	
NP-239	LLD<1.38E+00		LLD<1.38E+00	
HG-203	LLD<2.40E-01		LLD<2.40E-01	
IR-192	LLD<2.72E-01		LLD<2.72E-01	
CR-51	LLD<2.24E+00		LLD<2.24E+00	
SCM-000	LLD<7.88E-01		LLD<7.88E-01	
BI-211	LLD<7.08E+00		LLD<7.08E+00	
PB-214	LLD<8.32E-01		LLD<8.32E-01	
BA-133	LLD<6.03E-01		LLD<6.03E-01	
I-131	LLD<2.53E-01		LLD<2.53E-01	
SN-113	LLD<3.36E-01		LLD<3.36E-01	
KR-87	LLD<4.58E-01		LLD<4.58E-01	
PB-211	LLD<9.50E+00		LLD<9.50E+00	
AU-198	LLD<2.64E-01		LLD<2.64E-01	
[illegible]-125	LLD<8.18E-01		LLD<8.18E-01	
[illegible]-212	LLD<7.09E+01		LLD<7.09E+01	
BE-7	LLD<2.25E+00		LLD<2.25E+00	
HF-181	LLD<2.81E-01		LLD<2.81E-01	
RU-103	LLD<2.01E-01		LLD<2.01E-01	
KR-85	LLD<7.14E+01		LLD<7.14E+01	

SR-85	LLD<3.12E-01	LLD<3.12E-01
I-133	LLD<2.63E-01	LLD<2.63E-01
BA-140	LLD<9.67E-01	LLD<9.67E-01
1M	LLD<2.92E-01	LLD<2.92E-01
PB-207	LLD<2.22E-01	LLD<2.22E-01
TL-208	LLD<1.19E+00	LLD<1.19E+00
SB-124	LLD<4.48E-01	LLD<4.48E-01
CS-134	LLD<5.44E-01	LLD<5.44E-01
BI-214	LLD<1.05E+00	LLD<1.05E+00
RU-106	LLD<2.00E+00	LLD<2.00E+00
LA-142	LLD<4.02E-01	LLD<4.02E-01
AG-110M	LLD<2.36E-01	LLD<2.36E-01
NB-97	LLD<2.38E-01	LLD<2.38E-01
CS-137	LLD<3.15E-01	LLD<3.15E-01
I-132	LLD<2.69E-01	LLD<2.69E-01
W-187	LLD<1.05E+00	LLD<1.05E+00
ZR-97	LLD<2.91E-01	LLD<2.91E-01
ZR-95	LLD<5.69E-01	LLD<5.69E-01
NB-95	LLD<3.40E-01	LLD<3.40E-01
TL-210	LLD<1.85E+00	LLD<1.85E+00
CO-58	LLD<3.61E-01	LLD<3.61E-01
CS-136	LLD<3.16E-01	LLD<3.16E-01
MN-54	LLD<2.88E-01	LLD<2.88E-01
CO-56	LLD<3.65E-01	LLD<3.65E-01
I-134	LLD<3.98E-01	LLD<3.98E-01
TL-207	LLD<2.84E+02	LLD<2.84E+02
Y-88	LLD<4.02E-01	LLD<4.02E-01
AC-228	2.52E+00 +- 4.36E-01	2.52E+00 +- 4.36E-01
EU-152	LLD<3.94E+00	LLD<3.94E+00
PA-234M	LLD<2.61E+00	LLD<2.61E+00
SR-91	LLD<9.70E-01	LLD<9.70E-01
RB-89	LLD<8.17E-01	LLD<8.17E-01
FE-59	LLD<5.81E-01	LLD<5.81E-01
ZN-65	LLD<8.86E-01	LLD<8.86E-01
SC-46	LLD<4.41E-01	LLD<4.41E-01
TA-182	LLD<1.27E+00	LLD<1.27E+00
I-135	LLD<1.53E+00	LLD<1.53E+00
CL-39	LLD<9.67E-01	LLD<9.67E-01
NA-22	LLD<4.27E-01	LLD<4.27E-01
AR-41	LLD<2.86E-01	LLD<2.86E-01
CO-60	LLD<4.85E-01	LLD<4.85E-01
NA-24	LLD<3.91E-01	LLD<3.91E-01
SR-92	LLD<5.55E-01	LLD<5.55E-01
SCH-000	LLD<2.07E+00	LLD<2.07E+00
CS-138	LLD<6.72E-01	LLD<6.72E-01
K-40	1.86E+01 +- 2.41E+00	1.86E+01 +- 2.41E+00
KR-88	LLD<2.85E+00	LLD<2.85E+00
TL-209	LLD<9.96E-01	LLD<9.96E-01
LA-140	LLD<3.48E-01	LLD<3.48E-01
AL-26	LLD<1.62E-01	LLD<1.62E-01
MN-56	LLD<1.18E+00	LLD<1.18E+00
RB-88	LLD<1.77E+00	LLD<1.77E+00
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Total	2.25E+01 +- 2.46E+00	2.25E+01 +- 2.46E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0114

PEAKS NOT USED IN ANALYSIS

troid annel	Energy keV	Net Area counts	Error %	Gammas/sec
590.26	294.79	38.	24.1	6.15E+00

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G-9

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*          G A M M A   S P E C T R U M   A N A L Y S I S            *
*                                                                   *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 11:49:23

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0115
Measured by: dlv

Sample Description: G-9, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.4600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 11:34:27

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

08-MAR-96 11:49:23

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	476.89	238.14	1.5	64.	125.	13.5	PB-212
2	589.88	294.60	1.6	29.	38.	26.5	PB-214
3	703.30	351.29	1.7	34.	60.	20.4	BI-211,PB-214
4	1021.11	510.16	1.7	8.	21.	31.1	TL-208,NA-22, ANN-RD
5	1165.99	582.61	1.4	10.	59.	15.6	TL-208
6	1217.90	608.56	0.9	7.	61.	14.6	XE-135,BI-214
7	2920.72	1460.83	4.8	4.	72.	12.7	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 08-MAR-96 11:49:23

ple: G-9, Soil Composite
Data collected on 08-MAR-96 at 11:34:27
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.48E+00		LLD<3.48E+00	
TH-234	LLD<2.42E+01		LLD<2.42E+01	
TH-230	LLD<2.27E+02		LLD<2.27E+02	
XE-133	LLD<1.62E+00		LLD<1.62E+00	
CD-109	LLD<1.11E+01		LLD<1.11E+01	
SCL-000	LLD<6.55E-01		LLD<6.55E-01	
CO-57	LLD<2.17E-01		LLD<2.17E-01	
PA-234	LLD<9.60E-01		LLD<9.60E-01	
CE-144	LLD<1.83E+00		LLD<1.83E+00	
TC-99M	LLD<1.86E-01		LLD<1.86E-01	
U-235	LLD<1.58E+00		LLD<1.58E+00	
CE-141	LLD<3.52E-01		LLD<3.52E-01	
KR-85M	LLD<2.37E-01		LLD<2.37E-01	
XE-131M	LLD<8.23E+00		LLD<8.23E+00	
[illegible]139	LLD<8.35E-01		LLD<8.35E-01	
[illegible]-139	LLD<1.70E-01		LLD<1.70E-01	
RA-226	LLD<5.20E+00		LLD<5.20E+00	
BA-141	LLD<5.50E-01		LLD<5.50E-01	
KR-89	LLD<1.89E+00		LLD<1.89E+00	
TE-132	LLD<2.60E-01		LLD<2.60E-01	
XE-133M	LLD<2.77E+00		LLD<2.77E+00	
TH-227	LLD<1.68E+00		LLD<1.68E+00	
PB-212	1.33E+00	+- 1.81E-01	1.33E+00	+- 1.81E-01
RA-224	LLD<5.95E+00		LLD<5.95E+00	
XE-135	LLD<2.04E-01		LLD<2.04E-01	
XE-138	LLD<6.93E-01		LLD<6.93E-01	
SE-75	LLD<3.23E-01		LLD<3.23E-01	
NP-239	LLD<1.60E+00		LLD<1.60E+00	
HG-203	LLD<2.67E-01		LLD<2.67E-01	
IR-192	LLD<2.15E-01		LLD<2.15E-01	
CR-51	LLD<1.97E+00		LLD<1.97E+00	
SCM-000	LLD<1.06E+00		LLD<1.06E+00	
BI-211	1.07E+01	+- 2.18E+00	1.07E+01	+- 2.18E+00
PB-214	1.25E+00	+- 2.55E-01	1.25E+00	+- 2.55E-01
BA-133	LLD<6.80E-01		LLD<6.80E-01	
I-131	LLD<2.81E-01		LLD<2.81E-01	
SN-113	LLD<3.43E-01		LLD<3.43E-01	
KR-87	LLD<5.22E-01		LLD<5.22E-01	
PB-211	LLD<1.13E+01		LLD<1.13E+01	
[illegible]-198	LLD<2.49E-01		LLD<2.49E-01	
[illegible]-125	LLD<8.13E-01		LLD<8.13E-01	
[illegible]-212	LLD<6.85E+01		LLD<6.85E+01	
BE-7	LLD<2.34E+00		LLD<2.34E+00	
HF-181	LLD<3.04E-01		LLD<3.04E-01	
RU-103	LLD<2.48E-01		LLD<2.48E-01	
KR-85	LLD<6.23E+01		LLD<6.23E+01	

SR-85	LLD<2.73E-01		LLD<2.73E-01		
I-133	LLD<2.88E-01		LLD<2.88E-01		
BA-140	LLD<1.06E+00		LLD<1.06E+00		
1M	LLD<2.55E-01		LLD<2.55E-01		
-207	LLD<2.33E-01		LLD<2.33E-01		
TL-208	2.04E+00	+- 3.18E-01	2.04E+00	+-	3.18E-01
SB-124	LLD<3.21E-01		LLD<3.21E-01		
CS-134	LLD<6.98E-01		LLD<6.98E-01		
BI-214	1.87E+00	+- 2.73E-01	1.87E+00	+-	2.73E-01
RU-106	LLD<3.01E+00		LLD<3.01E+00		
LA-142	LLD<5.77E-01		LLD<5.77E-01		
AG-110M	LLD<3.11E-01		LLD<3.11E-01		
NB-97	LLD<3.14E-01		LLD<3.14E-01		
CS-137	LLD<3.32E-01		LLD<3.32E-01		
I-132	LLD<2.82E-01		LLD<2.82E-01		
W-187	LLD<8.02E-01		LLD<8.02E-01		
ZR-97	LLD<2.73E-01		LLD<2.73E-01		
ZR-95	LLD<5.64E-01		LLD<5.64E-01		
NB-95	LLD<3.02E-01		LLD<3.02E-01		
TL-210	LLD<1.65E+00		LLD<1.65E+00		
CO-58	LLD<3.30E-01		LLD<3.30E-01		
CS-136	LLD<2.47E-01		LLD<2.47E-01		
MN-54	LLD<3.00E-01		LLD<3.00E-01		
CO-56	LLD<3.84E-01		LLD<3.84E-01		
I-134	LLD<4.34E-01		LLD<4.34E-01		
TL-207	LLD<2.68E+02		LLD<2.68E+02		
Y-88	LLD<3.78E-01		LLD<3.78E-01		
AC-228	LLD<1.84E+00		LLD<1.84E+00		
-152	LLD<3.31E+00		LLD<3.31E+00		
234M	LLD<3.71E+00		LLD<3.71E+00		
SR-91	LLD<7.53E-01		LLD<7.53E-01		
RB-89	LLD<7.11E-01		LLD<7.11E-01		
FE-59	LLD<8.04E-01		LLD<8.04E-01		
ZN-65	LLD<9.92E-01		LLD<9.92E-01		
SC-46	LLD<4.55E-01		LLD<4.55E-01		
TA-182	LLD<1.33E+00		LLD<1.33E+00		
I-135	LLD<1.49E+00		LLD<1.49E+00		
CL-39	LLD<7.44E-01		LLD<7.44E-01		
NA-22	LLD<4.44E-01		LLD<4.44E-01		
AR-41	LLD<4.25E-01		LLD<4.25E-01		
CO-60	LLD<3.41E-01		LLD<3.41E-01		
NA-24	LLD<3.47E-01		LLD<3.47E-01		
SR-92	LLD<1.63E-01		LLD<1.63E-01		
SCH-000	LLD<1.64E+00		LLD<1.64E+00		
CS-138	LLD<6.86E-01		LLD<6.86E-01		
K-40	1.67E+01	+- 2.14E+00	1.67E+01	+-	2.14E+00
KR-88	LLD<2.71E+00		LLD<2.71E+00		
TL-209	LLD<6.23E-01		LLD<6.23E-01		
LA-140	LLD<4.21E-01		LLD<4.21E-01		
AL-26	LLD<4.14E-01		LLD<4.14E-01		
MN-56	LLD<1.24E+00		LLD<1.24E+00		
RB-88	LLD<1.43E+00		LLD<1.43E+00		
	---		---		
Total	3.38E+01	+- 3.10E+00	3.38E+01	+-	3.10E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0115

PEAKS NOT USED IN ANALYSIS

troid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
589.88	294.60	38.	26.5	6.10E+00

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G - 10

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*          G A M M A   S P E C T R U M   A N A L Y S I S              *
*                                                                     *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 12:08:07

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0116
Measured by: dlv

Sample Description: G-10, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.5700E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 11:51:00

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 12:08:07

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1C	476.91	238.15	1.1	39.	91.	20.4	PB-212
2C	483.70	241.54	1.1	35.	26.	31.5	RA-224,PB-214
3	590.12	294.72	0.7	17.	60.	16.5	PB-214
4	702.95	351.12	1.2	18.	86.	13.2	BI-211,PB-214
5	1020.98	510.09	1.9	18.	15.	51.6	TL-208,NA-22, ANN-RD
6	1164.97	582.09	1.3	13.	35.	23.8	
7C	1217.95	608.59	2.0	12.	56.	18.1	XE-135,BI-214
8	2919.85	1460.39	1.2	4.	71.	13.0	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

2 Multiplets processed.

C - Multiplet Analysis converged normally

hgtrw 08-MAR-96 12:08:07

ple: G-10, Soil Composite
Data collected on 08-MAR-96 at 11:51:00
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.37E+00		LLD<3.37E+00	
TH-234	LLD<2.75E+01		LLD<2.75E+01	
TH-230	LLD<2.22E+02		LLD<2.22E+02	
XE-133	LLD<1.68E+00		LLD<1.68E+00	
CD-109	LLD<1.17E+01		LLD<1.17E+01	
SCL-000	LLD<7.63E-01		LLD<7.63E-01	
CO-57	LLD<2.53E-01		LLD<2.53E-01	
PA-234	LLD<9.49E-01		LLD<9.49E-01	
CE-144	LLD<1.89E+00		LLD<1.89E+00	
TC-99M	LLD<2.12E-01		LLD<2.12E-01	
U-235	LLD<1.70E+00		LLD<1.70E+00	
CE-141	LLD<3.71E-01		LLD<3.71E-01	
KR-85M	LLD<2.71E-01		LLD<2.71E-01	
XE-131M	LLD<9.25E+00		LLD<9.25E+00	
[illegible]-139	LLD<1.10E+00		LLD<1.10E+00	
[illegible]-139	LLD<2.24E-01		LLD<2.24E-01	
RA-226	LLD<5.79E+00		LLD<5.79E+00	
BA-141	LLD<6.06E-01		LLD<6.06E-01	
KR-89	LLD<2.61E+00		LLD<2.61E+00	
TE-132	LLD<2.33E-01		LLD<2.33E-01	
XE-133M	LLD<3.04E+00		LLD<3.04E+00	
TH-227	LLD<2.02E+00		LLD<2.02E+00	
PB-212	1.10E+00	+- 2.25E-01	1.10E+00	+- 2.25E-01
RA-224	3.54E+00	+- 1.12E+00	3.54E+00	+- 1.12E+00
XE-135	LLD<2.65E-01		LLD<2.65E-01	
XE-138	LLD<7.81E-01		LLD<7.81E-01	
SE-75	LLD<3.20E-01		LLD<3.20E-01	
NP-239	LLD<1.56E+00		LLD<1.56E+00	
HG-203	LLD<3.08E-01		LLD<3.08E-01	
IR-192	LLD<2.66E-01		LLD<2.66E-01	
CR-51	LLD<2.23E+00		LLD<2.23E+00	
SCM-000	LLD<8.95E-01		LLD<8.95E-01	
BI-211	1.74E+01	+- 2.30E+00	1.74E+01	+- 2.30E+00
PB-214	2.03E+00	+- 2.68E-01	2.03E+00	+- 2.68E-01
BA-133	LLD<8.43E-01		LLD<8.43E-01	
I-131	LLD<3.20E-01		LLD<3.20E-01	
SN-113	LLD<3.65E-01		LLD<3.65E-01	
KR-87	LLD<4.65E-01		LLD<4.65E-01	
PB-211	LLD<8.16E+00		LLD<8.16E+00	
[illegible]-198	LLD<2.53E-01		LLD<2.53E-01	
[illegible]-125	LLD<8.10E-01		LLD<8.10E-01	
BI-212	LLD<7.93E+01		LLD<7.93E+01	
BE-7	LLD<2.19E+00		LLD<2.19E+00	
HF-181	LLD<2.80E-01		LLD<2.80E-01	
RU-103	LLD<2.95E-01		LLD<2.95E-01	
KR-85	LLD<8.67E+01		LLD<8.67E+01	

SR-85	LLD<3.79E-01		LLD<3.79E-01		
I-133	LLD<3.41E-01		LLD<3.41E-01		
BA-140	LLD<1.08E+00		LLD<1.08E+00		
1M	LLD<3.40E-01		LLD<3.40E-01		
207	LLD<3.46E-01		LLD<3.46E-01		
TL-208	LLD<1.22E+00		LLD<1.22E+00		
SB-124	LLD<5.27E-01		LLD<5.27E-01		
CS-134	LLD<6.97E-01		LLD<6.97E-01		
BI-214	1.93E+00	+- 3.49E-01	1.93E+00	+-	3.49E-01
RU-106	LLD<3.18E+00		LLD<3.18E+00		
LA-142	LLD<6.64E-01		LLD<6.64E-01		
AG-110M	LLD<3.96E-01		LLD<3.96E-01		
NB-97	LLD<3.99E-01		LLD<3.99E-01		
CS-137	LLD<3.63E-01		LLD<3.63E-01		
I-132	LLD<3.76E-01		LLD<3.76E-01		
W-187	LLD<1.02E+00		LLD<1.02E+00		
ZR-97	LLD<3.02E-01		LLD<3.02E-01		
ZR-95	LLD<7.01E-01		LLD<7.01E-01		
NB-95	LLD<3.97E-01		LLD<3.97E-01		
TL-210	LLD<1.75E+00		LLD<1.75E+00		
CO-58	LLD<3.21E-01		LLD<3.21E-01		
CS-136	LLD<3.17E-01		LLD<3.17E-01		
MN-54	LLD<4.80E-01		LLD<4.80E-01		
CO-56	LLD<3.88E-01		LLD<3.88E-01		
I-134	LLD<4.28E-01		LLD<4.28E-01		
TL-207	LLD<1.87E+02		LLD<1.87E+02		
Y-88	LLD<3.29E-01		LLD<3.29E-01		
AC-228	LLD<1.83E+00		LLD<1.83E+00		
EU-152	LLD<4.32E+00		LLD<4.32E+00		
234M	LLD<3.79E+00		LLD<3.79E+00		
SR-91	LLD<1.13E+00		LLD<1.13E+00		
RB-89	LLD<7.61E-01		LLD<7.61E-01		
FE-59	LLD<4.82E-01		LLD<4.82E-01		
ZN-65	LLD<1.13E+00		LLD<1.13E+00		
SC-46	LLD<5.09E-01		LLD<5.09E-01		
TA-182	LLD<1.26E+00		LLD<1.26E+00		
I-135	LLD<1.39E+00		LLD<1.39E+00		
CL-39	LLD<7.72E-01		LLD<7.72E-01		
NA-22	LLD<4.21E-01		LLD<4.21E-01		
AR-41	LLD<3.83E-01		LLD<3.83E-01		
CO-60	LLD<4.22E-01		LLD<4.22E-01		
NA-24	LLD<2.72E-01		LLD<2.72E-01		
SR-92	LLD<5.09E-01		LLD<5.09E-01		
SCH-000	LLD<1.77E+00		LLD<1.77E+00		
CS-138	LLD<4.07E-01		LLD<4.07E-01		
K-40	1.88E+01	+- 2.46E+00	1.88E+01	+-	2.46E+00
KR-88	LLD<2.72E+00		LLD<2.72E+00		
TL-209	LLD<1.13E+00		LLD<1.13E+00		
LA-140	LLD<5.67E-01		LLD<5.67E-01		
AL-26	LLD<3.75E-01		LLD<3.75E-01		
MN-56	LLD<1.41E+00		LLD<1.41E+00		
RB-88	LLD<1.05E+00		LLD<1.05E+00		
	---		---		
Total	4.48E+01	+- 3.59E+00	4.48E+01	+-	3.59E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0116

PEAKS NOT USED IN ANALYSIS

.troid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
590.12	294.72	60.	16.5	9.66E+00
1020.98	510.09	15.	51.6	4.10E+00
1164.97	582.09	35.	23.8	1.10E+01

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G-11

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*          G A M M A   S P E C T R U M   A N A L Y S I S      *
*                                                             *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 12:27:16

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0117
Measured by: dlv

Sample Description: G-11, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.7600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 12:00:00

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 12:27:16

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	476.84	238.12	1.3	68.	175.	10.8	PB-212
2	540.89	270.12	1.8	21.	28.	31.3	
3	676.46	337.87	2.4	19.	46.	20.9	AC-228
4	703.30	351.29	1.2	28.	78.	15.7	BI-211,PB-214
5	1021.21	510.21	1.5	14.	21.	34.6	TL-208,NA-22, ANN-RD
6	1164.88	582.05	1.5	16.	38.	23.6	
7	1218.17	608.69	1.8	7.	47.	16.9	XE-135,BI-214
8	1821.65	910.57	2.4	6.	33.	21.0	AC-228
9	2920.71	1460.82	2.3	15.	83.	13.7	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 08-MAR-96 12:27:16

ple: G-11, Soil Composite
ata collected on 08-MAR-96 at 12:00:00
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.72E+00		LLD<2.72E+00	
TH-234	LLD<2.57E+01		LLD<2.57E+01	
TH-230	LLD<1.92E+02		LLD<1.92E+02	
XE-133	LLD<1.54E+00		LLD<1.54E+00	
CD-109	LLD<1.10E+01		LLD<1.10E+01	
SCL-000	LLD<7.09E-01		LLD<7.09E-01	
CO-57	LLD<2.35E-01		LLD<2.35E-01	
PA-234	LLD<8.69E-01		LLD<8.69E-01	
CE-144	LLD<1.64E+00		LLD<1.64E+00	
TC-99M	LLD<1.86E-01		LLD<1.86E-01	
U-235	LLD<1.71E+00		LLD<1.71E+00	
CE-141	LLD<3.17E-01		LLD<3.17E-01	
KR-85M	LLD<2.54E-01		LLD<2.54E-01	
XE-131M	LLD<8.35E+00		LLD<8.35E+00	
[illegible]139	LLD<9.44E-01		LLD<9.44E-01	
[illegible]139	LLD<1.92E-01		LLD<1.92E-01	
RA-226	LLD<4.59E+00		LLD<4.59E+00	
BA-141	LLD<4.66E-01		LLD<4.66E-01	
KR-89	LLD<2.04E+00		LLD<2.04E+00	
TE-132	LLD<2.00E-01		LLD<2.00E-01	
XE-133M	LLD<3.00E+00		LLD<3.00E+00	
TH-227	LLD<1.67E+00		LLD<1.67E+00	
PB-212	1.78E+00	+- 1.94E-01	1.78E+00	+- 1.94E-01
RA-224	LLD<6.44E+00		LLD<6.44E+00	
XE-135	LLD<2.18E-01		LLD<2.18E-01	
XE-138	LLD<8.09E-01		LLD<8.09E-01	
SE-75	LLD<3.03E-01		LLD<3.03E-01	
NP-239	LLD<1.39E+00		LLD<1.39E+00	
HG-203	LLD<2.52E-01		LLD<2.52E-01	
IR-192	LLD<2.29E-01		LLD<2.29E-01	
CR-51	LLD<1.96E+00		LLD<1.96E+00	
SCM-000	LLD<9.63E-01		LLD<9.63E-01	
BI-211	1.34E+01	+- 2.11E+00	1.34E+01	+- 2.11E+00
PB-214	1.57E+00	+- 2.46E-01	1.57E+00	+- 2.46E-01
BA-133	LLD<6.93E-01		LLD<6.93E-01	
I-131	LLD<2.39E-01		LLD<2.39E-01	
SN-113	LLD<3.05E-01		LLD<3.05E-01	
KR-87	LLD<5.08E-01		LLD<5.08E-01	
PB-211	LLD<9.58E+00		LLD<9.58E+00	
AU-198	LLD<2.42E-01		LLD<2.42E-01	
[illegible] 125	LLD<6.80E-01		LLD<6.80E-01	
[illegible]-212	LLD<5.43E+01		LLD<5.43E+01	
BE-7	LLD<2.13E+00		LLD<2.13E+00	
HF-181	LLD<2.58E-01		LLD<2.58E-01	
RU-103	LLD<2.29E-01		LLD<2.29E-01	
KR-85	LLD<7.15E+01		LLD<7.15E+01	

SR-85	LLD<3.13E-01		LLD<3.13E-01		
I-133	LLD<2.47E-01		LLD<2.47E-01		
BA-140	LLD<9.32E-01		LLD<9.32E-01		
1M	LLD<3.44E-01		LLD<3.44E-01		
-207	LLD<2.90E-01		LLD<2.90E-01		
TL-208	LLD<1.11E+00		LLD<1.11E+00		
SB-124	LLD<3.18E-01		LLD<3.18E-01		
CS-134	LLD<5.78E-01		LLD<5.78E-01		
BI-214	1.39E+00	+- 2.35E-01	1.39E+00	+-	2.35E-01
RU-106	LLD<2.62E+00		LLD<2.62E+00		
LA-142	LLD<5.87E-01		LLD<5.87E-01		
AG-110M	LLD<2.70E-01		LLD<2.70E-01		
NB-97	LLD<2.72E-01		LLD<2.72E-01		
CS-137	LLD<3.40E-01		LLD<3.40E-01		
I-132	LLD<3.12E-01		LLD<3.12E-01		
W-187	LLD<7.33E-01		LLD<7.33E-01		
ZR-97	LLD<2.64E-01		LLD<2.64E-01		
ZR-95	LLD<5.19E-01		LLD<5.19E-01		
NB-95	LLD<3.08E-01		LLD<3.08E-01		
TL-210	LLD<1.85E+00		LLD<1.85E+00		
CO-58	LLD<3.27E-01		LLD<3.27E-01		
CS-136	LLD<2.79E-01		LLD<2.79E-01		
MN-54	LLD<2.60E-01		LLD<2.60E-01		
CO-56	LLD<2.70E-01		LLD<2.70E-01		
I-134	LLD<3.02E-01		LLD<3.02E-01		
TL-207	LLD<2.74E+02		LLD<2.74E+02		
Y-88	LLD<3.75E-01		LLD<3.75E-01		
AC-228	2.01E+00	+- 4.22E-01	2.01E+00	+-	4.22E-01
-152	LLD<3.70E+00		LLD<3.70E+00		
234M	LLD<3.53E+00		LLD<3.53E+00		
SR-91	LLD<1.08E+00		LLD<1.08E+00		
RB-89	LLD<8.83E-01		LLD<8.83E-01		
FE-59	LLD<6.85E-01		LLD<6.85E-01		
ZN-65	LLD<8.81E-01		LLD<8.81E-01		
SC-46	LLD<4.08E-01		LLD<4.08E-01		
TA-182	LLD<1.07E+00		LLD<1.07E+00		
I-135	LLD<1.27E+00		LLD<1.27E+00		
CL-39	LLD<8.56E-01		LLD<8.56E-01		
NA-22	LLD<3.89E-01		LLD<3.89E-01		
AR-41	LLD<4.25E-01		LLD<4.25E-01		
CO-60	LLD<4.32E-01		LLD<4.32E-01		
NA-24	LLD<3.54E-01		LLD<3.54E-01		
SR-92	LLD<1.92E-01		LLD<1.92E-01		
SCH-000	LLD<1.63E+00		LLD<1.63E+00		
CS-138	LLD<4.13E-01		LLD<4.13E-01		
K-40	1.85E+01	+- 2.56E+00	1.85E+01	+-	2.56E+00
KR-88	LLD<1.68E+00		LLD<1.68E+00		
TL-209	LLD<1.09E+00		LLD<1.09E+00		
LA-140	LLD<5.71E-01		LLD<5.71E-01		
AL-26	LLD<2.86E-01		LLD<2.86E-01		
MN-56	LLD<5.88E-01		LLD<5.88E-01		
RB-88	LLD<8.86E-01		LLD<8.86E-01		
	---		---		
Total	3.87E+01	+- 3.36E+00	3.87E+01	+-	3.36E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0117

PEAKS NOT USED IN ANALYSIS

ıtroid ıannel	Energy keV	Net Area counts	Error %	Gammas/sec
540.89	270.12	28.	31.3	4.11E+00
676.46	337.87	46.	20.9	8.28E+00
1021.21	510.21	21.	34.6	5.81E+00
1164.88	582.05	38.	23.6	1.20E+01

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G-12

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*                                                               *
*          G A M M A   S P E C T R U M   A N A L Y S I S        *
*                                                               *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 12:48:28

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0118
Measured by: dlv

Sample Description: G-12, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 6.6600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 12:29:14

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 12:48:28

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	476.80	238.09	1.3	60.	137.	12.2	PB-212
2	590.15	294.74	1.4	26.	28.	33.6	PB-214
3	704.09	351.68	2.4	12.	82.	12.7	BI-211,PB-214
4	1323.17	661.20	1.0	12.	37.	22.8	CS-137
5	1720.40	859.91	1.5	1.	9.	38.3	TL-208,BI-212
6	1822.00	910.74	0.9	3.	25.	22.3	AC-228
7C	2920.97	1460.95	2.1	2.	98.	10.5	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

C - Multiplet Analysis converged normally

hgtrw 08-MAR-96 12:48:28

ᶜ ᵑple: G-12, Soil Composite
.a collected on 08-MAR-96 at 12:29:14
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<3.23E+00		LLD<3.23E+00	
TH-234	LLD<2.51E+01		LLD<2.51E+01	
TH-230	LLD<2.37E+02		LLD<2.37E+02	
XE-133	LLD<1.70E+00		LLD<1.70E+00	
CD-109	LLD<1.09E+01		LLD<1.09E+01	
SCL-000	LLD<6.86E-01		LLD<6.86E-01	
CO-57	LLD<2.28E-01		LLD<2.28E-01	
PA-234	LLD<8.72E-01		LLD<8.72E-01	
CE-144	LLD<1.99E+00		LLD<1.99E+00	
TC-99M	LLD<2.09E-01		LLD<2.09E-01	
U-235	LLD<1.71E+00		LLD<1.71E+00	
CE-141	LLD<3.90E-01		LLD<3.90E-01	
KR-85M	LLD<2.09E-01		LLD<2.09E-01	
XE-131M	LLD<9.73E+00		LLD<9.73E+00	
BA-139	LLD<1.04E+00		LLD<1.04E+00	
[illegible]-139	LLD<2.12E-01		LLD<2.12E-01	
[illegible]-226	LLD<5.22E+00		LLD<5.22E+00	
BA-141	LLD<5.05E-01		LLD<5.05E-01	
KR-89	LLD<2.19E+00		LLD<2.19E+00	
TE-132	LLD<2.39E-01		LLD<2.39E-01	
XE-133M	LLD<3.16E+00		LLD<3.16E+00	
TH-227	LLD<1.84E+00		LLD<1.84E+00	
PB-212	1.63E+00	+- 2.01E-01	1.63E+00	+- 2.01E-01
RA-224	LLD<6.46E+00		LLD<6.46E+00	
XE-135	LLD<2.13E-01		LLD<2.13E-01	
XE-138	LLD<8.22E-01		LLD<8.22E-01	
SE-75	LLD<3.49E-01		LLD<3.49E-01	
NP-239	LLD<1.48E+00		LLD<1.48E+00	
HG-203	LLD<2.62E-01		LLD<2.62E-01	
IR-192	LLD<3.12E-01		LLD<3.12E-01	
CR-51	LLD<2.27E+00		LLD<2.27E+00	
SCM-000	LLD<8.28E-01		LLD<8.28E-01	
BI-211	1.65E+01	+- 2.10E+00	1.65E+01	+- 2.10E+00
PB-214	1.92E+00	+- 2.46E-01	1.92E+00	+- 2.46E-01
BA-133	LLD<7.87E-01		LLD<7.87E-01	
I-131	LLD<2.91E-01		LLD<2.91E-01	
SN-113	LLD<3.40E-01		LLD<3.40E-01	
KR-87	LLD<4.75E-01		LLD<4.75E-01	
PB-211	LLD<1.26E+01		LLD<1.26E+01	
AU-198	LLD<2.72E-01		LLD<2.72E-01	
[illegible]-125	LLD<8.33E-01		LLD<8.33E-01	
[illegible] 212	LLD<7.48E+01		LLD<7.48E+01	
BE-7	LLD<2.74E+00		LLD<2.74E+00	
HF-181	LLD<3.18E-01		LLD<3.18E-01	
RU-103	LLD<2.61E-01		LLD<2.61E-01	
KR-85	LLD<7.57E+01		LLD<7.57E+01	

SR-85	LLD<3.31E-01		LLD<3.31E-01		
I-133	LLD<3.15E-01		LLD<3.15E-01		
BA-140	LLD<1.22E+00		LLD<1.22E+00		
[illegible]91M	LLD<3.24E-01		LLD<3.24E-01		
[illegible] 207	LLD<2.94E-01		LLD<2.94E-01		
[illegible]-208	LLD<1.17E+00		LLD<1.17E+00		
SB-124	LLD<3.62E-01		LLD<3.62E-01		
CS-134	LLD<5.59E-01		LLD<5.59E-01		
BI-214	LLD<1.13E+00		LLD<1.13E+00		
RU-106	LLD<2.71E+00		LLD<2.71E+00		
LA-142	LLD<6.84E-01		LLD<6.84E-01		
AG-110M	LLD<6.10E-01		LLD<6.10E-01		
NB-97	LLD<6.14E-01		LLD<6.14E-01		
CS-137	5.91E-01	+- 1.35E-01	5.91E-01	+-	1.35E-01
I-132	LLD<4.21E-01		LLD<4.21E-01		
W-187	LLD<9.05E-01		LLD<9.05E-01		
ZR-97	LLD<3.02E-01		LLD<3.02E-01		
ZR-95	LLD<5.23E-01		LLD<5.23E-01		
NB-95	LLD<2.86E-01		LLD<2.86E-01		
TL-210	LLD<1.72E+00		LLD<1.72E+00		
CO-58	LLD<3.11E-01		LLD<3.11E-01		
CS-136	LLD<2.84E-01		LLD<2.84E-01		
MN-54	LLD<3.23E-01		LLD<3.23E-01		
CO-56	LLD<3.77E-01		LLD<3.77E-01		
I-134	LLD<4.41E-01		LLD<4.41E-01		
TL-207	LLD<2.31E+02		LLD<2.31E+02		
Y-88	LLD<3.76E-01		LLD<3.76E-01		
AC-228	1.79E+00	+- 4.00E-01	1.79E+00	+-	4.00E-01
EU-152	LLD<4.10E+00		LLD<4.10E+00		
[illegible]234M	LLD<2.98E+00		LLD<2.98E+00		
[illegible]91	LLD<1.17E+00		LLD<1.17E+00		
RB-89	LLD<6.35E-01		LLD<6.35E-01		
FE-59	LLD<4.99E-01		LLD<4.99E-01		
ZN-65	LLD<1.02E+00		LLD<1.02E+00		
SC-46	LLD<4.89E-01		LLD<4.89E-01		
TA-182	LLD<1.36E+00		LLD<1.36E+00		
I-135	LLD<1.96E+00		LLD<1.96E+00		
CL-39	LLD<1.10E+00		LLD<1.10E+00		
NA-22	LLD<4.44E-01		LLD<4.44E-01		
AR-41	LLD<4.67E-01		LLD<4.67E-01		
CO-60	LLD<2.82E-01		LLD<2.82E-01		
NA-24	LLD<3.50E-01		LLD<3.50E-01		
SR-92	LLD<2.24E-01		LLD<2.24E-01		
SCH-000	LLD<1.26E+00		LLD<1.26E+00		
CS-138	LLD<5.84E-01		LLD<5.84E-01		
K-40	2.53E+01	+- 2.70E+00	2.53E+01	+-	2.70E+00
KR-88	LLD<4.23E+00		LLD<4.23E+00		
TL-209	LLD<5.68E-01		LLD<5.68E-01		
LA-140	LLD<4.71E-01		LLD<4.71E-01		
AL-26	LLD<2.56E-01		LLD<2.56E-01		
MN-56	LLD<1.39E+00		LLD<1.39E+00		
RB-88	LLD<1.88E+00		LLD<1.88E+00		
	---		---		
Total	4.78E+01	+- 3.46E+00	4.78E+01	+-	3.46E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0118

PEAKS NOT USED IN ANALYSIS

Centroid Channel	Energy keV	Net Area counts	Error %	Gammas/sec
590.15	294.74	28.	33.6	4.43E+00
1720.40	859.91	9.	38.3	4.36E+00

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G-13

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*                                                               *
*          G A M M A   S P E C T R U M   A N A L Y S I S        *
*                                                               *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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CANBERRA SPECTRAN-AT V4.2a

hgtrw 08-MAR-96 13:57:41

A N A L Y S I S P A R A M E T E R S

MCA Unit Number: 1 / ADC Unit Number: 1.0
Detector Number: 1 / Geometry Number: 1
Spectrum Size: 4096 channels.
First channel for Search: 0
Adaptive smoothing performed.
Number of Background Channels: 4 on each side of peak.
Peak Confidence Factor: 95.0%
Multiplet Sensitivity: 3
Identification Energy Window: +- 1.00 keV.
Error Quotation: 1.00 sigma uncertainty.

LLD Calculation Performed.
Multiplet Analysis Performed.

Regular Output.
Analysis of Spectrum saved in Disk File SD0119
Measured by: dlv

Sample Description: G-13, Soil Composite
Geometry Description: Capsule Type Marinelli Beaker
Sample Size: 7.7600E+02 gm / Conversion Factor: 1.0000E+00
Standard Size: 8.8840E+02 gm
Analysis Library file: ANL000

COLLECT started on 08-MAR-96 at 13:28:42

COLLECT Live Time: 600. seconds
Real Time: 601. seconds
Dead Time: 0.17 %

Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT

Energy Calibration performed 08-MAR-96
Efficiency Calibration performed 21-NOV-95

hgtrw 08-MAR-96 13:57:41

P E A K A N A L Y S I S

PK	Centroid channel	Energy keV	FWHM keV	Backgnd counts	Net Area counts	Error %	Nuclides
1	476.33	237.86	1.5	84.	103.	17.4	PB-212
2	589.51	294.42	2.5	19.	49.	20.0	PB-214
3	703.24	351.26	1.1	21.	72.	15.7	BI-211,PB-214
4	1165.29	582.25	2.3	10.	35.	21.6	TL-208
5	1217.29	608.26	2.5	8.	41.	19.1	XE-135
6	1820.62	910.06	2.0	9.	23.	31.1	
7	2919.21	1460.07	2.0	4.	76.	12.5	K-40

Error Quotation at 1.00 sigma
Peak Confidence Level at 95.0%

hgtrw 08-MAR-96 13:57:41

mple: G-13, Soil Composite
.a collected on 08-MAR-96 at 13:28:42
Decayed to 0. days, 0.0000 hours BEFORE the start of COLLECT.

R A D I O N U C L I D E A N A L Y S I S R E P O R T

Nuclide	Activity Concentration in pCi /gm Measured	Error	Decay corrected	Error
AM-241	LLD<2.60E+00		LLD<2.60E+00	
TH-234	LLD<2.05E+01		LLD<2.05E+01	
TH-230	LLD<1.84E+02		LLD<1.84E+02	
XE-133	LLD<1.58E+00		LLD<1.58E+00	
CD-109	LLD<1.06E+01		LLD<1.06E+01	
SCL-000	LLD<6.68E-01		LLD<6.68E-01	
CO-57	LLD<2.22E-01		LLD<2.22E-01	
PA-234	LLD<8.55E-01		LLD<8.55E-01	
CE-144	LLD<1.65E+00		LLD<1.65E+00	
TC-99M	LLD<1.82E-01		LLD<1.82E-01	
U-235	LLD<1.53E+00		LLD<1.53E+00	
CE-141	LLD<3.66E-01		LLD<3.66E-01	
KR-85M	LLD<2.33E-01		LLD<2.33E-01	
XE-131M	LLD<7.44E+00		LLD<7.44E+00	
BA-139	LLD<8.97E-01		LLD<8.97E-01	
[illegible]139	LLD<1.82E-01		LLD<1.82E-01	
[illegible]-226	LLD<5.15E+00		LLD<5.15E+00	
BA-141	LLD<4.41E-01		LLD<4.41E-01	
KR-89	LLD<2.23E+00		LLD<2.23E+00	
TE-132	LLD<2.08E-01		LLD<2.08E-01	
XE-133M	LLD<3.05E+00		LLD<3.05E+00	
TH-227	3.10E+00	+- 5.43E-01	3.10E+00	+- 5.43E-01
PB-212	1.06E+00	+- 1.85E-01	1.06E+00	+- 1.85E-01
RA-224	LLD<6.59E+00		LLD<6.59E+00	
XE-135	LLD<1.94E-01		LLD<1.94E-01	
XE-138	LLD<7.39E-01		LLD<7.39E-01	
SE-75	LLD<3.05E-01		LLD<3.05E-01	
NP-239	LLD<1.26E+00		LLD<1.26E+00	
HG-203	LLD<2.50E-01		LLD<2.50E-01	
IR-192	LLD<2.26E-01		LLD<2.26E-01	
CR-51	LLD<1.99E+00		LLD<1.99E+00	
SCM-000	LLD<7.77E-01		LLD<7.77E-01	
BI-211	1.23E+01	+- 1.94E+00	1.23E+01	+- 1.94E+00
PB-214	1.44E+00	+- 2.26E-01	1.44E+00	+- 2.26E-01
BA-133	LLD<6.07E-01		LLD<6.07E-01	
I-131	LLD<2.13E-01		LLD<2.13E-01	
SN-113	LLD<3.20E-01		LLD<3.20E-01	
KR-87	LLD<4.67E-01		LLD<4.67E-01	
PB-211	LLD<8.12E+00		LLD<8.12E+00	
AU-198	LLD<2.30E-01		LLD<2.30E-01	
[illegible]-125	LLD<7.57E-01		LLD<7.57E-01	
[illegible] 212	LLD<6.38E+01		LLD<6.38E+01	
[illegible]-7	LLD<2.21E+00		LLD<2.21E+00	
HF-181	LLD<2.42E-01		LLD<2.42E-01	
RU-103	LLD<2.29E-01		LLD<2.29E-01	
KR-85	LLD<6.68E+01		LLD<6.68E+01	

SR-85	LLD<2.92E-01	LLD<2.92E-01
I-133	LLD<2.42E-01	LLD<2.42E-01
BA-140	LLD<9.56E-01	LLD<9.56E-01
1M	LLD<2.45E-01	LLD<2.45E-01
-207	LLD<2.37E-01	LLD<2.37E-01
TL-208	LLD<9.71E-01	LLD<9.71E-01
SB-124	LLD<3.16E-01	LLD<3.16E-01
CS-134	LLD<5.10E-01	LLD<5.10E-01
BI-214	LLD<8.87E-01	LLD<8.87E-01
RU-106	LLD<2.31E+00	LLD<2.31E+00
LA-142	LLD<5.44E-01	LLD<5.44E-01
AG-110M	LLD<3.02E-01	LLD<3.02E-01
NB-97	LLD<3.04E-01	LLD<3.04E-01
CS-137	LLD<3.51E-01	LLD<3.51E-01
I-132	LLD<2.90E-01	LLD<2.90E-01
W-187	LLD<1.01E+00	LLD<1.01E+00
ZR-97	LLD<3.16E-01	LLD<3.16E-01
ZR-95	LLD<5.72E-01	LLD<5.72E-01
NB-95	LLD<3.78E-01	LLD<3.78E-01
TL-210	LLD<1.56E+00	LLD<1.56E+00
CO-58	LLD<2.61E-01	LLD<2.61E-01
CS-136	LLD<2.85E-01	LLD<2.85E-01
MN-54	LLD<3.68E-01	LLD<3.68E-01
CO-56	LLD<3.19E-01	LLD<3.19E-01
I-134	LLD<3.78E-01	LLD<3.78E-01
TL-207	LLD<2.25E+02	LLD<2.25E+02
Y-88	LLD<3.20E-01	LLD<3.20E-01
AC-228	LLD<1.60E+00	LLD<1.60E+00
-152	LLD<3.52E+00	LLD<3.52E+00
234M	LLD<4.12E+00	LLD<4.12E+00
R-91	LLD<1.08E+00	LLD<1.08E+00
RB-89	LLD<6.02E-01	LLD<6.02E-01
FE-59	LLD<5.81E-01	LLD<5.81E-01
ZN-65	LLD<8.13E-01	LLD<8.13E-01
SC-46	LLD<5.23E-01	LLD<5.23E-01
TA-182	LLD<1.27E+00	LLD<1.27E+00
I-135	LLD<1.53E+00	LLD<1.53E+00
CL-39	LLD<8.07E-01	LLD<8.07E-01
NA-22	LLD<4.54E-01	LLD<4.54E-01
AR-41	LLD<3.35E-01	LLD<3.35E-01
CO-60	LLD<2.50E-01	LLD<2.50E-01
NA-24	LLD<3.73E-01	LLD<3.73E-01
SR-92	LLD<2.73E-01	LLD<2.73E-01
SCH-000	LLD<1.31E+00	LLD<1.31E+00
CS-138	LLD<4.13E-01	LLD<4.13E-01
K-40	1.70E+01 +- 2.15E+00	1.70E+01 +- 2.15E+00
KR-88	LLD<3.23E+00	LLD<3.23E+00
TL-209	LLD<1.38E+00	LLD<1.38E+00
LA-140	LLD<1.91E-01	LLD<1.91E-01
AL-26	LLD<1.57E-01	LLD<1.57E-01
MN-56	LLD<5.88E-01	LLD<5.88E-01
RB-88	LLD<4.00E-01	LLD<4.00E-01
	---	---
Total	3.49E+01 +- 2.96E+00	3.49E+01 +- 2.96E+00

Error Quotation at 1.00 Sigma
LLD Confidence Level at 95.0%

Results saved in File SD0119

PEAKS NOT USED IN ANALYSIS

troid channel	Energy keV	Net Area counts	Error %	Gammas/sec
589.51	294.42	49.	20.0	7.89E+00
1165.29	582.25	35.	21.6	1.11E+01
1217.29	608.26	41.	19.1	1.33E+01
1820.62	910.06	23.	31.1	1.09E+01

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APPENDIX L

ASBESTOS, RCRA METAL AND VOC RESULTS FOR THE VERIFICATION SURVEY

ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
March 25, 1996 12:50

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9603072
WORK ID : TA-9 MDAM
CLIENT CODE : NES01
DATE RECEIVED : 03/11/96

Lab ID: 9603072-01A
Sample ID: G1 COMPOSITE
Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1248	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1254	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1260	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
RCRA METALS-ICP/SW846 6010						
Silver, Ag	1.6	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	233	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.57	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	11.1	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	35.4	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-02A
Sample ID: G2 COMPOSITE
Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1248	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1254	ND	mg/Kg	0.0030	1.0	03/15/96	SPCB124
PCB-1260	0.010	mg/Kg	0.0030	1.0	03/15/96	SPCB124

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Lab ID: 9603072-02A
Sample ID: G2 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
RCRA METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	137	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.35	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	7.3	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	21.8	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-03A
Sample ID: G3 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1248	0.008	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1254	0.012	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1260	0.008	mg/Kg	0.0030	1.0	03/19/96	SPCB124
RCRA METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	146	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.55	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	7.6	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	21.5	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-04A
Sample ID: G4 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1248	0.064	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1254	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1260	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124

Lab ID: 9603072-04A
Sample ID: G4 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
RCRA METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	157	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.33	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	9.4	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	20.7	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-05A
Sample ID: G5 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1248	0.005	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1254	0.030	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1260	0.017	mg/Kg	0.0030	1.0	03/19/96	SPCB124
RCRA METALS-ICP/SW846 6010						
Silver, Ag	1.7	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	185	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.58	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	10.8	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	40.2	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-06A
Sample ID: G6 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1248	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1254	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1260	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124

Lab ID: 9603072-06A
Sample ID: G6 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
RCRA METALS-ICP/SW846 6010						
Silver, Ag	3.3	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	188	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.77	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	10.5	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	31.7	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-07A
Sample ID: G7 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1248	0.003	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1254	0.014	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1260	0.010	mg/Kg	0.0030	1.0	03/19/96	SPCB124
RCRA METALS-ICP/SW846 6010						
Silver, Ag	10.4	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	182	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	3.14	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	10.5	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	31.3	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-08A
Sample ID: G8 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1248	0.006	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1254	0.029	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1260	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124

Lab ID: 9603072-08A **Collected:** 03/08/96 12:00:00
Sample ID: G8 COMPOSITE **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
RCRA METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	168	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.26	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	9.9	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	20.8	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-09A **Collected:** 03/08/96 12:00:00
Sample ID: G9 COMPOSITE **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1248	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1254	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1260	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
RCRA METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	206	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.28	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	10.7	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	13.9	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-10A **Collected:** 03/08/96 12:00:00
Sample ID: G10 COMPOSITE **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1248	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1254	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1260	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124

ID: 9603072-10A **Collected:** 03/08/96 12:00:00
Sample ID: G10 COMPOSITE **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
RCRA METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	132	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.34	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	9.7	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	13.4	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-11A **Collected:** 03/08/96 12:00:00
Sample ID: G11 COMPOSITE **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1248	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1254	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
PCB-1260	ND	mg/Kg	0.0030	1.0	03/16/96	SPCB124
RCRA METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	136	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	0.24	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	9.8	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	12.8	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-12A **Collected:** 03/08/96 12:00:00
Sample ID: G12 COMPOSITE **Matrix:** SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1248	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1254	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124
PCB-1260	ND	mg/Kg	0.0030	1.0	03/19/96	SPCB124

ID: 9603072-12A
Sample ID: G12 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
RCRA METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	84.0	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	ND	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	7.7	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	15.8	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-13A
Sample ID: G13 COMPOSITE

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	03/13/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	03/13/96	SCV94
Metal(ICP) DIG /SW846 3050	03/12/96	N/A				
PCBs XT/SW846 3520	03/14/96	N/A				
PCBs/SW846 8080A						
PCB-1016	ND	mg/Kg	0.0030	1.0	03/22/96	SPCB124
PCB-1221	ND	mg/Kg	0.0030	1.0	03/22/96	SPCB124
PCB-1232	ND	mg/Kg	0.0030	1.0	03/22/96	SPCB124
PCB-1242	ND	mg/Kg	0.0030	1.0	03/22/96	SPCB124
PCB-1248	ND	mg/Kg	0.0030	1.0	03/22/96	SPCB124
PCB-1254	0.005	mg/Kg	0.0030	1.0	03/22/96	SPCB124
PCB-1260	0.003	mg/Kg	0.0030	1.0	03/22/96	SPCB124
RCRA METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	03/12/96	S6-5
Arsenic, As	ND	mg/Kg	3.0	1.0	03/12/96	S6-5
Barium, Ba	60.2	mg/Kg	0.50	1.0	03/12/96	S6-5
Cadmium, Cd	ND	mg/Kg	0.20	1.0	03/12/96	S6-5
Chromium, Cr	6.7	mg/Kg	1.0	1.0	03/12/96	S6-5
Lead, Pb	11.1	mg/Kg	2.0	1.0	03/12/96	S6-5
Selenium, Se	ND	mg/Kg	2.5	1.0	03/12/96	S6-5

Lab ID: 9603072-14A
Sample ID: G1 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-14A
Sample ID: G1 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1.1-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
trans-1.2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
cis-1.2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1.1.1-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1.3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1.1.2-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1.3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromoform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.1.2.2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1.1.1.2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
O-Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.2.3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1.2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-14B
Sample ID: G1 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

) ID: 9603072-15A
nple ID: G2 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,2-Dichloroethene	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,2-Dichloroethene	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
romomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
chloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromoform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
O-Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-15B
Sample ID: G2 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

Lab ID: 9603072-16A
Sample ID: G3 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]lonitrile	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
[illegible]is-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromoform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
[illegible]ylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]ethyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

) ID: 9603072-16A
mple ID: G3 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-16B
Sample ID: G3 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

Lab ID: 9603072-17A
Sample ID: G4 CENTER

Collected: 03/08/96
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
''LATILES/SW846 8240B						
:hlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
;romethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
;methane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,2-Dichloroethene	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,2-Dichloroethene	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
's-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
;moform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
'hyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
:hloroethene	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

ID: 9603072-17A
Sample ID: G4 CENTER

Collected: 03/08/96
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
O-Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-17B
Sample ID: G4 CENTER

Collected: 03/08/96
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

Lab ID: 9603072-18A
Sample ID: G5 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
utanone (MEK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-18A
Sample ID: G5 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromoform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
hyl-tert Butyl Ether	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dichlorobenzene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-18B
Sample ID: G5 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

Lab ID: 9603072-19A
Sample ID: G6 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
yl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
oroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
orofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-19A
Sample ID: G6 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1.1-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
trans-1.2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
cis-1.2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1.1.1-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1.3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1.1.2-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]-1.3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]noform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]ethyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.1.2.2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1.1.1.2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
O-Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.2.3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1.2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1.4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-19B
Sample ID: G6 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

ID: 9603072-20A
Sample ID: G7 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromoform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
O-Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-20B
Sample ID: G7 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

Lab ID: 9603072-21A
Sample ID: G8 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]lonitrile	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
[illegible]ans-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromoform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
[illegible]ylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]ethyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-21A
Sample ID: G8 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-21B
Sample ID: G8 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

Lab ID: 9603072-22A
Sample ID: G9 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ATILES/SW846 8240B						
lorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
oromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
oform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
ethyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

) ID: 9603072-22A
ıple ID: G9 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
O-Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-22B
Sample ID: G9 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
A SAMPLE FOR ANALYSIS	N/A	N/A				

Lab ID: 9603072-23A
Sample ID: G10 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,2-Dichloroethene	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
-1,2-Dichloroethene	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
·tanone (MEK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
ı Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-23A
Sample ID: G10 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromoform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
[illegible] Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
[illegible]yl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-23B
Sample ID: G10 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

Lab ID: 9603072-24A
Sample ID: G11 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
[illegible]l Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
[illegible]oethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
[illegible]hlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358

b ID: 9603072-24A
ıple ID: G11 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
›moform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
thyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
chloroethene	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
O-Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Methyl-tert Butyl Ether	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichlorobenzene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-24B
Sample ID: G11 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

ID: 9603072-25A
Sample ID: G12 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Acrylonitrile	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chloroform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromoform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
O-Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

) ID: 9603072-25B
nple ID: G12 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

Lab ID: 9603072-26A
Sample ID: G13 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Chloromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Iodomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acetone	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Bromomethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Chloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Freon 113	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Acrolein	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Methylene Chloride	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
1 1-Dichloroethene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
ylonitrile	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
-1,2-Dichloroethene	ND	mg/Kg	0.020	5.0	03/12/96	SMSVOA358
roform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Vinyl Acetate	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,2-Dichloroethene	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
2-Butanone (MEK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,1-Trichloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Dibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Trichloroethene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethyl Methacrylate	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2-Trichloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Benzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Bromoform	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Tetrachloroethene	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
2-Hexanone (MBK)	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0050	5.0	03/12/96	SMSVOA358
Toluene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
Ethylbenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
Styrene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
P/M Xylene	ND	mg/Kg	0.0020	5.0	03/12/96	SMSVOA358
Xylene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
-Trichloropropane	ND	mg/Kg	0.010	5.0	03/12/96	SMSVOA358
-tert Butyl Ether	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
chlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-26A
Sample ID: G13 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	03/12/96	SMSVOA358

Lab ID: 9603072-26B
Sample ID: G13 CENTER

Collected: 03/08/96 12:00:00
Matrix: SOIL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
EXTRA SAMPLE FOR ANALYSIS	N/A	N/A				

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 03/25/96
WORKORDER: 9603072

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

SSAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 3072 Date

Page 1 of 3

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES

Address: 550 Trinity Drive Suite U-5

City / State / Zip: Los Alamos NM 87544

Project Name / Number: TA-9 MDAM

Contract / Purchase Order / Quote:

Project Manager / Contact: Debbie O'Connell

Telephone No.: 505-662-1944

Fax No.: 505-662-2036

Samplers: (Signature) Debbie O'Connell

Analysis Required

Lab Fraction Number	Sample Identification	Date	Time	Matrix	Type/Size of Container	Preservative	No. of Containers	Total Metals (RCRA)	Total PCB	Asbestos						Remarks
01A	G1 Composite	3/8/96	1200	Soil	8oz glass		1	✓	✓	✓						* If Total Metal result exceeds 2x TCLP limit, please run TCLP for that metal
02A	G2 Composite						1	✓	✓	✓						
03A	G3 "						1	✓	✓	✓						
04A	G4 "						1	✓	✓	✓						
05A	G5 "						1	✓	✓	✓						
06A	G6 "						1	✓	✓	✓						
07A	G7 "						1	✓	✓	✓						
08A	G8 "						1	✓	✓	✓						
09A	G9 "						1	✓	✓	✓						
10A	G10 "						1	✓	✓	✓						
11A	G11 "						1	✓	✓	✓						
12A	G12 "						1	✓	✓	✓						

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: D. O'Connell	3/11/96	Signature: [illegible]	Signature: [illegible]	3/11/96	Signature: [illegible]
Printed: D. O'Connell	Time: 1000	Printed: Elias Chavez	Printed: Elias Chavez	Time: 1400	Printed: [illegible]
Company: NES		Company: AAL	Company: AAL		Company: AAL
Reason: taking		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

Chain of Custody Record

SSAIGAI ANALYTICAL LABORATORIES

Lab job no.: 3072 Date

Page 2 of 3

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MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES

Address: 25 Trinity Drive Suite C-5

City / State / Zip: Los Alamos NM 87544

Project Name / Number: TA-1 MDAM

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 505-662-1994

Fax No.: 505-662-2126

Samplers: (Signature) Dmc O'Connell

AAL Fraction Number	Field Sample Number / Location	Date	Time	Matrix	Container / Size of Container	Preservative Type	Preservative Volume	No. of Containers	TCLP Metals (RCRA)	Total PCB	Asbestos	Total VOCs						Remarks
13A	G13 Composite	3/8/96	1200	Soil	8 oz glass			1	✓	✓	✓							*If Total Metal
14A,B	G1 Center							1				✓						Results exceed
15A,B	G2 Center							1				✓						20 x TCLP limit,
16A,B	G3 "							1				✓						please run TCLP
17A,B	G4 "							1				✓						for that metal
18A,B	G5 "							1				✓						
19A,B	G6 "							1				✓						
20A,B	G7 "							1				✓						
21A,B	G8 "							1				✓						
22A,B	G9 "							1				✓						
23A,B	G10 "							1				✓						
24A,B	G11 "							1				✓						

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Dmc O'Connell	3/11/96	Signature: [illegible]	Signature: [illegible]	3/11/96	Signature: [illegible]
Printed: DMC O'CONNELL	Time: 1100	Printed: Elin J. Chase	Printed: Elin J. Chase	Time: 1400	Printed: Larry Mitchell
Company: NES		Company: AALT	Company: AALT		Company: AALT
Reason: Testing		Reason: Testing	Reason: Testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 3072 Date

Page 3 of 3

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MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES

Address: 3500 Trinity Drive Suite C-5

City / State / Zip: Los Alamos, NM 87544

Project Name / Number: TA-9 MDAM

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 505-662-1904

Fax No.: 505-662-2036

Samplers: (Signature) DMO'Connell

Analysis Required

Lab Sample Number	Sample Identification	Date	Time	Matrix	Preservative	Container	No. of Containers	Total VOCs									Remarks
25A,B	G12 Center	3/8/96	1200	Soil		8oz glass	1	✓									
26A,B	G13 "	"	"	Soil		"	1	✓									

DMO'Connell 3/8/96

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: DMO'Connell	3/11/96	Signature:	Signature:	3/11/96	Signature:
Printed: DMO'Connell	Time: 1000	Printed: Elvis Chavez	Printed: Elvis Chavez	Time: 1100	Printed:
Company: NES		Company: AAI	Company: AAI		Company:
Reason: Testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

ASSA[illegible]AI
ANALYTICAL [illegible]RATORIES, INC. • 7300 Jefferson, N.E. • Albuquerque, New Mexico 87109
3332 Wedgewood, Suite E-5 [illegible], Texas 79925

To: N[illegible], Inc.
Attn: Debbie O'Connell
3500 Trinity Drive, Suite C-5
Los Alamos, NM 87544

Date: 18 March 1996
Work Order No. BB14259
Bulk Asbestos Analysis
No. of Analyses: 13
No. of Samples: 13

Methods: EPA Interim Method of the Determination of Asbestos in Bulk Insulation Samples (EPA-600/M4-82-020) and as cited in 40 CFR Part 763, Subp. F, Appendix A, Section 1, comparing the quantity of non-asbestos material to asbestos fibers. The EPA Preferred Method is the Determination of Asbestos in Bulk Building Materials (EPA-600/R-93/116 July 1993). Detection Limit: 1% of the portion of the sample examined.

Sample Site: **TA-9 - MDAM**

SAMPLE ID.	*DESCRIPTION*	*ASBESTOS TYPE*	*% ASBESTOS*	*OTHER FIBERS*	*% CONTENT*	*MATRIX*
G-1	*Brown Soil*	*Chrysotile* *Amosite*	*Trace < 1* *Trace < 1*	*None*	-----	*Clay, Quartz*
	Total Combined Asbestos		***Trace < 1***			
G-2	*Brown Soil*	*Amosite*	*Trace < 1*	*None*	-----	*Clay, Quartz, Mica*
G-3	*Brown Soil*	*NAD*	-----	*Plant*	*Trace < 1*	*Clay, Quartz, Mica*
G-4	*Brown Soil*	*Amosite* *Chrysotile*	*Trace < 1* *Trace < 1*	*None*	-----	*Clay, Quartz, Mica*
	Total Combined Asbestos		***Trace < 1***			
G-5	*Brown Soil*	*Chrysotile* *Amosite*	*Trace < 1* *Trace < 1*	*None*	-----	*Clay, Quartz, Mica*
	Total Combined Asbestos		***Trace < 1***			
G-6	*Brown Soil*	*Chrysotile* *Amosite*	*Trace < 1* *Trace < 1*	*None*	-----	*Clay, Quartz, Mica*
	Total Combined Asbestos		***Trace < 1***			
G-7	*Brown Soil*	*Chrysotile* *Amosite*	*Trace < 1* *Trace < 1*	*None*	-----	*Clay, Quartz, Mica*
	Total Combined Asbestos		***Trace < 1***			

Member: American Council of Independent Laboratories, Inc.

THIS REPORT MUST NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL LABORATORY VOLUNTARY ACCREDITATION PROGRAM OR ANY OTHER AGENCY OF THE UNITED STATES GOVERNMENT

NVLAP

ANALYTICAL LABORATORIES, INC. • 7300 Jefferson, N.E. • Albuquerque, New Mexico 87109

3332 Wedgewood, Suite ... El Paso, Texas 7992

NES, Inc.
Date: 18 March 1996
Work Order No. BB14259

SAMPLE ID.	DESCRIPTION	ASBESTOS TYPE	% ASBESTOS	OTHER FIBERS	% CONTENT	MATRIX
G-8	Brown Soil	Chrysotile Amosite	Trace < 1 Trace < 1	None	-----	Clay, Quartz, Mica
	Total Combined Asbestos		Trace < 1			
G-9	Brown Soil	Chrysotile	Trace < 1	None	-----	Clay, Quartz, Mica
G-10	Brown Soil	Chrysotile	Trace < 1	Plant	1 - 5	Clay, Quartz, Mica
G-11	Brown Soil	NAD	-----	Plant	Trace < 1	Clay, Quartz, Mica
G-12	Brown Soil	NAD	-----	Plant	1 - 5	Clay, Quartz, Mica
G-13	Brown Soil	NAD	-----	Plant	Trace < 1	Clay, Quartz, Mica

NAD = NO ASBESTOS DETECTED

Analyst - Justin T. Kirby

Pursuant to the Asbestos NESHAP Clarification Regarding Analysis of Multi-layered Systems (Federal Register/Vol. 59, No. 3, Wednesday, January 5, 1994), each layer, in a sample containing one or more distinct layers, has been individually analyzed and reported. These results relate only to the above samples as submitted unless otherwise noted.

We appreciate the opportunity to perform analytical work for you. If you have any questions, please call.

Respectfully submitted,

Jeffrey M. Mlekush
Asbestos Laboratory Manager

Member: American Council of Independent Laboratories, Inc.

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SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

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6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab job no.: _____ Date _____

Page 1 of 3

Client: NES

Address: 3500 Trinity Drive Suite C-5

City / State / Zip: Los Alamos NM 87544

Project Name / Number: TA-9 MDAM

Contract / Purchase Order / Quote: _____

Project Manager / Contact: Debbie O'Connell

Telephone No.: 505-662-1984

Fax No.: 505-662-2036

Samplers: (Signature) DMO'Connell

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Total Metal (RCRA)	Total PCB	Asbestos						Remarks
	G1 Composite	3/8/96	1200	Soil	8oz glass			1	✓	✓	✓						* If Total Metal result exceeds 2x TCLP limit, please run TCLP for that metal.
	G2 Composite							1	✓	✓	✓						
	G3 "							1	✓	✓	✓						
	G4 "							1	✓	✓	✓						
	G5 "							1	✓	✓	✓						
	G6 "							1	✓	✓	✓						
	G7 "							1	✓	✓	✓						
	G8 "							1	✓	✓	✓						
	G9 "							1	✓	✓	✓						
	G10 "							1	✓	✓	✓						
	G11 "							1	✓	✓	✓						
	G12 "							1	✓	✓	✓						

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: DMO'Connell	3/11/96	Signature: Elvin J. Chavez	Signature: Elvin J. Chavez	3/11/96	Signature: C. Stewart
Printed: DMO'Connell	Time: 1000	Printed: Elvin J. Chavez	Printed: Elvin J. Chavez	Time: 1400	Printed: C. Stewart
Company: NES		Company: AALI	Company: AALI		Company: AAL
Reason: Testing		Reason: testing	Reason: testing		Reason: ANALYSIS

Method of Shipment: _____

Shipment No. _____

Special Instructions: _____

Comments: _____

After analysis, samples are to be:

- [ ] Disposed of (additional fee)
- [ ] Stored (30 days max)
- [ ] Stored over 30 days (additional fee)
- [ ] Returned to customer

LABORATORY

Chain of Custody Record

AS NIGAI ANALYTICAL LABORATORIES

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87109
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Lab job no.: _____ Date _____

Page 2 of 3

nt NES

ress 3500 Trinity Drive Suite C-5

/ State / Zip Los Alamos NM 87544

ject Name / Number TA-9 MDAM

tract / Purchase Order / Quote _____

Project Manager / Contact Debbie O'Connell

Telephone No. 505-662-1984

Fax No. 505-662-2036

Samplers: (Signature) DM O'Connell

AAL Transaction Number	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp.	Preservation Chemical	No. of Containers	Total Metals (RCRA)	Total PCB	Asbestos	Total VOCs						Remarks
	G13 Composite	3/8/96	1200	Soil	8 oz glass			1	✓	✓	✓							*If Total Metal Results exceed 20 x TCLP limit, please run TCLP for that metal.
	G1 Center							1				✓						
	G2 Center							1				✓						
	G3 "							1				✓						
	G4 "							1				✓						
	G5 "							1				✓						
	G6 "							1				✓						
	G7 "							1				✓						
	G8 "							1				✓						
	G9 "							1				✓						
	G10 "							1				✓						
	G11 "							1				✓						

Relinquished by: DM O'Connell	Date 3/11/96	Received by: C. Stewart	Date 3/11/96
Signature DM O'Connell	Time 1000	Signature C. Stewart	Time 1400
Printed DEBBIE O'CONNELL		Printed C. Stewart	
Company NES		Company AAL	
Reason Testing		Reason ANALYSIS	

Relinquished by:
Signature Elvin J. Chavez
Printed Elvin J. Chavez
Company AALI
Reason Testing

Received by:
Signature Elvin J. Chavez
Printed Elvin J. Chavez
Company AALI
Reason Testing

d of Shipment: _____

ent No. _____

al Instructions: _____

Comments: _____

After analysis, samples are to be:

- [ ] Disposed of (additional fee)
- [ ] Stored (30 days max)
- [ ] Stored over 30 days (additional fee)
- [ ] Returned to customer

LABORATORY

ASSAIGAI ANALYTICAL LABORATORIES

WORK ORDER
BB 14259

BULK SAMPLES	DATE RECEIVED 3-11-96	ESTIMATED COST
CUSTOMER P.O. NUMBER	TIME RECEIVED 3:50 pm	DUE DATE 3-18-96

ACCOUNT INFORMATION

CUSTOMER'S NAME NES, Inc.	CONTACT Debbie O'Connell
ADDRESS	PHONE NUMBER
	FAX NUMBER
CITY / STATE / ZIP	MOBILE / PAGER NUMBER

PARTY RESPONSIBLE FOR PAYMENT IF OTHER THAN ABOVE

		ACCOUNT STATUS
NAME	CONTACT	PAYMENT REC'D.
ADDRESS	PHONE NUMBER	OPEN ACCOUNT ✓
CITY / STATE / ZIP	FAX NUMBER	CASH
SPECIAL BILLING INSTRUCTIONS		CHECK NUMBER

SAMPLE INFORMATION

TYPE OF SAMPLE	NO. OF ~~CASSETTES~~ samples	*TURN AROUND TIME	SAMPLE IDENTIFICATION AND / OR SAMPLE SITE
☑ BULK (PLM) ☐ SOIL (PLM) ☐ CONCRETE ☐ OTHER	13	☐ PRIORITY 1 (2 HRS) ☐ PRIORITY 2 (24 HRS) ☐ PRIORITY 3 (3 WKG DAYS) ☑ PRIORITY 4 (5-10 WKG DAYS) *(SUBJECT TO WORK LOAD)	TA-9 MDAM

SAMPLE DELIVERED BY	SIGNATURE	DATE
	Elvin Chavez	3/11/96

ANALYSIS REQUEST

WORK DESCRIPTION

BILLING ☐ PICKUP ☐ MAIL

LOGGED IN BY [illegible]

9012 Washington NE • Albuquerque, New Mexico 87113 • (505) 822-8061 • FAX (505) 822-8063

APPENDIX M

RECYCLABLE MATERIALS' ANALYTICAL RESULTS

ASSAGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
January 9, 1996 15:19

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9512192
WORK ID : MDAM
CLIENT CODE : NES01
DATE RECEIVED : 12/18/95

Lab ID: 9512192-01A
Sample ID: WOOD C3-C142

Collected: 12/14/95 09:00:00
Matrix: WOOD

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	12/29/95	N/A				
ICP DIG/SW 846 3050	12/19/95	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	12/29/95	SCV84
METALS by ICP/SW-846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	12/23/95	SI63
Aluminum, Al	NT	mg/Kg	25			SI63
Arsenic, As	ND	mg/Kg	1.5	1.0	12/23/95	SI63
Boron, B	NT	mg/Kg	5.0			SI63
Barium, Ba	128	mg/Kg	0.50	1.0	12/23/95	SI63
Beryllium, Be	NT	mg/Kg	0.020			SI63
Calcium, Ca	NT	mg/Kg	10			SI63
Cadmium, Cd	0.265	mg/Kg	0.15	1.0	12/23/95	SI63
Cobalt, Co	NT	mg/Kg	0.50			SI63
Chromium, Cr	5.39	mg/Kg	1.0	1.0	12/23/95	SI63
Copper, Cu	NT	mg/Kg	1.0			SI63
Iron, Fe	NT	mg/Kg	10			SI63
Potassium, K	NT	mg/Kg	5.0			SI63
Magnesium, Mg	NT	mg/Kg	5.0			SI63
Manganese, Mn	NT	mg/Kg	0.15			SI63
Sodium, Na	NT	mg/Kg	10			SI63
Nickel, Ni	NT	mg/Kg	0.50			SI63
Lead, Pb	26.7	mg/Kg	1.5	1.0	12/23/95	SI63
Antimony, Sb	NT	mg/Kg	1.5			SI63
Selenium, Se	ND	mg/Kg	2.5	1.0	12/23/95	SI63
Vanadium, V	NT	mg/Kg	0.15			SI63
Zinc, Zn	NT	mg/Kg	5.0			SI63
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
alpha-BHC	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
beta-BHC	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
gamma-BHC (lindane)	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
delta-BHC	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
Chlordane	ND	mg/Kg	0.030	30	12/28/95	SPEST43/SPCB119
4,4'-DDD	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
4,4'-DDE	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
4,4'-DDT	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
Dieldrin	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
Endosulfan I	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
Endosulfan II	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
Endrin	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
Endrin Aldehyde	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
Heptachlor	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
Heptachlor Epoxide	ND	mg/Kg	0.0030	30	12/28/95	SPEST43/SPCB119
Methoxychlor	ND	mg/Kg	0.030	30	12/28/95	SPEST43/SPCB119

Member: American Council of Independent Laboratories, Inc.

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THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL LABORATORY VOLUNTARY ACCREDITATION PROGRAM.

ID: 9512192-01A
Sample ID: WOOD C3-C142

Collected: 12/14/95 09:00:00
Matrix: WOOD

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
PEST/PCB /SW846 8080A						
Endosulfan Sulfate	ND	mg/Kg	0.030	30	12/28/95	SPEST43/SPCB119
Toxaphene	ND	mg/Kg	0.30	30	12/28/95	SPEST43/SPCB119
PCB-1016	ND	mg/Kg	0.0030	30	01/04/96	SPEST43/SPCB119
PCB-1221	ND	mg/Kg	0.0030	30	01/04/96	SPEST43/SPCB119
PCB-1232	ND	mg/Kg	0.0030	30	01/04/96	SPEST43/SPCB119
PCB-1242	ND	mg/Kg	0.0030	30	01/04/96	SPEST43/SPCB119
PCB-1248	ND	mg/Kg	0.0030	30	01/04/96	SPEST43/SPCB119
PCB-1254	ND	mg/Kg	0.0030	30	01/04/96	SPEST43/SPCB119
PCB-1260	ND	mg/Kg	0.0030	30	01/04/96	SPEST43/SPCB119
PEST/PCB XT/SW846 3520	12/26/95	N/A				
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Pyridine	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Aniline	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
2-Chlorophenol	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
1,3-Dichlorobenzene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
1,4-Dichlorobenzene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Phenol	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
1,2-Dichlorobenzene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Benzyl Alcohol	ND	mg/Kg	1.5	60	01/08/96	SMSSVOA101
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Hexachloroethane	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
[illegible]itroso-di-n-propylamine	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
[illegible]benzene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
[illegible]Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Isophorone	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
2-Nitrophenol	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
2,4-Dimethylphenol	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Naphthalene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Benzoic Acid	ND	mg/Kg	3.0	60	01/08/96	SMSSVOA101
2,4-Dichlorophenol	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
4-Chloroaniline	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Hexachlorobutadiene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
2-Methylnaphthalene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	60	01/08/96	SMSSVOA101
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
2-Chloronaphthalene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
2-Nitroaniline	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Acenaphthylene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Dimethylphthalate	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
2,6-Dinitrotoluene	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Acenaphthene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA101
Dibenzofuran	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
2,4-Dinitrotoluene	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Fluorene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Diethylphthalate	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
4-Nitrophenol	ND	mg/Kg	0.60	60	01/08/96	SMSSVOA101
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
4-Nitroaniline	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
[illegible]romophenyl-phenylether	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
[illegible]achlorobenzene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
[illegible]tachlorophenol	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
[illegible],4-Dinitrophenol	ND	mg/Kg	0.050	60	01/08/96	SMSSVOA101
Benzidine	NT	mg/Kg	1.5			SMSSVOA101

J ID: 9512192-01A
Sample ID: WOOD C3-C142

Collected: 12/14/95 09:00:00
Matrix: WOOD

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Phenanthrene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Anthracene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Di-n-butylphthalate	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Fluoranthene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Pyrene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Butylbenzylphthalate	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Benzo(a)anthracene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Chrysene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
bis(2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Di-n-octyl phthalate	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Benzo(b)fluoranthene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Benzo(k)fluoranthene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Benzo(a)pyrene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	60	01/08/96	SMSSVOA101
Azobenzene	ND	mg/Kg	0.030	60	01/08/96	SMSSVOA101
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	60	01/08/96	SMSSVOA101
SVOA XT/SW846 3520	12/28/95	N/A				
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	150	12/27/95	SMSVOA342
Chloromethane	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
Iodomethane	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
one	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
omomethane	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
nyl Chloride	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
Chloroethane	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
Trichlorofluoromethane	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
Freon 113	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
Carbon Disulfide	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
Acrolein	ND	mg/Kg	0.020	150	12/27/95	SMSVOA342
Methylene Chloride	ND	mg/Kg	0.010	150	12/27/95	SMSVOA342
1,1-Dichloroethene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
1,1-Dichloroethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Acrylonitrile	ND	mg/Kg	0.020	150	12/27/95	SMSVOA342
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Chloroform	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
1,2-Dichloroethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Vinyl Acetate	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
2-Butanone (MEK)	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Carbon Tetrachloride	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Bromodichloromethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
1,2-Dichloropropane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Dibromomethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Trichloroethene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Chlorodibromomethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Ethyl Methacrylate	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Benzene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Bromoform	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
Tetrachloroethene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
2,2-Tetrachloroethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
-Dibromoethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Hexanone (MBK)	ND	mg/Kg	0.0050	150	12/27/95	SMSVOA342
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Toluene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342

Lab ID: 9512192-01A
Sample ID: WOOD C3-C142

Collected: 12/14/95 09:00:00
Matrix: WOOD

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Chlorobenzene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Ethylbenzene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	150	12/27/95	SMSVOA342
Styrene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
P/M Xylene	ND	mg/Kg	0.0020	150	12/27/95	SMSVOA342
O-Xylene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	150	12/27/95	SMSVOA342
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	150	12/27/95	SMSVOA342

Lab ID: 9512192-02A
Sample ID: CONCRETE C3-C142

Collected: 12/14/95 09:00:00
Matrix: CONCRETE

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/SW846 7471	12/29/95	N/A				
ICP DIG/SW 846 3050	12/19/95	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	0.56	mg/Kg	0.15	1.0	12/29/95	SCV84
METALS by ICP/SW-846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	12/23/95	SI63
Aluminum, Al	NT	mg/Kg	25			SI63
Arsenic, As	ND	mg/Kg	1.5	1.0	12/23/95	SI63
Boron, B	NT	mg/Kg	5.0			SI63
Barium, Ba	91.2	mg/Kg	0.50	1.0	12/23/95	SI63
Beryllium, Be	NT	mg/Kg	0.020			SI63
Calcium, Ca	NT	mg/Kg	10			SI63
Cadmium, Cd	ND	mg/Kg	0.15	1.0	12/23/95	SI63
Cobalt, Co	NT	mg/Kg	0.50			SI63
Chromium, Cr	5.33	mg/Kg	1.0	1.0	12/23/95	SI63
Copper, Cu	NT	mg/Kg	1.0			SI63
Iron, Fe	NT	mg/Kg	10			SI63
Potassium, K	NT	mg/Kg	5.0			SI63
Magnesium, Mg	NT	mg/Kg	5.0			SI63
Manganese, Mn	NT	mg/Kg	0.15			SI63
Sodium, Na	NT	mg/Kg	10			SI63
Nickel, Ni	NT	mg/Kg	0.50			SI63
Lead, Pb	764	mg/Kg	1.5	1.0	12/23/95	SI63
Antimony, Sb	NT	mg/Kg	1.5			SI63
Selenium, Se	ND	mg/Kg	2.5	1.0	12/23/95	SI63
Vanadium, V	NT	mg/Kg	0.15			SI63
Zinc, Zn	NT	mg/Kg	5.0			SI63
PEST/PCB /SW846 8080A						
Aldrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
alpha-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
beta-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
gamma-BHC (lindane)	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
delta-BHC	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Chlordane	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
4,4'-DDD	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
4,4'-DDE	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
4,4'-DDT	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Dieldrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endosulfan I	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endosulfan II	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Endrin	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119

ID: 9512192-02A
ample ID: CONCRETE C3-C142

Collected: 12/14/95 09:00:00
Matrix: CONCRETE

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
PEST/PCB /SW846 8080A						
Endrin Aldehyde	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Heptachlor	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Heptachlor Epoxide	ND	mg/Kg	0.0030	10	12/28/95	SPEST43/SPCB119
Methoxychlor	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
Endosulfan Sulfate	ND	mg/Kg	0.030	10	12/28/95	SPEST43/SPCB119
Toxaphene	ND	mg/Kg	0.30	10	12/28/95	SPEST43/SPCB119
PCB-1016	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
PCB-1221	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
PCB-1232	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
PCB-1242	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
PCB-1248	ND	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
PCB-1254	0.059	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
PCB-1260	0.054	mg/Kg	0.0030	2.0	01/03/96	SPEST43/SPCB119
PEST/PCB XT/SW846 3520	12/26/95	N/A				
SEMI-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Pyridine	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Aniline	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
2-Chlorophenol	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Phenol	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
1,2-Dichlorobenzene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
nzyl Alcohol	ND	mg/Kg	1.5	2.1	01/08/96	SMSSVOA101
2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
ethylphenol / O-Cresol	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Hexachloroethane	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Nitrobenzene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Isophorone	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
2-Nitrophenol	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Naphthalene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Benzoic Acid	ND	mg/Kg	3.0	2.1	01/08/96	SMSSVOA101
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
4-Chloroaniline	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Hexachlorobutadiene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
2-Methylnaphthalene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	2.1	01/08/96	SMSSVOA101
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
2,4,5-Trichlorophenol	0.11	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
2-Chloronaphthalene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
2-Nitroaniline	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Acenaphthylene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Dimethylphthalate	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
2,6-Dinitrotoluene	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Acenaphthene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
3-Nitroaniline	NT	mg/Kg	0.30			SMSSVOA101
Dibenzofuran	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Fluorene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Diethylphthalate	0.19	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
itrophenol	ND	mg/Kg	0.60	2.1	01/08/96	SMSSVOA101
Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
itrosodiphenylamine	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
-Nitroaniline	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101

ID: 9512192-02A
Sample ID: CONCRETE C3-C142

Collected: 12/14/95 09:00:00
Matrix: CONCRETE

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Hexachlorobenzene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Pentachlorophenol	1.3	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
2,4-Dinitrophenol	ND	mg/Kg	0.050	2.1	01/08/96	SMSSVOA101
Benzidine	NT	mg/Kg	1.5			SMSSVOA101
Phenanthrene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Anthracene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Di-n-butylphthalate	0.73	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Fluoranthene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Pyrene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Butylbenzylphthalate	0.66	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Benzo(a)anthracene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Chrysene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
3,3'-Dichlorobenzidine	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
bis(2-Ethylhexyl)phthalate	0.92	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Di-n-octyl phthalate	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Benzo(b)fluoranthene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Benzo(k)fluoranthene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Benzo(a)pyrene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	1.5	2.1	01/08/96	SMSSVOA101
Azobenzene	ND	mg/Kg	0.030	2.1	01/08/96	SMSSVOA101
Dibenz(a,h)anthracene	ND	mg/Kg	0.30	2.1	01/08/96	SMSSVOA101
SVOA XT/SW846 3520	12/28/95	N/A				
[illegible]ATILES/SW846 8240B						
[illegible]lorodifluoromethane	ND	mg/Kg	0.010	5.0	12/19/95	SMSVOA340
[illegible]oromethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Iodomethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Acetone	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Bromomethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Chloroethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Freon 113	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Acrolein	ND	mg/Kg	0.020	5.0	12/19/95	SMSVOA340
Methylene Chloride	ND	mg/Kg	0.010	5.0	12/19/95	SMSVOA340
1,1-Dichloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Acrylonitrile	ND	mg/Kg	0.020	5.0	12/19/95	SMSVOA340
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Chloroform	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
2-Butanone (MEK)	0.030	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Carbon Tetrachloride	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Bromodichloromethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,2-Dichloropropane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Dibromomethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Trichloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Benzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
[illegible]1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
[illegible]oform	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
[illegible]ethyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
[illegible]etrachloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340

, ID: 9512192-02A
Sample ID: CONCRETE C3-C142

Collected: 12/14/95 09:00:00
Matrix: CONCRETE

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Toluene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Chlorobenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Ethylbenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	12/19/95	SMSVOA340
Styrene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
P/M Xylene	ND	mg/Kg	0.0020	5.0	12/19/95	SMSVOA340
O-Xylene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	12/19/95	SMSVOA340
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340

Lab ID: 9512192-03A
Sample ID: METAL C3-C142

Collected: 12/14/95 09:00:00
Matrix: METAL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
[illegible]I-VOA/SW846 8270B						
n-Nitrosodimethylamine	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Pyridine	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Aniline	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
bis(2-Chloroethyl) Ether	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Chlorophenol	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
1,3-Dichlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
1,4-Dichlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Phenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
1,2-Dichlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzyl Alcohol	ND	mg/Kg	1.5	2.0	12/30/95	SMSSVOA101
bis(2-Chloroisopropyl) Ether	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Methylphenol / O-Cresol	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Hexachloroethane	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
n-Nitroso-di-n-propylamine	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Nitrobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
3/4 Methylphenol / M/P-Cresol	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Isophorone	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Nitrophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
bis(2-Chloroethoxy) Methane	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2,4-Dimethylphenol	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
1,2,4-Trichlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Naphthalene	0.090	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzoic Acid	ND	mg/Kg	3.0	2.0	12/30/95	SMSSVOA101
2,4-Dichlorophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
4-Chloroaniline	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Hexachlorobutadiene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Methylnaphthalene	0.072	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
4-Chloro-3-methylphenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Hexachlorocyclopentadiene	ND	mg/Kg	1.5	2.0	12/30/95	SMSSVOA101
2,4,6-Trichlorophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
2,4,5-Trichlorophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
[illegible]Chloronaphthalene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
[illegible]itroaniline	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
[illegible]enaphthylene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
[illegible]imethylphthalate	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2,6-Dinitrotoluene	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101

ID: 9512192-03A
mple ID: METAL C3-C142

Collected: 12/14/95 09:00:00
Matrix: METAL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
SEMI-VOA/SW846 8270B						
Acenaphthene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
3-Nitroaniline	NT	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Dibenzofuran	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2,4-Dinitrotoluene	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Fluorene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
4-Chlorophenyl-phenylether	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Diethylphthalate	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
4-Nitrophenol	ND	mg/Kg	0.60	2.0	12/30/95	SMSSVOA101
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
n-Nitrosodiphenylamine	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
4-Nitroaniline	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
4-Bromophenyl-phenylether	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Hexachlorobenzene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Pentachlorophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
2,4-Dinitrophenol	ND	mg/Kg	0.050	2.0	12/30/95	SMSSVOA101
Benzidine	NT	mg/Kg	1.5	2.0	12/30/95	SMSSVOA101
Phenanthrene	0.18	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Anthracene	0.10	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Di-n-butylphthalate	1.3	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Fluoranthene	0.16	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Pyrene	0.14	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Butylbenzylphthalate	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzo(a)anthracene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Chrysene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
'-Dichlorobenzidine	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
2-Ethylhexyl)phthalate	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
-octyl phthalate	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
zo(b)fluoranthene	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Benzo(k)fluoranthene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzo(a)pyrene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
Benzo(g,h,i)perylene	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
2,3,4,6-Tetrachlorophenol	ND	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
Azobenzene	ND	mg/Kg	1.5	2.0	12/30/95	SMSSVOA101
Dibenz(a,h)anthracene	ND	mg/Kg	0.030	2.0	12/30/95	SMSSVOA101
SVOA XT/SW846 3520	12/28/95	mg/Kg	0.30	2.0	12/30/95	SMSSVOA101
VOLATILES/SW846 8240B		N/A				
Dichlorodifluoromethane	ND	mg/Kg	0.010	5.0	12/19/95	SMSVOA340
Chloromethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Iodomethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Acetone	0.061	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Bromomethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Vinyl Chloride	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Chloroethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Trichlorofluoromethane	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Freon 113	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Carbon Disulfide	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Acrolein	ND	mg/Kg	0.020	5.0	12/19/95	SMSVOA340
Methylene Chloride	ND	mg/Kg	0.010	5.0	12/19/95	SMSVOA340
1,1-Dichloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,1-Dichloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Acrylonitrile	ND	mg/Kg	0.020	5.0	12/19/95	SMSVOA340
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Chloroform	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,2-Dichloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Vinyl Acetate	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
2-Butanone (MEK)	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
',1-Trichloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
on Tetrachloride	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
dichloromethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
ichloropropane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Dibromomethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340

ID: 9512192-03A
Sample ID: METAL C3-C142

Collected: 12/14/95 09:00:00
Matrix: METAL

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Trichloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Chlorodibromomethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Ethyl Methacrylate	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Benzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Bromoform	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
Tetrachloroethene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,2-Dibromoethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
2-Hexanone (MBK)	ND	mg/Kg	0.0050	5.0	12/19/95	SMSVOA340
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Toluene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Chlorobenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Ethylbenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	5.0	12/19/95	SMSVOA340
Styrene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
P/M Xylene	ND	mg/Kg	0.0020	5.0	12/19/95	SMSVOA340
O-Xylene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	5.0	12/19/95	SMSVOA340
[illegible]-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
[illegible]-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340
[illegible]-Dichlorobenzene	ND	mg/Kg	0.0010	5.0	12/19/95	SMSVOA340

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 01/09/96
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab Job No.: 12192 Date: 12/14/95

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc

Address: 3500 Trinity Dr. C-5

City / State / Zip: Los Alamos, NM

Project Name / Number: MDA M

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1984

Fax No.: 662-2036

Samplers: (Signature) Debbie O'Connell

Analysis Required

Lab Sample Number	Sample Description	Date	Time	Matrix	Preservative	No. of Containers	Total VOA	Total SVOA	Total Metal	RCB Base Total	Organics					Remarks
01A	Wood (C-3, 20, 28, 37, 45, 49, 63, 94, 101, 106, 112, 113, 126, 131, 136, 141, 142)	12/14/95	09:00	wood	4°C	1	✓	✓	✓	✓	✓					ASAP
02A	Concrete	12/14/95	09:00	concrete	↓	1	✓	✓	✓	✓	✓					ASAP
03A	Metal	12/14/95	09:00	metal	↓	1					✓					ASAP

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Debbie O'Connell	12/15/95	Signature: [illegible]	Signature: [illegible]	12/15/95	Signature: [illegible]
Printed: Debbie O'Connell	Time: 12:00	Printed: Elvin J Chavez	Printed: Elvin J Chavez	Time: 4:30 PM	Printed: Scott Pyal
Company: NES		Company: AAL	Company: AAL		Company: AAL
Reason: testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.:

Special Instructions:

Comments: Organics is run in VOA per Elvin 12/18/95 9:50 a.m.

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COL

ASSAGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
February 27, 1996 15:09

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9602107
WORK ID : MDAM TA-9
CLIENT CODE : NES01
DATE RECEIVED : 02/12/96

Lab ID: 9602107-01A
Sample ID: METAL

Collected: 02/07/96 14:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
LITHIUM (FAA)/SW846 7430						
Lithium, Li	ND	mg/L	0.050	1.0	02/20/96	TF15
MERCURY (CVAA)/EPA 245.1						
Mercury	ND	mg/L	0.00020	1.0	02/15/96	TCV28
METALS-ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	1.0	02/16/96	TI134
Aluminum, Al	ND	mg/L	0.50	1.0	02/16/96	TI134
Arsenic, As	ND	mg/L	0.060	1.0	02/16/96	TI134
Barium, Ba	2.4	mg/L	0.010	1.0	02/16/96	TI134
Beryllium, Be	ND	mg/L	0.0010	10	02/16/96	TI134
Calcium, Ca	28.1	mg/L	0.30	1.0	02/16/96	TI134
Cadmium, Cd	0.012	mg/L	0.0040	1.0	02/16/96	TI134
Cobalt, Co	0.24	mg/L	0.010	1.0	02/16/96	TI134
Chromium, Cr	ND	mg/L	0.020	1.0	02/16/96	TI134
Copper, Cu	ND	mg/L	0.010	1.0	02/16/96	TI134
Iron, Fe	742	mg/L	0.30	10	02/16/96	TI134
Potassium, K	4.0	mg/L	0.20	1.0	02/16/96	TI134
Magnesium, Mg	1.1	mg/L	0.20	1.0	02/16/96	TI134
Manganese, Mn	9.44	mg/L	0.0050	1.0	02/16/96	TI134
Sodium, Na	1300	mg/L	0.30	10	02/16/96	TI134
Nickel, Ni	0.51	mg/L	0.040	1.0	02/16/96	TI134
Lead, Pb	ND	mg/L	0.040	1.0	02/16/96	TI134
Antimony, Sb	ND	mg/L	0.030	1.0	02/16/96	TI134
Selenium, Se	0.10B	mg/L	0.050	1.0	02/16/96	TI134
Vanadium, V	ND	mg/L	0.0030	10	02/16/96	TI134
Zinc, Zn	1.9	mg/L	0.10	10	02/16/96	TI134
MOLYBDENUM(GFAA)/EPA 246.2						
Molybdenum, Mo	ND	mg/L	0.020	1.0	02/21/96	TG3
STRONTIUM(FAA)/SW846 7780						
Strontium, Sr	0.2	mg/L	0.10	1.0	02/20/96	TF15
TCLP (FAA) DIG/1311/3005	02/14/96	N/A				
TCLP (GFAA)DIG/1311/3005	02/14/96	N/A				
TCLP (ICP) DIG/1311/3005	02/14/96	N/A				
TCLP EXTRACTION/TCLP 1311	02/13/96	N/A				
TCLP(CVAA)Hg XT/SW846 7471	02/14/96	N/A				
THALLIUM (FAA) EPA 279.1						
Thallium, Tl	ND	mg/L	0.10	1.0	02/20/96	TF15
TOTAL PHOS/SM 4500 P B&D						
Total Phosphorus as (P)	ND E	mg/L	0.010	1.0	02/20/96	WTPHOS67

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James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 02/27/96
WORKORDER: 9602107

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

*E: AAL's quality control parameters for Total Phosphorus were below acceptance criteria. For this reason, soil Total Phosphorus is reported as estimated. For TCLP phosphorus, all QC parameters were within criteria. However, since the effects of TCLP extraction on phosphorus recovery is unknown, all TCLP phosphorus results are also reported as estimated

Please note: All metals results represent the TCLP concentrations. AAL does not have TCLP performance data for any metals other than the standard TCLP metals.

SSAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 2107 Date 2/12/96

Page 1 of 1

7300 JEFFERSON, N.E.
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EL PASO, TEXAS 79925
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1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc

Address: 3500 Trinity Dr Suite C-5

City / State / Zip: Los Alamos, NM 87544

Project Name / Number: MDA M TA-9

Contract / Purchase Order / Quote

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-1944

Fax No.: 662-2636

Samplers: (Signature) Dm O'Connell

Analysis Required: Organic TCLP

Lab Sample No.	Field Identification	Date	Time	Matrix	No. of Containers / Size of Container	Preservatives: Type	Preservatives: Chemical	No. of Containers	Organic TCLP	Remarks
01A	Metal	2/7/96	1400	[illegible]	1/2 [illegible]		N/A	1	✓	TCLP per attached

Relinquished by: Dm O'Connell
Signature
Printed: D. O'Connell
Company: NES
Reason: testing
Date: 2/9/96
Time: 11:45AM

Received by:
Signature
Printed: [illegible]
Company: ARL
Reason: testing

Relinquished by:
Signature
Printed: [illegible]
Company: ARL
Reason: testing
Date
Time

Received by:
Signature
Printed: [illegible]
Company: [illegible]
Reason

Method of Shipment:
Shipment No.
Special Instructions:

Comments:

After analysis, samples are to be:
- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

CO ER

APPENDIX N

ANALYTICAL RESULTS FOR THE CLOSED CONTAINERS

ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
December 21, 1995 14:20

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9512031
WORK ID : LANL/MDAM
CLIENT CODE : NES01
DATE RECEIVED : 12/04/95

Lab ID: 9512031-01A
Sample ID: MDAM SITE

Collected: 12/04/95 13:10:00
Matrix: GLASS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
FLASH POINT/SW846 1010						
Flash Point	>60	Deg Centigrade	20	1.0	12/15/95	SFLASH167
pH/SW846 9045B						
pH	8.7	pH Units	0.10	1.0	12/07/95	SPH188
REACTIVITY/SW846 7-3						
·lfide	NON-REACT	mg/Kg of Waste	500	1.0	12/18/95	SREACT77R
anide	NON-REACT	mg/Kg of Waste	250	1.0	12/14/95	SREACT77R
? (ICP) DIG/1311/3005	12/08/95	N/A				
CHROMIUM(F)/1311/7190						
Chromium, Cr	ND	mg/L	0.020	1.0	12/12/95	TFTI119
TCLP EXTRACTION/TCLP 1311	12/13/95	N/A				
TCLP HERB XT/SM 509B	12/12/95	N/A				
TCLP HERBICIDES/SM509B						
2,4'-D	ND	mg/L	0.00010	2.0	12/14/95	THERB031
2,4,5'-TP	ND	mg/L	0.00010	2.0	12/14/95	THERB031
2,4,5'-T	ND	mg/L	0.00010	2.0	12/14/95	THERB031
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	ND	mg/L	0.10	1.0	12/12/95	TFTI119
TCLP METALS/1311/SW8466010						
Arsenic, As	ND	mg/L	0.20	1.0	12/11/95	TI119,TCV014
Barium, Ba	ND	mg/L	0.50	1.0	12/11/95	TI119,TCV014
Cadmium, Cd	ND	mg/L	0.0030	1.0	12/11/95	TI119,TCV014
Chromium, Cr	NT	mg/L	0.020			TI119,TCV014
Lead, Pb	NT	mg/L	0.030			TI119,TCV014
Mercury, Hg	ND	mg/L	0.0020	1.0	12/12/95	TI119,TCV014
Selenium, Se	ND	mg/L	0.050	1.0	12/11/95	TI119,TCV014
Silver, Ag	ND	mg/L	0.020	1.0	12/11/95	TI119,TCV014
TCLP PEST XT/1311/3520	12/11/95	N/A				
TCLP PESTICIDES/1311/8080A						
gamma-BHC (lindane)	ND	mg/L	0.000010	1.3	12/13/95	TPEST32
Chlordane	ND	mg/L	0.000020	1.3	12/13/95	TPEST32
Endrin	ND	mg/L	0.000010	1.3	12/13/95	TPEST32
Heptachlor	ND	mg/L	0.000010	1.3	12/13/95	TPEST32
Heptachlor Epoxide	ND	mg/L	0.000010	1.3	12/13/95	TPEST32
Methoxychlor	ND	mg/L	0.000020	1.3	12/13/95	TPEST32
Toxaphene	ND	mg/L	0.0010	1.3	12/13/95	TPEST32
TCLP SV/METHOD 1311/8270B						
1,4-Dichlorobenzene	ND	mg/L	0.0010	2.2	12/16/95	TSVOA-140
2-Methylphenol / O-Cresol	ND	mg/L	0.0010	2.2	12/16/95	TSVOA-140
'/4-Methylphenol / M/P-Cresol	ND	mg/L	0.0010	2.2	12/16/95	TSVOA-140
exachloroethane	ND	mg/L	0.0010	2.2	12/16/95	TSVOA-140
·benzene	ND	mg/L	0.0010	2.2	12/16/95	TSVOA-140
chlorobutadiene	ND	mg/L	0.0010	2.2	12/16/95	TSVOA-140
,4,6-Trichlorophenol	ND	mg/L	0.010	2.2	12/16/95	TSVOA-140

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ID: 9512031-01A
Sample ID: MDAM SITE

Collected: 12/04/95 13:10:00
Matrix: GLASS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP SV/METHOD 1311/8270B						
2,4,5-Trichlorophenol	ND	mg/L	0.010	2.2	12/16/95	TSVOA-140
2,4-Dinitrotoluene	ND	mg/L	0.010	2.2	12/16/95	TSVOA-140
Hexachlorobenzene	ND	mg/L	0.0010	2.2	12/16/95	TSVOA-140
Pentachlorophenol	ND	mg/L	0.020	2.2	12/16/95	TSVOA-140
Pyridine	ND	mg/L	0.010	2.2	12/16/95	TSVOA-140
TCLP SVOA XT/1311/3520	12/15/95	N/A				
TCLP ZHE / TCLP 1311	12/08/95	N/A				
TCLP(CVAA)Hg XT/SW846 7471	12/12/95	N/A				
ZHE/VOA/METHOD 1311/8240B						
Vinyl Chloride	ND	mg/L	0.0050	1.0	12/08/95	TVOA210
1,1-Dichloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Chloroform	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
1,2-Dichloroethane	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
2-Butanone (MEK)	ND	mg/L	0.0050	1.0	12/08/95	TVOA210
Carbon Tetrachloride	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Trichloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Benzene	0.0020	mg/L	0.0010	1.0	12/08/95	TVOA210
Tetrachloroethene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210
Chlorobenzene	ND	mg/L	0.0010	1.0	12/08/95	TVOA210

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 12/21/95
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

SSAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 1 3 1 - 1 Date 12/4/05

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES Inc.

Address: 3551 Trinity Drive Ste. C-5

City / State / Zip: Los Alamos NM

Project Name / Number: LANL / MDAM

Contract / Purchase Order / Quote: 236029

Project Manager / Contact: Debbie O'Connell

Telephone No.: 662-4184

Fax No.: 662-2036

Samplers: (Signature)

Analysis Required

Lab Number	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	Preservation	Type of Container	Number of Containers	TCLP (Full)	R.C.I.							Remarks
01A	MDAM site	12/4/05	1:10	Solid	Glass 2L	4C	n/A	2	✓	✓							Crush drums and compost

12/1/05

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Deborah M. O'Connell	12/4/05	Signature:	Signature:	12/4/05	Signature:
Printed: Deborah M. O'Connell	Time: 1:15	Printed: Elin J. Chase	Printed: Elin J. Chase	Time: 3:40 PM	Printed:
Company: NES		Company: ML	Company: ML		Company:
Reason: Testing		Reason: Testing	Reason: Testing		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments:

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

CO :

ASSAIGA ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
December 21, 1995 15:36

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9512073
WORK ID : MDA/M
CLIENT CODE : NES01
DATE RECEIVED : 12/07/95

Lab ID: 9512073-01A
Sample ID: 1 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI113
Aluminum, Al	ND	mg/L	0.50	2.0	12/13/95	WI113
Arsenic, As	ND	mg/L	0.030	2.0	12/13/95	WI113
Boron, B	0.16	mg/L	0.10	2.0	12/13/95	WI113
Barium, Ba	0.06	mg/L	0.010	2.0	12/13/95	WI113
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI113
Calcium, Ca	13.1	mg/L	0.20	2.0	12/13/95	WI113
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI113
Copper, Cu	ND	mg/L	0.020	2.0	12/13/95	WI113
Iron, Fe	ND	mg/L	0.20	2.0	12/13/95	WI113
Potassium, K	0.5	mg/L	0.10	2.0	12/13/95	WI113
Magnesium, Mg	1.0	mg/L	0.10	2.0	12/13/95	WI113
Manganese, Mn	ND	mg/L	0.0030	2.0	12/13/95	WI113
Sodium, Na	3.1	mg/L	0.20	2.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI113
Lead, Pb	ND	mg/L	0.030	2.0	12/13/95	WI113
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI113
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI113
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI113
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI113
pH/EPA 150.1						
pH	8.0	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-01B
Sample ID: 1 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	47	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370

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ID: 9512073-01B
Sample ID: 1 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
[illegible]2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]ene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-02A
Sample ID: 2 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
[illegible]ALS by ICP/SW846 6010						
[illegible]r, Ag	ND	mg/L	0.020	2.0	12/13/95	WI113
[illegible]minum, Al	ND	mg/L	0.50	2.0	12/13/95	WI113
[illegible]rsenic, As	ND	mg/L	0.030	2.0	12/13/95	WI113
Boron, B	0.13	mg/L	0.10	2.0	12/13/95	WI113

Lab ID: 9512073-02A
Sample ID: 2 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
METALS by ICP/SW846 6010						
Barium, Ba	0.12	mg/L	0.010	2.0	12/13/95	WI113
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI113
Calcium, Ca	142	mg/L	0.20	2.0	12/13/95	WI113
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI113
Copper, Cu	0.05	mg/L	0.020	2.0	12/13/95	WI113
Iron, Fe	ND	mg/L	0.20	2.0	12/13/95	WI113
Potassium, K	18.8	mg/L	0.10	2.0	12/13/95	WI113
Magnesium, Mg	7.8	mg/L	0.10	2.0	12/13/95	WI113
Manganese, Mn	0.075	mg/L	0.0030	2.0	12/13/95	WI113
Sodium, Na	36.3	mg/L	0.20	2.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI113
Lead, Pb	ND	mg/L	0.030	2.0	12/13/95	WI113
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI113
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI113
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI113
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI113
pH/EPA 150.1						
pH	7.0	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-02B
Sample ID: 2 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	300	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	55	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
s-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
hloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
lorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
thyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-02B
Sample ID: 2 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-03A
Sample ID: 3 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	10.1	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-04A
Sample ID: 4 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	4.0	12/13/95	WI113
Aluminum, Al	ND	mg/L	0.50	4.0	12/13/95	WI113
Arsenic, As	0.30	mg/L	0.030	4.0	12/13/95	WI113
Boron, B	0.26	mg/L	0.10	4.0	12/13/95	WI113
Barium, Ba	4.12	mg/L	0.010	4.0	12/13/95	WI113
Beryllium, Be	ND	mg/L	0.00040	4.0	12/13/95	WI113
Calcium, Ca	135	mg/L	0.20	4.0	12/13/95	WI113
Cadmium, Cd	ND	mg/L	0.0030	4.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	4.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	4.0	12/13/95	WI113
Copper, Cu	0.05	mg/L	0.020	4.0	12/13/95	WI113
Iron, Fe	ND	mg/L	0.20	4.0	12/13/95	WI113
Potassium, K	13.9	mg/L	0.10	4.0	12/13/95	WI113
Magnesium, Mg	1.8	mg/L	0.10	4.0	12/13/95	WI113
Manganese, Mn	0.039	mg/L	0.0030	4.0	12/13/95	WI113

Lab ID: 9512073-04A
Sample ID: 4 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
METALS by ICP/SW846 6010						
Sodium, Na	222	mg/L	0.20	4.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	4.0	12/13/95	WI113
Lead, Pb	ND	mg/L	0.030	4.0	12/13/95	WI113
Antimony, Sb	ND	mg/L	0.030	4.0	12/13/95	WI113
Selenium, Se	ND	mg/L	0.050	4.0	12/13/95	WI113
Vanadium, V	ND	mg/L	0.0030	4.0	12/13/95	WI113
Zinc, Zn	ND	mg/L	0.10	4.0	12/13/95	WI113
pH/EPA 150.1						
pH	8.9	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-05A
Sample ID: 5 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	10.0	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-06A
Sample ID: 6 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI113
Aluminum, Al	2.3	mg/L	0.50	2.0	12/13/95	WI113
Arsenic, As	ND	mg/L	0.030	2.0	12/13/95	WI113
Boron, B	25.2	mg/L	0.10	2.0	12/13/95	WI113
Barium, Ba	ND	mg/L	0.010	2.0	12/13/95	WI113
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI113
Calcium, Ca	2.2	mg/L	0.20	2.0	12/13/95	WI113
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI113
Copper, Cu	0.02	mg/L	0.020	2.0	12/13/95	WI113
Iron, Fe	0.9	mg/L	0.20	2.0	12/13/95	WI113
Potassium, K	1.7	mg/L	0.10	2.0	12/13/95	WI113
Magnesium, Mg	4.6	mg/L	0.10	2.0	12/13/95	WI113
Manganese, Mn	0.058	mg/L	0.0030	2.0	12/13/95	WI113
Sodium, Na	180	mg/L	0.20	2.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI113
Lead, Pb	0.06	mg/L	0.030	2.0	12/13/95	WI113
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI113
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI113
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI113
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI113
pH/EPA 150.1						
pH	2.6	pH Units	0.10	1.0	12/07/95	WPH344

ID: 9512073-06B
Sample ID: 6 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible] Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]omomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]ans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-07A
Sample ID: 7 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI113
Aluminum, Al	3.3	mg/L	0.50	2.0	12/13/95	WI113
Arsenic, As	0.37	mg/L	0.030	2.0	12/13/95	WI113
Boron, B	0.30	mg/L	0.10	2.0	12/13/95	WI113
Barium, Ba	3.47	mg/L	0.010	2.0	12/13/95	WI113
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI113
Calcium, Ca	97.4	mg/L	0.20	2.0	12/13/95	WI113
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI113
Copper, Cu	ND	mg/L	0.020	2.0	12/13/95	WI113
Iron, Fe	ND	mg/L	0.20	2.0	12/13/95	WI113
Potassium, K	15.2	mg/L	0.10	2.0	12/13/95	WI113
Magnesium, Mg	1.0	mg/L	0.10	2.0	12/13/95	WI113
Manganese, Mn	0.015	mg/L	0.0030	2.0	12/13/95	WI113
Sodium, Na	274	mg/L	0.20	2.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI113
Lead, Pb	ND	mg/L	0.030	2.0	12/13/95	WI113
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI113
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI113
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI113
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI113
pH/EPA 150.1	9.0	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-07B
Sample ID: 7 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Methylene Chloride	ND	ug/L	20	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	20	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Trichloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-07B
Sample ID: 7 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-08A
Sample ID: 8 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	4.0	12/13/95	WI113
Aluminum, Al	46.0	mg/L	0.50	4.0	12/13/95	WI113
Arsenic, As	0.74	mg/L	0.030	4.0	12/13/95	WI113
Boron, B	0.32	mg/L	0.10	4.0	12/13/95	WI113
Barium, Ba	29.5	mg/L	0.010	4.0	12/13/95	WI113
Beryllium, Be	0.0026	mg/L	0.00040	4.0	12/13/95	WI113
Calcium, Ca	683	mg/L	0.20	4.0	12/13/95	WI113
Cadmium, Cd	ND	mg/L	0.0030	4.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	4.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	4.0	12/13/95	WI113
Copper, Cu	0.18	mg/L	0.020	4.0	12/13/95	WI113
Iron, Fe	2.2	mg/L	0.20	4.0	12/13/95	WI113
Potassium, K	44.2	mg/L	0.10	4.0	12/13/95	WI113
Magnesium, Mg	10.3	mg/L	0.10	4.0	12/13/95	WI113
Manganese, Mn	0.376	mg/L	0.0030	4.0	12/13/95	WI113
Sodium, Na	408	mg/L	0.20	4.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	4.0	12/13/95	WI113
Lead, Pb	0.17	mg/L	0.030	4.0	12/13/95	WI113
timony, Sb	ND	mg/L	0.030	4.0	12/13/95	WI113
ium, Se	ND	mg/L	0.050	4.0	12/13/95	WI113
dium, V	ND	mg/L	0.0030	4.0	12/13/95	WI113
inc, Zn	2.4	mg/L	0.10	4.0	12/13/95	WI113
pH/EPA 150.1						

b ID: 9512073-08A
Sample ID: 8 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	9.2	pH Units	0.10	1.0	12/07/95	WPH345

Lab ID: 9512073-08B
Sample ID: 8 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	38	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
thylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
rene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
ylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-08B
Sample ID: 8 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-09A
Sample ID: 9 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI113
Aluminum, Al	1.4	mg/L	0.50	2.0	12/13/95	WI113
Arsenic, As	0.17	mg/L	0.030	2.0	12/13/95	WI113
Boron, B	0.16	mg/L	0.10	2.0	12/13/95	WI113
Barium, Ba	0.26	mg/L	0.010	2.0	12/13/95	WI113
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI113
Calcium, Ca	42.0	mg/L	0.20	2.0	12/13/95	WI113
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI113
Copper, Cu	ND	mg/L	0.020	2.0	12/13/95	WI113
Iron, Fe	0.5	mg/L	0.20	2.0	12/13/95	WI113
Potassium, K	4.3	mg/L	0.10	2.0	12/13/95	WI113
Magnesium, Mg	3.0	mg/L	0.10	2.0	12/13/95	WI113
Manganese, Mn	0.037	mg/L	0.0030	2.0	12/13/95	WI113
Sodium, Na	81.2	mg/L	0.20	2.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI113
Lead, Pb	ND	mg/L	0.030	2.0	12/13/95	WI113
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI113
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI113
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI113
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI113
pH/EPA 150.1						
pH	8.5	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-09B
Sample ID: 9 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	27	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-09B
Sample ID: 9 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	9.0	ug/L	10	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-10A
Sample ID: 10 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	9.7	pH Units	0.10	1.0	12/07/95	WPH344

.D ID: 9512073-11A
Sample ID: 11 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI113
Aluminum, Al	ND	mg/L	0.50	2.0	12/13/95	WI113
Arsenic, As	ND	mg/L	0.030	2.0	12/13/95	WI113
Boron, B	0.19	mg/L	0.10	2.0	12/13/95	WI113
Barium, Ba	0.05	mg/L	0.010	2.0	12/13/95	WI113
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI113
Calcium, Ca	6.4	mg/L	0.20	2.0	12/13/95	WI113
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI113
Copper, Cu	ND	mg/L	0.020	2.0	12/13/95	WI113
Iron, Fe	0.6	mg/L	0.20	2.0	12/13/95	WI113
Potassium, K	0.9	mg/L	0.10	2.0	12/13/95	WI113
Magnesium, Mg	0.8	mg/L	0.10	2.0	12/13/95	WI113
Manganese, Mn	0.041	mg/L	0.0030	2.0	12/13/95	WI113
Sodium, Na	4.3	mg/L	0.20	2.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI113
Lead, Pb	0.05	mg/L	0.030	2.0	12/13/95	WI113
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI113
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI113
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI113
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI113
EPA 150.1						
	6.4	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-11B
Sample ID: 11 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
?-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
.rbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
omodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-11B
Sample ID: 11 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-12A
Sample ID: 12 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	2.4	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-12B
Sample ID: 12 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	200	12/12/95	WMSVOA371
Chloromethane	ND	ug/L	5.0	200	12/12/95	WMSVOA371
Iodomethane	ND	ug/L	5.0	200	12/12/95	WMSVOA371
Acetone	28000	ug/L	5.0	200	12/12/95	WMSVOA371
Bromomethane	ND	ug/L	5.0	200	12/12/95	WMSVOA371
Vinyl Chloride	ND	ug/L	5.0	200	12/12/95	WMSVOA371
loroethane	ND	ug/L	5.0	200	12/12/95	WMSVOA371
hlorofluoromethane	ND	ug/L	5.0	200	12/12/95	WMSVOA371
eon 113	ND	ug/L	5.0	200	12/12/95	WMSVOA371
rbon Disulfide	ND	ug/L	5.0	200	12/12/95	WMSVOA371
Acrolein	ND	ug/L	20	200	12/12/95	WMSVOA371

Lab ID: 9512073-12B
Sample ID: 12 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Methylene Chloride	ND	ug/L	10	200	12/12/95	WMSVOA371
1,1-Dichloroethene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
1,1-Dichloroethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Acrylonitrile	ND	ug/L	20	200	12/12/95	WMSVOA371
trans-1,2-Dichloroethene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Chloroform	ND	ug/L	1.0	200	12/12/95	WMSVOA371
1,2-Dichloroethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Vinyl Acetate	ND	ug/L	5.0	200	12/12/95	WMSVOA371
cis-1,2-Dichloroethene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
2-Butanone (MEK)	9700	ug/L	5.0	200	12/12/95	WMSVOA371
1,1,1-Trichloroethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Carbon Tetrachloride	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Bromodichloromethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
1,2-Dichloropropane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Dibromomethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
trans-1,3-Dichloropropene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Trichloroethene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Chlorodibromomethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Ethyl Methacrylate	ND	ug/L	5.0	200	12/12/95	WMSVOA371
2-Chloroethylvinyl Ether	ND	ug/L	5.0	200	12/12/95	WMSVOA371
1,1,2-Trichloroethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Benzene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
cis-1,3-Dichloropropene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Bromoform	ND	ug/L	1.0	200	12/12/95	WMSVOA371
[illegible]ethyl-2-Pentanone (MIBK)	ND	ug/L	5.0	200	12/12/95	WMSVOA371
[illegible]achloroethene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
[illegible],1,2,2-Tetrachloroethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
1,2-Dibromoethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
2-Hexanone (MBK)	7000	ug/L	5.0	200	12/12/95	WMSVOA371
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Toluene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Chlorobenzene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Ethylbenzene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
1,4-Dichloro-2-Butene	ND	ug/L	10	200	12/12/95	WMSVOA371
Styrene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
P/M Xylene	ND	ug/L	2.0	200	12/12/95	WMSVOA371
O-Xylene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
1,2,3-Trichloropropane	ND	ug/L	1.0	200	12/12/95	WMSVOA371
Methyl-tert Butyl Ether	ND	ug/L	1.0	200	12/12/95	WMSVOA371
1,2-Dichlorobenzene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
1,3-Dichlorobenzene	ND	ug/L	1.0	200	12/12/95	WMSVOA371
1,4-Dichlorobenzene	ND	ug/L	1.0	200	12/12/95	WMSVOA371

Lab ID: 9512073-13A
Sample ID: 13 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	8.0	pH Units	0.10	1.0	12/07/95	WPH344

ID: 9512073-13B
Sample ID: 13 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Chloromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Iodomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acetone	33	ug/L	5.0	5.0	12/12/95	WMSVOA371
Bromomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Vinyl Chloride	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Chloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Freon 113	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Carbon Disulfide	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acrolein	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Methylene Chloride	ND	ug/L	20	5.0	12/12/95	WMSVOA371
1,1-Dichloroethene	ND	ug/L	10	5.0	12/12/95	WMSVOA371
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Acrylonitrile	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
trans-1,2-Dichloroethene	ND	ug/L	20	5.0	12/12/95	WMSVOA371
Chloroform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Vinyl Acetate	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
cis-1,2-Dichloroethene	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
2-Butanone (MEK)	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1,1-Trichloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromodichloromethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]-Dichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]romomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]s-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Trichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethyl Methacrylate	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2-Trichloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Benzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromoform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Tetrachloroethene	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Hexanone (MBK)	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Toluene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethylbenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichloro-2-Butene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Styrene	ND	ug/L	10	5.0	12/12/95	WMSVOA371
P/M Xylene	22	ug/L	1.0	5.0	12/12/95	WMSVOA371
O-Xylene	ND	ug/L	2.0	5.0	12/12/95	WMSVOA371
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-14A
Sample ID: 14 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	4.0	12/13/95	WI113
Aluminum, Al	3.3	mg/L	0.50	4.0	12/13/95	WI113
Arsenic, As	ND	mg/L	0.030	4.0	12/13/95	WI113
Boron, B	0.57	mg/L	0.10	4.0	12/13/95	WI113
Barium, Ba	1.29	mg/L	0.010	4.0	12/13/95	WI113
Beryllium, Be	ND	mg/L	0.00040	4.0	12/13/95	WI113
Calcium, Ca	42.4	mg/L	0.20	4.0	12/13/95	WI113
Cadmium, Cd	0.148	mg/L	0.0030	4.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	4.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	4.0	12/13/95	WI113
Copper, Cu	0.23	mg/L	0.020	4.0	12/13/95	WI113
Iron, Fe	2.4	mg/L	0.20	4.0	12/13/95	WI113
Potassium, K	5.7	mg/L	0.10	4.0	12/13/95	WI113
Magnesium, Mg	3.0	mg/L	0.10	4.0	12/13/95	WI113
Manganese, Mn	0.578	mg/L	0.0030	4.0	12/13/95	WI113
Sodium, Na	83.0	mg/L	0.20	4.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	4.0	12/13/95	WI113
Lead, Pb	0.08	mg/L	0.030	4.0	12/13/95	WI113
Antimony, Sb	ND	mg/L	0.030	4.0	12/13/95	WI113
Selenium, Se	ND	mg/L	0.050	4.0	12/13/95	WI113
Vanadium, V	ND	mg/L	0.0030	4.0	12/13/95	WI113
Zinc, Zn	2.9	mg/L	0.10	4.0	12/13/95	WI113
pH/EPA 150.1	6.7	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-14B
Sample ID: 14 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
dichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

o ID: 9512073-14B
mple ID: 14 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-15A
Sample ID: 15 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	5.0	12/13/95	WI113
Aluminum, Al	8.6	mg/L	0.50	5.0	12/13/95	WI113
Arsenic, As	ND	mg/L	0.030	5.0	12/13/95	WI113
Boron, B	0.24	mg/L	0.10	5.0	12/13/95	WI113
Barium, Ba	8.77	mg/L	0.010	5.0	12/13/95	WI113
Beryllium, Be	ND	mg/L	0.00040	5.0	12/13/95	WI113
Calcium, Ca	234	mg/L	0.20	5.0	12/13/95	WI113
Cadmium, Cd	ND	mg/L	0.0030	5.0	12/13/95	WI113
Cobalt, Co	ND	mg/L	0.010	5.0	12/13/95	WI113
Chromium, Cr	ND	mg/L	0.020	5.0	12/13/95	WI113
Copper, Cu	0.06	mg/L	0.020	5.0	12/13/95	WI113
Iron, Fe	ND	mg/L	0.20	5.0	12/13/95	WI113
Potassium, K	8.2	mg/L	0.10	5.0	12/13/95	WI113
Magnesium, Mg	2.4	mg/L	0.10	5.0	12/13/95	WI113
Manganese, Mn	0.111	mg/L	0.0030	5.0	12/13/95	WI113
Sodium, Na	48.0	mg/L	0.20	5.0	12/13/95	WI113
Nickel, Ni	ND	mg/L	0.010	5.0	12/13/95	WI113
Lead, Pb	ND	mg/L	0.030	5.0	12/13/95	WI113
timony, Sb	ND	mg/L	0.030	5.0	12/13/95	WI113
enium, Se	ND	mg/L	0.050	5.0	12/13/95	WI113
ium, V	ND	mg/L	0.0030	5.0	12/13/95	WI113
Zn	ND	mg/L	0.10	5.0	12/13/95	WI113
pr/EPA 150.1						

Lab ID: 9512073-15A
Sample ID: 15 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	6.9	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-15B
Sample ID: 15 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	31	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
[illegible]ylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
[illegible]Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
[illegible]ene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible] Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible],2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

.o ID: 9512073-15B
Sample ID: 15 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-16A
Sample ID: 16 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI114
Aluminum, Al	37.0	mg/L	0.50	2.0	12/13/95	WI114
Arsenic, As	0.76	mg/L	0.030	2.0	12/13/95	WI114
Boron, B	0.17	mg/L	0.10	2.0	12/13/95	WI114
Barium, Ba	28.0	mg/L	0.010	2.0	12/13/95	WI114
Beryllium, Be	0.0020	mg/L	0.00040	2.0	12/13/95	WI114
Calcium, Ca	634	mg/L	0.20	2.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI114
·balt, Co	ND	mg/L	0.010	2.0	12/13/95	WI114
·omium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI114
·pper, Cu	0.11	mg/L	0.020	2.0	12/13/95	WI114
Iron, Fe	2.0	mg/L	0.20	2.0	12/13/95	WI114
Potassium, K	44.1	mg/L	0.10	2.0	12/13/95	WI114
Magnesium, Mg	8.9	mg/L	0.10	2.0	12/13/95	WI114
Manganese, Mn	0.267	mg/L	0.0030	2.0	12/13/95	WI114
Sodium, Na	440	mg/L	0.20	2.0	12/13/95	WI114
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI114
Lead, Pb	0.13	mg/L	0.030	2.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI114
Vanadium, V	0.010	mg/L	0.0030	2.0	12/13/95	WI114
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI114
pH/EPA 150.1						
pH	8.1	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-16B
Sample ID: 16 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	89	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
·loroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
·hlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
·eon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
·rbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370

ID: 9512073-16B
Sample ID: 16 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-17A
Sample ID: 17 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI114
Aluminum, Al	2.7	mg/L	0.50	2.0	12/13/95	WI114
Arsenic, As	0.12	mg/L	0.030	2.0	12/13/95	WI114
Boron, B	0.08	mg/L	0.10	2.0	12/13/95	WI114
Barium, Ba	3.18	mg/L	0.010	2.0	12/13/95	WI114
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI114
Calcium, Ca	78.9	mg/L	0.20	2.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI114

Lab ID: 9512073-17A
Sample ID: 17 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
METALS by ICP/SW846 6010						
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI114
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI114
Copper, Cu	0.02	mg/L	0.020	2.0	12/13/95	WI114
Iron, Fe	ND	mg/L	0.20	2.0	12/13/95	WI114
Potassium, K	5.5	mg/L	0.10	2.0	12/13/95	WI114
Magnesium, Mg	1.0	mg/L	0.10	2.0	12/13/95	WI114
Manganese, Mn	0.030	mg/L	0.0030	2.0	12/13/95	WI114
Sodium, Na	79.1	mg/L	0.20	2.0	12/13/95	WI114
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI114
Lead, Pb	0.06	mg/L	0.030	2.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI114
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI114
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI114
pH/EPA 150.1						
pH	7.4	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-17B
Sample ID: 17 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
hloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
nzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
s-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-17B
Sample ID: 17 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-18A
Sample ID: 18 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI114
Aluminum, Al	46.0	mg/L	0.50	2.0	12/13/95	WI114
Arsenic, As	1.50	mg/L	0.030	2.0	12/13/95	WI114
Boron, B	0.23	mg/L	0.10	2.0	12/13/95	WI114
Barium, Ba	36.0	mg/L	0.010	2.0	12/13/95	WI114
Beryllium, Be	0.0009	mg/L	0.00040	2.0	12/13/95	WI114
Calcium, Ca	1090E	mg/L	0.20	2.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI114
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI114
Chromium, Cr	0.07	mg/L	0.020	2.0	12/13/95	WI114
Copper, Cu	0.13	mg/L	0.020	2.0	12/13/95	WI114
Iron, Fe	2.6	mg/L	0.20	2.0	12/13/95	WI114
Potassium, K	58.6	mg/L	0.10	2.0	12/13/95	WI114
Magnesium, Mg	15.0	mg/L	0.10	2.0	12/13/95	WI114
Manganese, Mn	0.156	mg/L	0.0030	2.0	12/13/95	WI114
Sodium, Na	774	mg/L	0.20	2.0	12/13/95	WI114
Nickel, Ni	0.02	mg/L	0.010	2.0	12/13/95	WI114
Lead, Pb	0.19	mg/L	0.030	2.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI114
Vanadium, V	0.015	mg/L	0.0030	2.0	12/13/95	WI114
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI114
pH/EPA 150.1						
pH	8.5	pH Units	0.10	1.0	12/07/95	WPH344

.o ID: 9512073-18B
Sample ID: 18 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]omodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]romomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]ans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

ID: 9512073-19A
Sample ID: 19 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	4.0	12/13/95	WI114
Aluminum, Al	12.1	mg/L	0.50	4.0	12/13/95	WI114
Arsenic, As	ND	mg/L	0.030	4.0	12/13/95	WI114
Boron, B	21.0	mg/L	0.10	4.0	12/13/95	WI114
Barium, Ba	0.28	mg/L	0.010	4.0	12/13/95	WI114
Beryllium, Be	ND	mg/L	0.00040	4.0	12/13/95	WI114
Calcium, Ca	95.7	mg/L	0.20	4.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	4.0	12/13/95	WI114
Cobalt, Co	ND	mg/L	0.010	4.0	12/13/95	WI114
Chromium, Cr	ND	mg/L	0.020	4.0	12/13/95	WI114
Copper, Cu	0.06	mg/L	0.020	4.0	12/13/95	WI114
Iron, Fe	2.5	mg/L	0.20	4.0	12/13/95	WI114
Potassium, K	356	mg/L	0.10	4.0	12/13/95	WI114
Magnesium, Mg	83.8	mg/L	0.10	4.0	12/13/95	WI114
Manganese, Mn	0.264	mg/L	0.0030	4.0	12/13/95	WI114
Sodium, Na	183	mg/L	0.20	4.0	12/13/95	WI114
Nickel, Ni	ND	mg/L	0.010	4.0	12/13/95	WI114
Lead, Pb	0.65	mg/L	0.030	4.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	4.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	4.0	12/13/95	WI114
Vanadium, V	ND	mg/L	0.0030	4.0	12/13/95	WI114
Zinc, Zn	2.0	mg/L	0.10	4.0	12/13/95	WI114
pH/EPA 150.1						
	7.3	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-19B
Sample ID: 19 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
Methylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
on Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
omodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-19B
Sample ID: 19 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Styrene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
P/M Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
O-Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible]-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
[illegible],4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-20A
Sample ID: 20 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	4.0	12/13/95	WI114
Aluminum, Al	17.6	mg/L	0.50	4.0	12/13/95	WI114
Arsenic, As	0.60	mg/L	0.030	4.0	12/13/95	WI114
Boron, B	0.27	mg/L	0.10	4.0	12/13/95	WI114
Barium, Ba	14.0	mg/L	0.010	4.0	12/13/95	WI114
Beryllium, Be	ND	mg/L	0.00040	4.0	12/13/95	WI114
Calcium, Ca	378	mg/L	0.20	4.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	4.0	12/13/95	WI114
Cobalt, Co	ND	mg/L	0.010	4.0	12/13/95	WI114
Chromium, Cr	ND	mg/L	0.020	4.0	12/13/95	WI114
Copper, Cu	0.13	mg/L	0.020	4.0	12/13/95	WI114
Iron, Fe	1.5	mg/L	0.20	4.0	12/13/95	WI114
Potassium, K	12.8	mg/L	0.10	4.0	12/13/95	WI114
Magnesium, Mg	11.7	mg/L	0.10	4.0	12/13/95	WI114
Manganese, Mn	0.069	mg/L	0.0030	4.0	12/13/95	WI114
Sodium, Na	324	mg/L	0.20	4.0	12/13/95	WI114
Nickel, Ni	ND	mg/L	0.010	4.0	12/13/95	WI114
Lead, Pb	0.12	mg/L	0.030	4.0	12/13/95	WI114
[illegible]imony, Sb	ND	mg/L	0.030	4.0	12/13/95	WI114
[illegible]nium, Se	ND	mg/L	0.050	4.0	12/13/95	WI114
[illegible]nadium, V	ND	mg/L	0.0030	4.0	12/13/95	WI114
[illegible]nc, Zn	ND	mg/L	0.10	4.0	12/13/95	WI114
pH/EPA 150.1						

.b ID: 9512073-20A
Sample ID: 20 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	8.3	pH Units	0.10	1.0	12/07/95	WPH344

Lab ID: 9512073-20B
Sample ID: 20 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Chloromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Iodomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acetone	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Bromomethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Vinyl Chloride	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Chloroethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Freon 113	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Carbon Disulfide	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Acrolein	ND	ug/L	20	5.0	12/11/95	WMSVOA370
hylene Chloride	ND	ug/L	10	5.0	12/11/95	WMSVOA370
Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Acrylonitrile	ND	ug/L	20	5.0	12/11/95	WMSVOA370
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chloroform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Vinyl Acetate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromodichloromethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Dibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Trichloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Benzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Bromoform	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
Tetrachloroethene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/11/95	WMSVOA370
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Toluene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Chlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Ethylbenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/11/95	WMSVOA370
ene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Xylene	ND	ug/L	2.0	5.0	12/11/95	WMSVOA370
Xylene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-20B
Sample ID: 20 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/11/95	WMSVOA370

Lab ID: 9512073-21A
Sample ID: 21 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	4.0	12/13/95	WI114
Aluminum, Al	8.6	mg/L	0.50	4.0	12/13/95	WI114
Arsenic, As	ND	mg/L	0.030	4.0	12/13/95	WI114
Boron, B	10.7	mg/L	0.10	4.0	12/13/95	WI114
Barium, Ba	ND	mg/L	0.010	4.0	12/13/95	WI114
Beryllium, Be	ND	mg/L	0.00040	4.0	12/13/95	WI114
Calcium, Ca	5.1	mg/L	0.20	4.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	4.0	12/13/95	WI114
Cobalt, Co	ND	mg/L	0.010	4.0	12/13/95	WI114
Chromium, Cr	0.10	mg/L	0.020	4.0	12/13/95	WI114
Copper, Cu	0.08	mg/L	0.020	4.0	12/13/95	WI114
Iron, Fe	2.2	mg/L	0.20	4.0	12/13/95	WI114
Potassium, K	1.9	mg/L	0.10	4.0	12/13/95	WI114
Magnesium, Mg	0.5	mg/L	0.10	4.0	12/13/95	WI114
Manganese, Mn	0.061	mg/L	0.0030	4.0	12/13/95	WI114
Sodium, Na	80.1	mg/L	0.20	4.0	12/13/95	WI114
Nickel, Ni	ND	mg/L	0.010	4.0	12/13/95	WI114
Lead, Pb	0.64	mg/L	0.030	4.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	4.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	4.0	12/13/95	WI114
Vanadium, V	0.014	mg/L	0.0030	4.0	12/13/95	WI114
Zinc, Zn	ND	mg/L	0.10	4.0	12/13/95	WI114
pH/EPA 150.1						
pH	4.4	pH Units	0.10	1.0	12/07/95	WPH345

Lab ID: 9512073-21B
Sample ID: 21 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Chloromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Iodomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acetone	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Bromomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Vinyl Chloride	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Chloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Freon 113	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Carbon Disulfide	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acrolein	ND	ug/L	20	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-21B
Sample ID: 21 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Methylene Chloride	ND	ug/L	10	5.0	12/12/95	WMSVOA371
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Acrylonitrile	ND	ug/L	20	5.0	12/12/95	WMSVOA371
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chloroform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Vinyl Acetate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromodichloromethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Dibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Trichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Benzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]moform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]ethyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
[illegible]rachloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Toluene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethylbenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Styrene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
P/M Xylene	ND	ug/L	2.0	5.0	12/12/95	WMSVOA371
O-Xylene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-22A
Sample ID: 22 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CANCELLED SAMPLE	N/A	N/A				

ID: 9512073-22B
Sample ID: 22 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Chloromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Iodomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acetone	31	ug/L	5.0	5.0	12/12/95	WMSVOA371
Bromomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Vinyl Chloride	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Chloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Freon 113	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Carbon Disulfide	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acrolein	ND	ug/L	20	5.0	12/12/95	WMSVOA371
Methylene Chloride	ND	ug/L	10	5.0	12/12/95	WMSVOA371
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Acrylonitrile	ND	ug/L	20	5.0	12/12/95	WMSVOA371
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chloroform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Vinyl Acetate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromodichloromethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]-Dichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]omomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]is-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Trichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Benzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromoform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Tetrachloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Toluene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethylbenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Styrene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
P/M Xylene	ND	ug/L	2.0	5.0	12/12/95	WMSVOA371
O-Xylene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

o ID: 9512073-22C
nple ID: 22 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	9.6	pH Units	0.10	1.0	12/07/95	WPH345

Lab ID: 9512073-23A
Sample ID: 23 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI114
Aluminum, Al	ND	mg/L	0.50	2.0	12/13/95	WI114
Arsenic, As	0.07	mg/L	0.030	2.0	12/13/95	WI114
Boron, B	0.17	mg/L	0.10	2.0	12/13/95	WI114
Barium, Ba	0.86	mg/L	0.010	2.0	12/13/95	WI114
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI114
Calcium, Ca	14.6	mg/L	0.20	2.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI114
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI114
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI114
pper, Cu	0.02	mg/L	0.020	2.0	12/13/95	WI114
n, Fe	ND	mg/L	0.20	2.0	12/13/95	WI114
ssium, K	5.8	mg/L	0.10	2.0	12/13/95	WI114
nesium, Mg	0.6	mg/L	0.10	2.0	12/13/95	WI114
nganese, Mn	0.022	mg/L	0.0030	2.0	12/13/95	WI114
Sodium, Na	46.8	mg/L	0.20	2.0	12/13/95	WI114
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI114
Lead, Pb	ND	mg/L	0.030	2.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI114
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI114
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI114
pH/EPA 150.1						
pH	8.2	pH Units	0.10	1.0	12/07/95	WPH345

Lab ID: 9512073-23B
Sample ID: 23 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Chloromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Iodomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acetone	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Bromomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Vinyl Chloride	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Chloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
on 113	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
rbon Disulfide	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
'ein	ND	ug/L	20	5.0	12/12/95	WMSVOA371
lene Chloride	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-23B
Sample ID: 23 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Acrylonitrile	ND	ug/L	20	5.0	12/12/95	WMSVOA371
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chloroform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Vinyl Acetate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromodichloromethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Dibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Trichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethyl Methacrylate	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2-Trichloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Benzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromoform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Tetrachloroethene	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Hexanone (MBK)	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Toluene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethylbenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichloro-2-Butene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Styrene	ND	ug/L	10	5.0	12/12/95	WMSVOA371
P/M Xylene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
O-Xylene	ND	ug/L	2.0	5.0	12/12/95	WMSVOA371
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-24A
Sample ID: 24 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI114
Aluminum, Al	38.5	mg/L	0.50	2.0	12/13/95	WI114
Arsenic, As	1.30	mg/L	0.030	2.0	12/13/95	WI114
Boron, B	0.23	mg/L	0.10	2.0	12/13/95	WI114
Barium, Ba	23.2	mg/L	0.010	2.0	12/13/95	WI114
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI114
Calcium, Ca	738	mg/L	0.20	2.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI114
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI114
Chromium, Cr	0.05	mg/L	0.020	2.0	12/13/95	WI114

Lab ID: 9512073-24A
Sample ID: 24 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
METALS by ICP/SW846 6010						
Copper, Cu	0.28	mg/L	0.020	2.0	12/13/95	WI114
Iron, Fe	3.8	mg/L	0.20	2.0	12/13/95	WI114
Potassium, K	70.5	mg/L	0.10	2.0	12/13/95	WI114
Magnesium, Mg	11.7	mg/L	0.10	2.0	12/13/95	WI114
Manganese, Mn	0.321	mg/L	0.0030	2.0	12/13/95	WI114
Sodium, Na	756	mg/L	0.20	2.0	12/13/95	WI114
Nickel, Ni	0.03	mg/L	0.010	2.0	12/13/95	WI114
Lead, Pb	0.28	mg/L	0.030	2.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI114
Vanadium, V	0.015	mg/L	0.0030	2.0	12/13/95	WI114
Zinc, Zn	0.4	mg/L	0.10	2.0	12/13/95	WI114
pH/EPA 150.1						
pH	9.3	pH Units	0.10	1.0	12/07/95	WPH345

Lab ID: 9512073-24B
Sample ID: 24 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TILES /SW846 8240B						
lorodifluoromethane	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Chloromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Iodomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acetone	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Bromomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Vinyl Chloride	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Chloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Freon 113	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Carbon Disulfide	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acrolein	ND	ug/L	20	5.0	12/12/95	WMSVOA371
Methylene Chloride	ND	ug/L	10	5.0	12/12/95	WMSVOA371
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Acrylonitrile	ND	ug/L	20	5.0	12/12/95	WMSVOA371
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chloroform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Vinyl Acetate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromodichloromethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Dibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Trichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
zene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
oform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Tetrachloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-24B
Sample ID: 24 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Toluene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethylbenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Styrene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
P/M Xylene	ND	ug/L	2.0	5.0	12/12/95	WMSVOA371
O-Xylene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-25A
Sample ID: 25 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI114
Aluminum, Al	ND	mg/L	0.50	2.0	12/13/95	WI114
Arsenic, As	ND	mg/L	0.030	2.0	12/13/95	WI114
Boron, B	0.07	mg/L	0.10	2.0	12/13/95	WI114
Barium, Ba	0.06	mg/L	0.010	2.0	12/13/95	WI114
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI114
Calcium, Ca	8.8	mg/L	0.20	2.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI114
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI114
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI114
Copper, Cu	0.02	mg/L	0.020	2.0	12/13/95	WI114
Iron, Fe	ND	mg/L	0.20	2.0	12/13/95	WI114
Potassium, K	1.7	mg/L	0.10	2.0	12/13/95	WI114
Magnesium, Mg	1.0	mg/L	0.10	2.0	12/13/95	WI114
Manganese, Mn	0.014	mg/L	0.0030	2.0	12/13/95	WI114
Sodium, Na	22.2	mg/L	0.20	2.0	12/13/95	WI114
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI114
Lead, Pb	0.04	mg/L	0.030	2.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI114
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI114
Zinc, Zn	0.2	mg/L	0.10	2.0	12/13/95	WI114
pH/EPA 150.1						
pH	8.2	pH Units	0.10	1.0	12/07/95	WPH345

. ID: 9512073-25B
Sample ID: 25 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Chloromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Iodomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acetone	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Bromomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Vinyl Chloride	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Chloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Freon 113	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Carbon Disulfide	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acrolein	ND	ug/L	20	5.0	12/12/95	WMSVOA371
Methylene Chloride	ND	ug/L	10	5.0	12/12/95	WMSVOA371
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Acrylonitrile	ND	ug/L	20	5.0	12/12/95	WMSVOA371
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chloroform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Vinyl Acetate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromodichloromethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]-Dichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]omomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]ans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Trichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Benzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromoform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Tetrachloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Toluene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethylbenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Styrene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
P/M Xylene	ND	ug/L	2.0	5.0	12/12/95	WMSVOA371
O-Xylene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-26A
Sample ID: 26 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	10.2	pH Units	0.10	1.0	12/07/95	WPH345

Lab ID: 9512073-27A
Sample ID: 27 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	2.0	12/13/95	WI114
Aluminum, Al	1.0	mg/L	0.50	2.0	12/13/95	WI114
Arsenic, As	0.12	mg/L	0.030	2.0	12/13/95	WI114
Boron, B	0.12	mg/L	0.10	2.0	12/13/95	WI114
Barium, Ba	0.82	mg/L	0.010	2.0	12/13/95	WI114
Beryllium, Be	ND	mg/L	0.00040	2.0	12/13/95	WI114
Calcium, Ca	23.5	mg/L	0.20	2.0	12/13/95	WI114
Cadmium, Cd	ND	mg/L	0.0030	2.0	12/13/95	WI114
Cobalt, Co	ND	mg/L	0.010	2.0	12/13/95	WI114
Chromium, Cr	ND	mg/L	0.020	2.0	12/13/95	WI114
Copper, Cu	ND	mg/L	0.020	2.0	12/13/95	WI114
Iron, Fe	ND	mg/L	0.20	2.0	12/13/95	WI114
Potassium, K	3.9	mg/L	0.10	2.0	12/13/95	WI114
Magnesium, Mg	0.5	mg/L	0.10	2.0	12/13/95	WI114
Manganese, Mn	0.17	mg/L	0.0030	2.0	12/13/95	WI114
Sodium, Na	59.4	mg/L	0.20	2.0	12/13/95	WI114
Nickel, Ni	ND	mg/L	0.010	2.0	12/13/95	WI114
Lead, Pb	ND	mg/L	0.030	2.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	2.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	2.0	12/13/95	WI114
Vanadium, V	ND	mg/L	0.0030	2.0	12/13/95	WI114
Zinc, Zn	ND	mg/L	0.10	2.0	12/13/95	WI114
pH/EPA 150.1						
pH	8.2	pH Units	0.10	1.0	12/07/95	WPH345

Lab ID: 9512073-27B
Sample ID: 27 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Chloromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Iodomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acetone	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Bromomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Vinyl Chloride	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Chloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Freon 113	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Carbon Disulfide	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acrolein	ND	ug/L	20	5.0	12/12/95	WMSVOA371
Methylene Chloride	ND	ug/L	10	5.0	12/12/95	WMSVOA371
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-27B
Sample ID: 27 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Acrylonitrile	ND	ug/L	20	5.0	12/12/95	WMSVOA371
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chloroform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Vinyl Acetate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromodichloromethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Dibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Trichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Benzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
cis-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromoform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
[illegible]achloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible],2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]-Dibromoethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
[illegible]-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Toluene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethylbenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichloro-2-Butene	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Styrene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
P/M Xylene	ND	ug/L	2.0	5.0	12/12/95	WMSVOA371
O-Xylene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

Lab ID: 9512073-28A
Sample ID: 28 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ICP DIG/SW 846 3005	12/08/95	N/A				
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	4.0	12/13/95	WI114
Aluminum, Al	ND	mg/L	0.50	4.0	12/13/95	WI114
Arsenic, As	ND	mg/L	0.030	4.0	12/13/95	WI114
Boron, B	0.16	mg/L	0.10	4.0	12/13/95	WI114
[illegible]rium, Ba	0.35	mg/L	0.010	4.0	12/13/95	WI114
[illegible]llium, Be	ND	mg/L	0.00040	4.0	12/13/95	WI114
[illegible]ium, Ca	9.8	mg/L	0.20	4.0	12/13/95	WI114
[illegible]dmium, Cd	ND	mg/L	0.0030	4.0	12/13/95	WI114
[illegible]obalt, Co	ND	mg/L	0.010	4.0	12/13/95	WI114
Chromium, Cr	ND	mg/L	0.020	4.0	12/13/95	WI114

Lab ID: 9512073-28A
Sample ID: 28 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
METALS by ICP/SW846 6010						
Copper, Cu	ND	mg/L	0.020	4.0	12/13/95	WI114
Iron, Fe	ND	mg/L	0.20	4.0	12/13/95	WI114
Potassium, K	3.8	mg/L	0.10	4.0	12/13/95	WI114
Magnesium, Mg	ND	mg/L	0.10	4.0	12/13/95	WI114
Manganese, Mn	0.012	mg/L	0.0030	4.0	12/13/95	WI114
Sodium, Na	66.6	mg/L	0.20	4.0	12/13/95	WI114
Nickel, Ni	ND	mg/L	0.010	4.0	12/13/95	WI114
Lead, Pb	ND	mg/L	0.030	4.0	12/13/95	WI114
Antimony, Sb	ND	mg/L	0.030	4.0	12/13/95	WI114
Selenium, Se	ND	mg/L	0.050	4.0	12/13/95	WI114
Vanadium, V	ND	mg/L	0.0030	4.0	12/13/95	WI114
Zinc, Zn	ND	mg/L	0.10	4.0	12/13/95	WI114
pH/EPA 150.1						
pH	9.2	pH Units	0.10	1.0	12/07/95	WPH345

Lab ID: 9512073-28B
Sample ID: 28 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ATILES /SW846 8240B						
chlorodifluoromethane	ND	ug/L	10	5.0	12/12/95	WMSVOA371
Chloromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Iodomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acetone	110	ug/L	5.0	5.0	12/12/95	WMSVOA371
Bromomethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Vinyl Chloride	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Chloroethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Trichlorofluoromethane	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Freon 113	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Carbon Disulfide	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Acrolein	ND	ug/L	20	5.0	12/12/95	WMSVOA371
Methylene Chloride	ND	ug/L	10	5.0	12/12/95	WMSVOA371
1,1-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,1-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Acrylonitrile	ND	ug/L	20	5.0	12/12/95	WMSVOA371
trans-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chloroform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Vinyl Acetate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
cis-1,2-Dichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Butanone (MEK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Carbon Tetrachloride	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Bromodichloromethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Dibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
trans-1,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Trichloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorodibromomethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethyl Methacrylate	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
2-Chloroethylvinyl Ether	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,2-Trichloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
ene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
,3-Dichloropropene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
omoform	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
Tetrachloroethene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

o ID: 9512073-28B
nple ID: 28 MDAM

Collected: 12/06/95 13:00:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dibromoethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
2-Hexanone (MBK)	ND	ug/L	5.0	5.0	12/12/95	WMSVOA371
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Toluene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Chlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Ethylbenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichloro-2-Butene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Styrene	ND	ug/L	10	5.0	12/12/95	WMSVOA371
P/M Xylene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
O-Xylene	ND	ug/L	2.0	5.0	12/12/95	WMSVOA371
1,2,3-Trichloropropane	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
Methyl-tert Butyl Ether	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,2-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,3-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371
1,4-Dichlorobenzene	ND	ug/L	1.0	5.0	12/12/95	WMSVOA371

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : **12/21/95**
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 12073 Date [illegible]

Page 1 of 3

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87[illegible]
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG S[illegible]NG
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc

Address: 3511 Trinity Ste. C-5

City / State / Zip: LA [illegible]

Project Name / Number: MDA/M

Contract / Purchase Order / Quote:

Project Manager / Contact: [illegible]

Telephone No.: [illegible]

Fax No.:

Samplers: (Signature)

Analysis Required

Lab Sample Number	Sample Number	Sample Description	Date	Time	Matrix	Container	Preservative	No. of Containers	VOA pH	VOA pH	pH	VOA pH	pH	VOA pH	VOA pH	pH, VOA	ICP	Remarks
01A,B,C	1	MDA M	12/6/95	1300	Water	4 oz glass	4°C	N/A	1	✓							✓	
02A,B,C	2										✓						✓	
03A	3											✓						
04A,B,C	4												✓				✓	
05A	5													✓				
06A,B,C	6														✓		✓	
07A,B,C	7															✓	✓	ICP [illegible]
08A,B,C	8															✓	✓	no Hg
09A,B,C	9															✓		
010A	10											✓						
11A,B,C	11												✓				✓	
12A,B	12												✓					

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: DM O'Connell	12/6/95	Signature: [illegible]	Signature: [illegible]	12/7/95	Signature: [illegible]
Printed: DM O'Connell	Time: 2PM	Printed: Elias J. Chavez	Printed: Elias J. Chavez	Time: 8:30 AM	Printed: [illegible]
Company: NES		Company: AAL	Company: AAL		Company: AAL
Reason: Testing		Reason: testing	Reason: testing		Reason:

Method of Shipment: Texas Air 12/7/95

Shipment No.:

Special Instructions:

Comments: Samples split & preserved @ AAL!

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 13013 Date 12/6/95

Page 2 of 3

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc

Address:

City / State / Zip:

Project Name / Number:

Contract / Purchase Order / Quote:

Project Manager / Contact:

Telephone No.:

Fax No.:

Samplers: (Signature)

Analysis Required

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	No. of Containers	NBA pH	TPH	Metals scan (ICP)*							Remarks
13A,B	13	MDAM	12/6/95	1300	water	4/02 glass	4°C	n/a	1	✓	✓							
14A,B,C	14									✓	✓							EJS 12/7/95
15A,B,C	15									✓	✓							~~* Total by only Hg~~
16A,B,C	16									✓	✓							
17A,B,C	17									✓	✓							
18A,B,C	18									✓	✓							
19A,B,C	19									✓	✓							
20A,B,C	20									✓	✓							
21A,B,C	21									✓	✓							
22A,B	22									✓								
23A,B,C	23									✓	✓							
24A,B,C	24									✓	✓							

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: [signature]	12/6/95	Signature: [signature]	Signature: [signature]	12/7/95	Signature: [signature]
Printed: Don Linnell	Time: 2 PM	Printed: Elvira J. Chavez	Printed: Elvira J. Chavez	Time: 8:30 AM	Printed: Denise Gilliam
Company: NES		Company: AAL	Company: AAL		Company: AAL
Reason: testing		Reason: testing	Reason: testing		Reason:

Method of Shipment: hand delivered

Shipment No.:

Special Instructions:

Comments: Samples split & preserved @ AAL

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

SAIGAI ANALYTICAL LABORATORIES

Chain of Custody Record

Lab job no.: 130413 Date [illegible]

Page 3 of 3

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87[illegible]
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG S[illegible]NG
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client: NES, Inc

Address:

City / State / Zip:

Project Name / Number:

Contract / Purchase Order / Quote:

Project Manager / Contact:

Telephone No.: [illegible]

Fax No.:

Samplers: (Signature)

AAL number	Sample Number	Sampling Date	Sampling Time	Matrix	Description	Preservative	Analysis Required	No. of Containers	pH	pH, Metals, TCLP								Remarks
25A,B,C	25	MDAM	12/4/95	1300	water	1/02 Glass	4°C	none	1		✓							
26A	26	↓	↓	↓	↓	↓	↓	↓	1	✓	✓							
27A,B,C	27								1		✓							
28A,B,C	28								1		✓							

3 Kept
Dm 12/7/95

12/6/95

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: [illegible]	12/6/95	Signature: [illegible]	Signature: [illegible]	12/7/95	Signature: [illegible]
Printed: Dmi Cinnell	Time: 2 PM	Printed: Elvin J Chavez	Printed: Elvin J Chavez	Time: 8:30 AM	Printed: [illegible]
Company: NES		Company: AAL	Company: AAL		Company:
Reason: Testing		Reason: testing	Reason: testing		Reason:

Method of Shipment:

Shipment No.:

Special Instructions:

Comments: Samples spl - 4 preserved @ AAL!

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

COURIER

ASSAIGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
January 25, 1996 14:53

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: NES, INC.
3500 TRINITY DR.
SUITE C-5
LOS ALAMOS, NM 87544
ATTN: DEBORAH O'CONNELL

WORKORDER # : 9601052
WORK ID : MDAM SITE
CLIENT CODE : NES01
DATE RECEIVED : 01/08/96

Lab ID: 9601052-01A
Sample ID: 1 GALLON SQUARE

Collected: 01/06/96 12:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (ICP) DIG/1311/3005	01/16/96	N/A				
TCLP EXTRACTION/TCLP 1311	01/11/96	N/A				
TCLP HERB XT/SM 509B	01/18/96	N/A				
TCLP HERBICIDES/SM509B						
2,4'-D	ND	mg/L	0.00010	10	01/24/96	THERB33
2,4,5'-TP	ND	mg/L	0.00010	10	01/24/96	THERB33
2,4,5'-T	ND	mg/L	0.00010	10	01/24/96	THERB33
TCLP METALS/1311/SW8466010						
Arsenic, As	ND	mg/L	0.20	1.0	01/21/96	TI126.TCV22
Barium, Ba	ND	mg/L	0.50	1.0	01/21/96	TI126.TCV22
Cadmium, Cd	0.009B	mg/L	0.0030	1.0	01/21/96	TI126.TCV22
Chromium, Cr	ND	mg/L	0.020	1.0	01/21/96	TI126.TCV22
Lead, Pb	5.02	mg/L	0.030	1.0	01/21/96	TI126.TCV22
Mercury, Hg	ND	mg/L	0.0020	1.0	01/17/96	TI126.TCV22
Selenium, Se	ND	mg/L	0.050	1.0	01/21/96	TI126.TCV22
Silver, Ag	ND	mg/L	0.020	1.0	01/21/96	TI126.TCV22
TCLP PEST XT/1311/3520	01/18/96	N/A				
TCLP PESTICIDES/1311/8080A						
gamma-BHC (lindane)	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Chlordane	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Endrin	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Heptachlor	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Heptachlor Epoxide	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Methoxychlor	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Toxaphene	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
TCLP SV/METHOD 1311/8270B						
1,4-Dichlorobenzene	ND	mg/L	0.0010	220	01/22/96	TSVOA144
2-Methylphenol / O-Cresol	ND	mg/L	0.0010	220	01/22/96	TSVOA144
3/4-Methylphenol / M/P-Cresol	0.25	mg/L	0.0010	220	01/22/96	TSVOA144
Hexachloroethane	ND	mg/L	0.0010	220	01/22/96	TSVOA144
Nitrobenzene	ND	mg/L	0.0010	220	01/22/96	TSVOA144
Hexachlorobutadiene	ND	mg/L	0.0010	220	01/22/96	TSVOA144
2,4,6-Trichlorophenol	ND	mg/L	0.010	220	01/22/96	TSVOA144
2,4,5-Trichlorophenol	ND	mg/L	0.010	220	01/22/96	TSVOA144
2,4-Dinitrotoluene	ND	mg/L	0.010	220	01/22/96	TSVOA144
Hexachlorobenzene	ND	mg/L	0.0010	220	01/22/96	TSVOA144
Pentachlorophenol	ND	mg/L	0.020	220	01/22/96	TSVOA144
Pyridine	ND	mg/L	0.010	220	01/22/96	TSVOA144
TCLP SVOA XT/1311/3520	01/16/96	N/A				
P ZHE / TCLP 1311	01/20/96	N/A				
P(CVAA)Hg XT/SW846 7471	01/16/96	N/A				
ZHE/VOA/METHOD 1311/8240B						
Vinyl Chloride	ND	mg/L	0.0050	5.0	01/22/96	TVOA220
1,1-Dichloroethene	ND	mg/L	0.0010	5.0	01/22/96	TVOA220

Member: American Council of Independent Laboratories, Inc.

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Lab ID: 9601052-01A
Sample ID: 1 GALLON SQUARE

Collected: 01/06/96 12:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ZHE/VOA/METHOD 1311/8240B						
Chloroform	ND	mg/L	0.0010	5.0	01/22/96	TVOA220
1,2-Dichloroethane	ND	mg/L	0.0010	5.0	01/22/96	TVOA220
2-Butanone (MEK)	ND	mg/L	0.0050	5.0	01/22/96	TVOA220
Carbon Tetrachloride	ND	mg/L	0.0010	5.0	01/22/96	TVOA220
Trichloroethene	ND	mg/L	0.0010	5.0	01/22/96	TVOA220
Benzene	ND	mg/L	0.0010	5.0	01/22/96	TVOA220
Tetrachloroethene	ND	mg/L	0.0010	5.0	01/22/96	TVOA220
Chlorobenzene	ND	mg/L	0.0010	5.0	01/22/96	TVOA220

Lab ID: 9601052-02A
Sample ID: 500 ML. GLASS

Collected: 01/06/96 12:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (ICP) DIG/1311/3005	01/16/96	N/A				
TCLP EXTRACTION/TCLP 1311	01/11/96	N/A				
TCLP METALS/1311/SW8466010						
Arsenic, As	ND	mg/L	0.20	1.0	01/20/96	TI126.TCV22
Barium, Ba	ND	mg/L	0.50	1.0	01/20/96	TI126.TCV22
Cadmium, Cd	0.006B	mg/L	0.0030	1.0	01/20/96	TI126.TCV22
Chromium, Cr	ND	mg/L	0.020	1.0	01/20/96	TI126.TCV22
Lead, Pb	ND	mg/L	0.030	1.0	01/20/96	TI126.TCV22
Mercury, Hg	ND	mg/L	0.0020	1.0	01/17/96	TI126.TCV22
Selenium, Se	0.07B	mg/L	0.050	1.0	01/20/96	TI126.TCV22
Silver, Ag	ND	mg/L	0.020	1.0	01/20/96	TI126.TCV22
TCLP(CVAA)Hg XT/SW846 7471	01/16/96	N/A				

Lab ID: 9601052-02B
Sample ID: 500 ML. GLASS

Collected: 01/06/96 12:00:00
Matrix: AQUEOUS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	125	01/19/96	SMSVOA345
Chloromethane	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Iodomethane	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Acetone	2.2	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Bromomethane	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Vinyl Chloride	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Chloroethane	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Trichlorofluoromethane	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Freon 113	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Carbon Disulfide	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Acrolein	ND	mg/Kg	0.020	125	01/19/96	SMSVOA345
Methylene Chloride	ND	mg/Kg	0.010	125	01/19/96	SMSVOA345
1,1-Dichloroethene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
1,1-Dichloroethane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Acrylonitrile	ND	mg/Kg	0.020	125	01/19/96	SMSVOA345
trans-1,2-Dichloroethene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Chloroform	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
1,2-Dichloroethane	0.19	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Vinyl Acetate	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345

Lab ID: 9601052-02B
Sample ID: 500 ML. GLASS

Collected: 01/06/96 12:00:00
Matrix: AQUEOUS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
cis-1,2-Dichloroethene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
2-Butanone (MEK)	1.2	mg/Kg	0.0050	125	01/19/96	SMSVOA345
1,1,1-Trichloroethane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Carbon Tetrachloride	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Bromodichloromethane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
1,2-Dichloropropane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Dibromomethane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Trichloroethene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Chlorodibromomethane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Ethyl Methacrylate	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
2-Chloroethylvinyl Ether	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Benzene	10	mg/Kg	0.0010	125	01/19/96	SMSVOA345
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Bromoform	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
Tetrachloroethene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
1,2-Dibromoethane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
2-Hexanone (MBK)	ND	mg/Kg	0.0050	125	01/19/96	SMSVOA345
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Toluene	0.52	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Chlorobenzene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
[illegible]lbenzene	0.24	mg/Kg	0.0010	125	01/19/96	SMSVOA345
[illegible]-Dichloro-2-Butene	ND	mg/Kg	0.010	125	01/19/96	SMSVOA345
Styrene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
P/M Xylene	ND	mg/Kg	0.0020	125	01/19/96	SMSVOA345
O-Xylene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	125	01/19/96	SMSVOA345
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	125	01/19/96	SMSVOA345

Lab ID: 9601052-02C
Sample ID: 500 ML. GLASS

Collected: 01/06/96 12:00:00
Matrix: AQUEOUS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
ARSENIC (GFAA)/SW846 7060						
Arsenic, As	ND	mg/Kg	0.0050	50	01/22/96	OFOI2
CVAA Hg XT/SW846 7471	N/A	N/A				
ICP DIG/SW 846 3005	01/11/96	N/A				
MERCURY (CVAA)/SW846 7471						
Mercury	ND	mg/Kg	0.15	1.0	01/12/96	SCV85
METALS by ICP/SW-846 6010						
Silver, Ag	ND	mg/Kg	1.0	1.0	01/18/96	OI2
Aluminum, Al	ND	mg/Kg	25	1.0	01/18/96	OI2
Arsenic, As	NT	mg/Kg	1.5			OI2
Boron, B	ND	mg/Kg	5.0	1.0	01/18/96	OI2
Barium, Ba	ND	mg/Kg	0.50	1.0	01/18/96	OI2
Beryllium, Be	ND	mg/Kg	0.020	1.0	01/18/96	OI2
[illegible]ium, Ca	24.4B	mg/Kg	10	1.0	01/18/96	OI2
[illegible]mium, Cd	ND	mg/Kg	0.15	1.0	01/18/96	OI2
[illegible]balt, Co	ND	mg/Kg	1.0	1.0	01/18/96	OI2
Chromium, Cr	ND	mg/Kg	1.0	1.0	01/18/96	OI2
Copper, Cu	ND	mg/Kg	1.0	1.0	01/18/96	OI2

ID: 9601052-02C
Sample ID: 500 ML. GLASS

Collected: 01/06/96 12:00:00
Matrix: AQUEOUS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
METALS by ICP/SW-846 6010						
Iron, Fe	ND	mg/Kg	10	1.0	01/18/96	OI2
Potassium, K	ND	mg/Kg	5.0	1.0	01/18/96	OI2
Magnesium, Mg	ND	mg/Kg	5.0	1.0	01/18/96	OI2
Manganese, Mn	ND	mg/Kg	0.15	1.0	01/18/96	OI2
Sodium, Na	13.0E	mg/Kg	10	1.0	01/18/96	OI2
Nickel, Ni	ND	mg/Kg	0.50	1.0	01/18/96	OI2
Lead, Pb	ND	mg/Kg	1.5	1.0	01/18/96	OI2
Antimony, Sb	ND	mg/Kg	1.5	1.0	01/18/96	OI2
Selenium, Se	ND	mg/Kg	2.5	1.0	01/18/96	OI2
Vanadium, V	ND	mg/Kg	0.15	1.0	01/18/96	OI2
Zinc, Zn	ND	mg/Kg	5.0	1.0	01/18/96	OI2
PCBs OIL/EPA 600/4-81-45						
PCB-1016	ND	mg/Kg	1.0	1.0	01/23/96	OPCB151
PCB-1221	ND	mg/Kg	1.0	1.0	01/23/96	OPCB151
PCB-1232	ND	mg/Kg	1.0	1.0	01/23/96	OPCB151
PCB-1242	ND	mg/Kg	1.0	1.0	01/23/96	OPCB151
PCB-1248	ND	mg/Kg	1.0	1.0	01/23/96	OPCB151
PCB-1254	ND	mg/Kg	1.0	1.0	01/23/96	OPCB151
PCB-1260	ND	mg/Kg	1.0	1.0	01/23/96	OPCB151
pH/SW846 9045						
Corrosivity as pH	5.3	pH Units	0.10	1.0	01/09/96	WPH353

ID: 9601052-03A
Sample ID: 2 GALLON GLASS

Collected: 01/06/96 12:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (ICP) DIG/1311/3005	01/16/96	N/A				
TCLP EXTRACTION/TCLP 1311	01/11/96	N/A				
TCLP HERB XT/SM 509B	01/18/96	N/A				
TCLP HERBICIDES/SM509B						
2,4'-D	ND	mg/L	0.00010	10	01/24/96	THERB33
2,4,5'-TP	ND	mg/L	0.00010	10	01/24/96	THERB33
2,4,5'-T	ND	mg/L	0.00010	10	01/24/96	THERB33
TCLP METALS/1311/SW8466010						
Arsenic, As	ND	mg/L	0.20	1.0	01/21/96	TI126,TCV22
Barium, Ba	ND	mg/L	0.50	1.0	01/21/96	TI126,TCV22
Cadmium, Cd	0.004B	mg/L	0.0030	1.0	01/21/96	TI126,TCV22
Chromium, Cr	ND	mg/L	0.020	1.0	01/21/96	TI126,TCV22
Lead, Pb	ND	mg/L	0.030	1.0	01/21/96	TI126,TCV22
Mercury, Hg	ND	mg/L	0.0020	1.0	01/17/96	TI126,TCV22
Selenium, Se	ND	mg/L	0.050	1.0	01/21/96	TI126,TCV22
Silver, Ag	ND	mg/L	0.020	1.0	01/21/96	TI126,TCV22
TCLP PEST XT/1311/3520	01/18/96	N/A				
TCLP PESTICIDES/1311/8080A						
gamma-BHC (lindane)	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Chlordane	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Endrin	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Heptachlor	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Heptachlor Epoxide	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Methoxychlor	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
Toxaphene	ND	mg/L	0.00010	5.0	01/23/96	TPEST34
SV/METHOD 1311/8270B						
Dichlorobenzene	ND	mg/L	0.0010	2.2	01/23/96	TSVOA144
Methylphenol / O-Cresol	ND	mg/L	0.0010	2.2	01/23/96	TSVOA144
3/4-Methylphenol / M/P-Cresol	ND	mg/L	0.0010	2.2	01/23/96	TSVOA144
Hexachloroethane	ND	mg/L	0.0010	2.2	01/23/96	TSVOA144

ɔ ID: 9601052-03A
mple ID: 2 GALLON GLASS

Collected: 01/06/96 12:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP SV/METHOD 1311/8270B						
Nitrobenzene	ND	mg/L	0.0010	2.2	01/23/96	TSVOA144
Hexachlorobutadiene	ND	mg/L	0.0010	2.2	01/23/96	TSVOA144
2.4.6-Trichlorophenol	ND	mg/L	0.010	2.2	01/23/96	TSVOA144
2.4.5-Trichlorophenol	ND	mg/L	0.010	2.2	01/23/96	TSVOA144
2.4-Dinitrotoluene	ND	mg/L	0.010	2.2	01/23/96	TSVOA144
Hexachlorobenzene	ND	mg/L	0.0010	2.2	01/23/96	TSVOA144
Pentachlorophenol	ND	mg/L	0.020	2.2	01/23/96	TSVOA144
Pyridine	ND	mg/L	0.010	2.2	01/23/96	TSVOA144
TCLP SVOA XT/1311/3520	01/16/96	N/A				
TCLP ZHE / TCLP 1311	01/20/96	N/A				
TCLP(CVAA)Hg XT/SW846 7471	01/16/96	N/A				
ZHE/VOA/METHOD 1311/8240B						
Vinyl Chloride	ND	mg/L	0.0050	1.0	01/22/96	TVOA220
1.1-Dichloroethene	ND	mg/L	0.0010	1.0	01/22/96	TVOA220
Chloroform	ND	mg/L	0.0010	1.0	01/22/96	TVOA220
1.2-Dichloroethane	ND	mg/L	0.0010	1.0	01/22/96	TVOA220
2-Butanone (MEK)	ND	mg/L	0.0050	1.0	01/22/96	TVOA220
Carbon Tetrachloride	ND	mg/L	0.0010	1.0	01/22/96	TVOA220
Trichloroethene	ND	mg/L	0.0010	1.0	01/22/96	TVOA220
Benzene	ND	mg/L	0.0010	1.0	01/22/96	TVOA220
Tetrachloroethene	ND	mg/L	0.0010	1.0	01/22/96	TVOA220
Chlorobenzene	ND	mg/L	0.0010	1.0	01/22/96	TVOA220

ɔ ID: 9601052-03B
ple ID: 2 GALLON GLASS

Collected: 01/06/96 12:00:00
Matrix: AQUEOUS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Dichlorodifluoromethane	ND	ug/L	10	1.0	01/19/96	WMSVOA381
Chloromethane	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Iodomethane	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Acetone	19	ug/L	5.0	1.0	01/19/96	WMSVOA381
Bromomethane	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Vinyl Chloride	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Chloroethane	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Trichlorofluoromethane	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Freon 113	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Carbon Disulfide	24	ug/L	5.0	1.0	01/19/96	WMSVOA381
Acrolein	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Methylene Chloride	ND	ug/L	20	1.0	01/19/96	WMSVOA381
1.1-Dichloroethene	ND	ug/L	10	1.0	01/19/96	WMSVOA381
1.1-Dichloroethane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
Acrylonitrile	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
trans-1.2-Dichloroethene	ND	ug/L	20	1.0	01/19/96	WMSVOA381
Chloroform	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
1.2-Dichloroethane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
Vinyl Acetate	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
cis-1.2-Dichloroethene	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
2-Butanone (MEK)	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
1.1.1-Trichloroethane	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Carbon Tetrachloride	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
Bromodichloromethane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
?-Dichloropropane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
ɔromomethane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
'.3-Dichloropropene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
ɔroethene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
.orodibromomethane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381

Lab ID: 9601052-03B **Collected:** 01/06/96 12:00:00
Sample ID: 2 GALLON GLASS **Matrix:** AQUEOUS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES /SW846 8240B						
Ethyl Methacrylate	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
2-Chloroethylvinyl Ether	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
1,1,2-Trichloroethane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
Benzene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
cis-1,3-Dichloropropene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
Bromoform	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
Tetrachloroethene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
1,2-Dibromoethane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
2-Hexanone (MBK)	ND	ug/L	5.0	1.0	01/19/96	WMSVOA381
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
Toluene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
Chlorobenzene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
Ethylbenzene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
1,4-Dichloro-2-Butene	ND	ug/L	10	1.0	01/19/96	WMSVOA381
Styrene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
P/M Xylene	ND	ug/L	2.0	1.0	01/19/96	WMSVOA381
O-Xylene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
1,2,3-Trichloropropane	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
Methyl-tert Butyl Ether	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
1,2-Dichlorobenzene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
1,3-Dichlorobenzene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381
1,4-Dichlorobenzene	ND	ug/L	1.0	1.0	01/19/96	WMSVOA381

Lab ID: 9601052-03C **Collected:** 01/06/96 12:00:00
Sample ID: 2 GALLON GLASS **Matrix:** AQUEOUS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CVAA Hg XT/EPA 245.1	01/09/96	N/A				
ICP DIG/SW 846 3005	01/11/96	N/A				
MERCURY (CVAA)/EPA 245.1						
Mercury	ND	mg/L	0.00020	2.0	01/10/96	WCV152
METALS by ICP/SW846 6010						
Silver, Ag	ND	mg/L	0.020	1.0	01/17/96	WI125/A
Aluminum, Al	14.6	mg/L	0.50	1.0	01/17/96	WI125/A
Arsenic, As	ND	mg/L	0.030	5.0	01/24/96	WI125/A
Boron, B	377	mg/L	0.10	5.0	01/24/96	WI125/A
Barium, Ba	0.330	mg/L	0.010	1.0	01/17/96	WI125/A
Beryllium, Be	ND	mg/L	0.00040	5.0	01/24/96	WI125/A
Calcium, Ca	40.9	mg/L	0.20	1.0	01/17/96	WI125/A
Cadmium, Cd	0.018	mg/L	0.0030	5.0	01/24/96	WI125/A
Cobalt, Co	ND	mg/L	0.010	1.0	01/17/96	WI125/A
Chromium, Cr	0.06	mg/L	0.020	1.0	01/17/96	WI125/A
Copper, Cu	0.26	mg/L	0.020	1.0	01/17/96	WI125/A
Iron, Fe	3.5	mg/L	0.20	1.0	01/17/96	WI125/A
Potassium, K	18.4	mg/L	0.10	1.0	01/17/96	WI125/A
Magnesium, Mg	4.4	mg/L	0.10	1.0	01/17/96	WI125/A
Manganese, Mn	1.04	mg/L	0.0030	1.0	01/17/96	WI125/A
Sodium, Na	2430	mg/L	0.20	10	01/24/96	WI125/A
Nickel, Ni	0.08	mg/L	0.010	1.0	01/17/96	WI125/A
Lead, Pb	0.10	mg/L	0.030	1.0	01/17/96	WI125/A
Antimony, Sb	ND	mg/L	0.030	1.0	01/17/96	WI125/A
Selenium, Se	0.09	mg/L	0.050	1.0	01/17/96	WI125/A
Vanadium, V	0.087	mg/L	0.0030	1.0	01/17/96	WI125/A
Zinc, Zn	1.9	mg/L	0.10	1.0	01/17/96	WI125/A
pH/EPA 150.1						

Lab ID: 9601052-03C
Sample ID: 2 GALLON GLASS

Collected: 01/06/96 12:00:00
Matrix: AQUEOUS

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
pH	6.4	pH Units	0.10	1.0	01/09/96	WPH353

Lab ID: 9601052-04A
Sample ID: 1 GALLON ROUND

Collected: 01/06/96 12:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
% SOLIDS(TCLP XT)EPA 160.3	100.00	% (Percent)				
TCLP (FAA) DIG/1311/3005	01/16/96	N/A				
TCLP EXTRACTION/TCLP 1311	01/11/96	N/A				
TCLP LEAD(FAA)/1311/7420						
Lead, Pb	0.2	mg/L	0.10	1.0	01/17/96	TF10

Lab ID: 9601052-04B
Sample ID: 1 GALLON ROUND

Collected: 01/06/96 12:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Dichlorodifluoromethane	ND	mg/Kg	0.010	1250	01/18/96	SMSVOA344
Chloromethane	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Iodomethane	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Acetone	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Bromomethane	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Vinyl Chloride	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Chloroethane	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Trichlorofluoromethane	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Freon 113	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Carbon Disulfide	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Acrolein	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Methylene Chloride	ND	mg/Kg	0.020	1250	01/18/96	SMSVOA344
1,1-Dichloroethene	ND	mg/Kg	0.010	1250	01/18/96	SMSVOA344
1,1-Dichloroethane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Acrylonitrile	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
trans-1,2-Dichloroethene	ND	mg/Kg	0.020	1250	01/18/96	SMSVOA344
Chloroform	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
1,2-Dichloroethane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Vinyl Acetate	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
cis-1,2-Dichloroethene	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
2-Butanone (MEK)	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
1,1,1-Trichloroethane	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Carbon Tetrachloride	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Bromodichloromethane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
1,2-Dichloropropane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Dibromomethane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
trans-1,3-Dichloropropene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Trichloroethene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Chlorodibromomethane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Ethyl Methacrylate	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Chloroethylvinyl Ether	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
1,1,2-Trichloroethane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Benzene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
cis-1,3-Dichloropropene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344

Lab ID: 9601052-04B
Sample ID: 1 GALLON ROUND

Collected: 01/06/96 12:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOLATILES/SW846 8240B						
Bromoform	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
4-Methyl-2-Pentanone (MIBK)	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
Tetrachloroethene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
1,2-Dibromoethane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
2-Hexanone (MBK)	ND	mg/Kg	0.0050	1250	01/18/96	SMSVOA344
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Toluene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Chlorobenzene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Ethylbenzene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
1,4-Dichloro-2-Butene	ND	mg/Kg	0.010	1250	01/18/96	SMSVOA344
Styrene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
P/M Xylene	ND	mg/Kg	0.0020	1250	01/18/96	SMSVOA344
O-Xylene	3.0	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
1,2,3-Trichloropropane	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
Methyl-tert Butyl Ether	ND	mg/Kg	0.010	1250	01/18/96	SMSVOA344
1,2-Dichlorobenzene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
1,3-Dichlorobenzene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344
1,4-Dichlorobenzene	ND	mg/Kg	0.0010	1250	01/18/96	SMSVOA344

Lab ID: 9601052-04C
Sample ID: 1 GALLON ROUND

Collected: 01/06/96 12:00:00
Matrix: SOLID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/SW846 9045B						
pH	6.8	pH Units	0.10	1.0	01/09/96	SPH196

James A. Seely
Operations Manager

WORKORDER COMMENTS

DATE : 01/25/96
WORKORDER:

DEFINITIONS/DATA QUALIFIERS

The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:

ND = Analyte "not detected" in analysis at the sample specific detection limit.
D_F = Sample "dilution factor"
NT = Analyte "not tested" per client request.
B = Analyte was also detected in laboratory method QC blank.
E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range.
LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.

Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.

REPORT COMMENTS