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Technical Area - 10

Bayo Canyon

Subsurface Sampling Field Summary Report

7 February 1995

Prepared for:

Los Alamos National Laboratory
Environmental Restoration Project
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EXECUTIVE SUMMARY

The TA-10 Bayo Canyon Subsurface Sampling Field Summary Report describes the site characterization activities conducted to address potential contaminant releases from Solid Waste Management Units (SWMUs) 10-002(a-b), 10-003 (a-b), 10-004(a-b), 10-005, and 10-007. This report will be submitted to the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Project.

The former TA-10 is located in eastern Los Alamos County within a portion of Bayo Canyon, approximately 1/2 mile west of the Los Alamos County Sewage Treatment Plant. TA-10 was constructed to test assemblies containing conventional high explosives that included components fashioned from depleted or natural uranium. The assemblies were loaded with a lanthanum-140 "source," which was contaminated with a small amount of strontium-90, for blast diagnostics.

TA-10 was used as a firing site from approximately 1944 through 1963. Decontamination and decommissioning activities at the Bayo Site started in 1960 with the demolition and burning of several buildings. Explosives testing at TA-10 ceased altogether in 1961. Site-wide decommissioning was completed in 1963.

The investigation was initiated by identifying the appropriate locations for placement of the planned four-armed drilling arrays and boreholes. These arrays were generally centered on the locations of former structures or areas of known or suspected contamination as identified in previous investigations. A total of 85 boreholes was initially anticipated. A total of 93 boreholes was eventually drilled and sampled.

A minimum of four soil samples was collected from each borehole for laboratory analysis of selected radiological and non-radiological constituents. Additional samples were collected when field screening indicated the presence of elevated concentrations of radiological or non-radiological constituents. Soil samples were also collected at 5-foot intervals for on-site anaysis of gross radioactivity by CST-9's Mobile Radiochemical Analytical Laboratory (MRAL) and off-site analyses of selected non-radiological constituents by CST-9's Mobile Chemical Analytical Laboratory (MCAL).

MCAL analyses of Target Analyte List (TAL) metals and semi-volatile organic compounds (SVOCs) indicated that neither metals nor SVOCs were detected above Screening Action Levels (SALs) in any of the 93 boreholes. MRAL data indicated that no radioactivity was detected above background levels in boreholes targeting SWMU 10-005, former disposal pit TA-10-44, former septic tank TA-10-40, or Drilling Arrays #4, 5, 6, and 7. MRAL results did indicate the presence of radioactivity above background levels in boreholes in Drilling Arrays# 1, 2, and 3, and the second array targeting TA-10-48. The contamination was detected in soil samples collected from depths ranging from a minimum of 5 feet below ground surface (bgs) in Borehole #10-1210A (new FIMAD identification number in #10-2210) to a maximum depth of 32 feet bgs in Borehole #10-1215. Both boreholes were located in Drilling Array #2. On an average, contamination was detected in the various boreholes in depths ranging from approximately 14 feet bgs to 22 feet bgs.

Laboratory results (not discussed in this report) of soil samples collected during the investigation can be used in a risk assessment to assess the need for a Phase II investigation, for initiation of a long-term monitoring program, or for remediation of the locations of former waste pits TA-10-41, -42, and -43, and -48 in the central area of former TA-10.

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LIST OF ACRONYMS AND ABBREVIATIONS

bgs	Below ground surface
cpm	Counts per minute
CST	Chemical Science, and Technology
CWDR	Chemical Waste Disposal Request Form
DOE	Department of Energy
DOT	Department of Transportation
EPA	Environmental Protection Agency
ER	Environmental Restoration
ERM/Golder	ERM/Golder Los Alamos Project Team
FIP	Field Implementation Plan
HE	High Explosives
HST	Health and Safety Technician
HP	Health Physicist
^{140}La	Lanthanum-140
LANL	Los Alamos National Laboratory
MCAL	Mobile Chemical Analytical Laboratory or chem van
MDA	Minimum Detectable Activity
MRAL	Mobile Radiochemical Analytical Laboratory or rad van
NOD	Notice of Deficiency
PCOC	Potential Contaminants of Concern
ppm	Parts per million
QA/QC	Quality Assurance/Quality Control
RCA	Radiological Controlled Area
RCRA	Resource Conservation and Recovery Act
RCT	Radiological Control Technician
RFI	RCRA Facility Investigation
RMMA	Radiological Materials Management Area
RPF	Records Processing Facility
RSP	Radiological Survey Personnel
RSWDR	Radioactive Solid Waste Disposal Record
RWP	Radiation Work Permit
SALs	Screening Action Levels
SCF	Sample Coordination Facility
SMF	Sample Management Facility
SOP	Standard Operating Procedure
^{90}Sr	Strontium-90
SSO	Site Safety Officer
SVOCs	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TA-10	Technical Area 10
TAL	Target Analyte List
U	Uranium
VOCs	Volatile Organic Compounds
WMP	Waste Management Plan
WPF	Waste Profile Forms

1.0 INTRODUCTION

ERM/Golder Los Alamos Project Team (ERM/Golder) was contracted by Los Alamos National Laboratory (LANL) to conduct a Resource Conservation and Recovery Act (RCRA) Facility Investigation at former Technical Area 10 (TA-10). The RCRA investigation was to be completed in partial fulfillment of requirements of the Hazardous and Solid Waste Amendments (HSWA) Module VIII and in support of the LANL RCRA Facility Permit (LANL 1992, 0783).

The RCRA Facility Investigation (RFI) included subsurface characterization of Solid Waste Management Units (SWMUs) 10-002 (a and b), 10-003 (a-o), 10-004 (a and b), 10-005 and 10-007. Detailed descriptions of individual SWMUs and SWMU Aggregates, as well as descriptions of historical operations, previous SWMU investigations and remediation operations are provided in the RFI Workplan (LANL 1992, 0783).

A discussion of site conditions and history, project objectives and approach, field operations, health and safety, and waste management procedures that were followed during the RFI activities at TA-10 are presented in Sections 2, 3, 4, 5, and 6, respectively, of this report. Mobile laboratory screening results are summarized in Section 7. Conclusions and recommendations are presented in Section 8. References are presented in Section 9. Field borehole logs, graphs depicting subsurface contamination, well construction details, and a copy of the field diagram depicting construction of the neutron access tube are provided as appendices to the report. All field documentation has been submitted to the Environmental Restoration Program Records Processing Facility (RPF) with a copy retained by ERM/Golder. This documentation is identified in the exhibits of this report.

Core sample logs are included in Appendix A. Graphical presentations of contaminated boreholes are included in Appendix B. Monitoring well and neutron access tube construction diagrams are included in Appendix C. Mobile laboratory screening results and a list of boreholes with elevated radioactivity are included in Appendix D.

2.0 SITE DESCRIPTION

2.1 Location

The former TA-10 (also referred to as "Bayo Site") is located in eastern Los Alamos County within a portion of Bayo Canyon (Figure 2-1), approximately 1/2 mile west of the Los Alamos County Sewage Treatment Plant. Vehicular access to the TA-10 is controlled by a locked gate at the eastern end of an access road at the intersection with Highway 502. Additional site security was provided during the course of the investigation by a temporary barbed-wire fence surrounding the investigation site and an access gate guarded by security personnel.

2.2 Site History

TA-10 was used as a firing site from approximately 1944 through 1963. The area consisted of four shot pads at two firing sites and a radiochemistry laboratory to facilitate preparation of the shots. The firing sites were located at the west end of TA-10. The radiochemistry lab and associated structures were located at the east end. Site facilities are depicted in Figure 2-2.

TA-10 was constructed to test assemblies containing conventional high explosives (HE) that included components fashioned from depleted or natural uranium. The assemblies were loaded with a lanthanum-140 (^{140}La) "source" of several hundred to several thousand curies for blast diagnostics. The ^{140}La was separated from its host material and prepared as a source in the radiochemistry building. The ^{140}La (half-life 40.3 hours) was contaminated with a small amount of strontium-90 (^{90}Sr) (half-life 28.8 years) (LANL 1992, 0783). Liquid and solid wastes generated at the radiochemistry laboratory were placed in waste pits resulting in some subsurface contamination. Brass monuments were installed in concrete in 1983 to delineate an area of subsurface contamination where excavation is prohibited until 2142 A.D.

Decontamination and decommissioning activities at the Bayo Site started in 1960 with the demolition and burning of several buildings. Explosives testing at TA-10 ceased altogether in 1961. Site-wide decommissioning of both the firing sites and the radiochemistry laboratory and associated structures was completed in 1963 (LANL 1992, 0783).

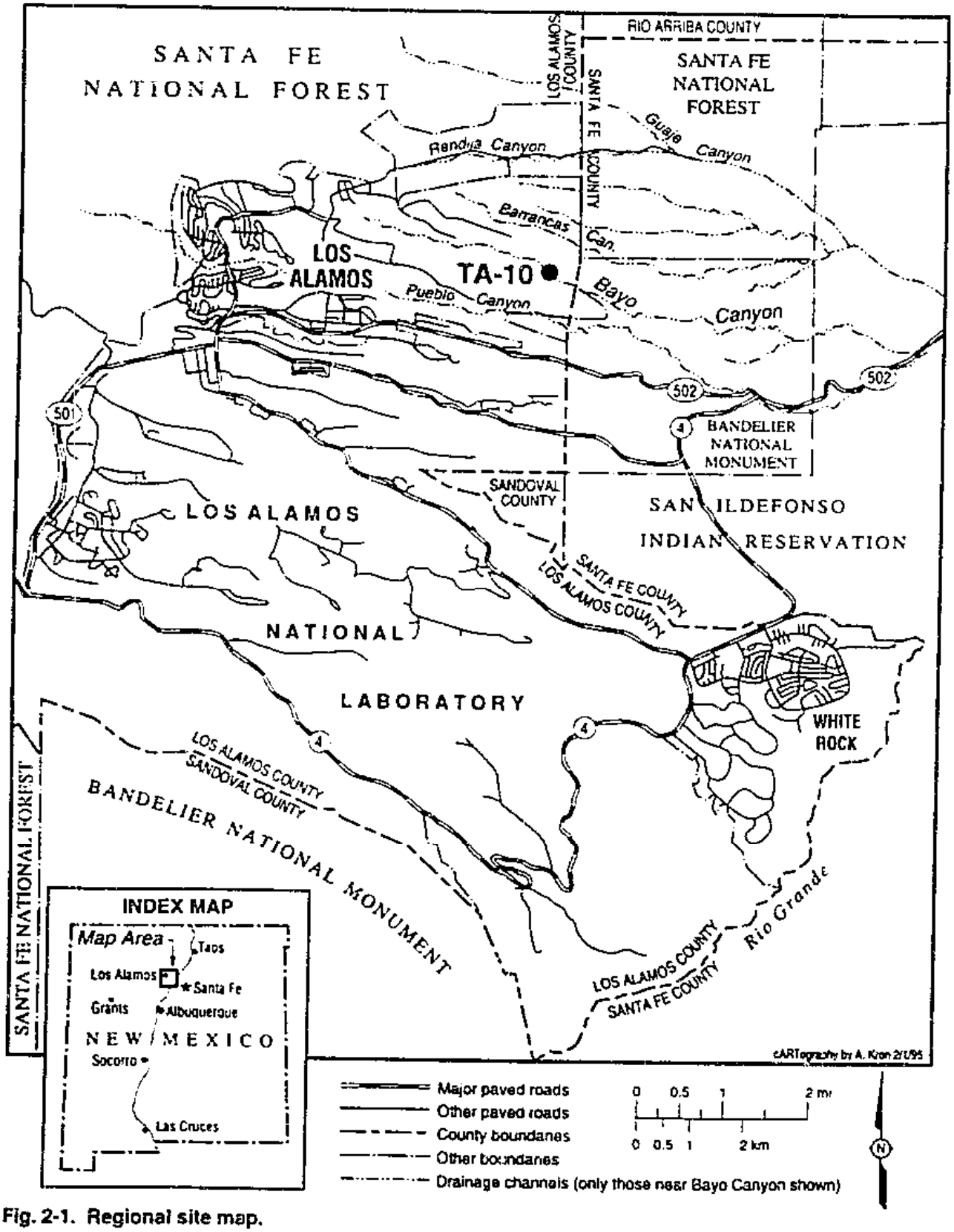

Fig. 2-1. Regional site map.

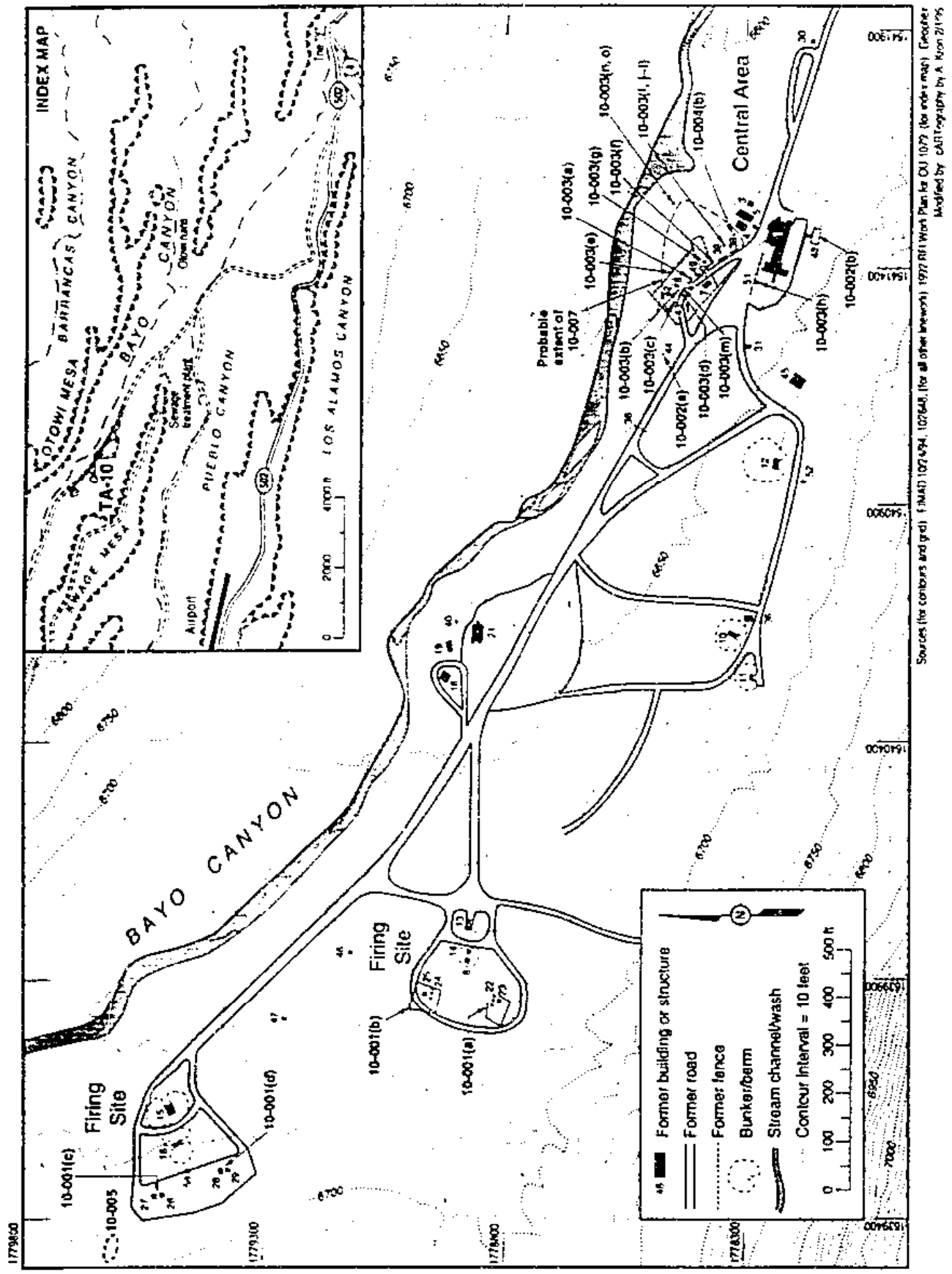

Fig. 2-2. TA-10 site location map.

3.0 OBJECTIVES AND APPROACH

3.1 Previous Investigations

Several investigations and studies conducted over the years have contributed data on the distribution and transport of contaminants at TA-10 and the surrounding area. Because of the wide dispersal of debris by the tests and continuing natural erosion processes, it was recognized at the time of decommissioning that there was a reasonable probability that potentially radioactive materials remained in the canyon. Therefore, periodic surface surveys and searches were conducted in 1966, 1967, 1969, 1971, 1973, 1975, and 1976. During these surveys, additional surface debris was located, some of which was contaminated with ^{90}Sr and uranium. The most recent investigations, which involved test hole drilling and soil sampling in 1973 and 1974, and the 1977 FUSRAP radiological survey were the basis for determining site conditions prior to this investigation. Details and results of these studies are provided in the RFI Workplan (LANL 1992, 0783).

3.2 Objectives

Despite extensive remedial efforts during site decontamination and decommissioning from 1960 through 1963, the subsurface investigations noted above indicated that five areas in TA-10 have residual subsurface contamination from ^{90}Sr. According to the RFI Workplan, these investigations suggested that there were no unacceptable health risks from this radiological contamination (assuming no intruder excavation scenario). However, the extent of the contamination had not been determined and there had been no evaluation of the effects of possible non-radiological constituents (LANL 1992, 0783).

Based on historical information, knowledge of process, and results of previous investigations, the following Potential Contaminants of Concern (PCOCs) were identified for this site: Strontium-90, High Explosives, Total Uranium, Isotopic Uranium, TAL Metals, Mercury, Semi-Volatile Organics, and Volatile Organics.

The primary objective of the subsurface field investigation at TA-10 is to characterize the nature, concentrations, and lateral and vertical extent of potential subsurface contamination related to historical activities at the site. Results of the investigation will be used in a risk assessment to determine if future action is necessary at this site. Results may also be used for the possible development of a Phase II investigation, initiation of a long-term monitoring program (if necessary), and the determination of possible remedial alternatives.

3.3 Approach

An outlined approach to the TA-10 subsurface investigation is provided in the RFI Workplan (LANL 1992, 0783) and the Revised TA-10 Subsurface Sampling Plan (Notice of Deficiency [NOD] Response) (DOE, 1993). This approach is summarized as follows:

- Positions of all former buildings and ancillary facilities, including all subsurface structures, were located.
- Four-armed drilling arrays and borehole locations were established. These arrays were generally centered on the locations of former structures or areas of known or suspected contamination as identified in previous investigations. Drilling arrays were oriented based on the expected distribution and concentration of subsurface contaminants. Borehole spacing within each array ranged from 5 to 15 feet. A total of 85 boreholes was initially anticipated. A total of 93 boreholes was eventually drilled and sampled.
- Boreholes were advanced to a minimum depth of 50 feet below ground surface (bgs). The workplan also required boreholes to be drilled to a depth 10 feet below the last

detected field screening measurement above background or to a maximum depth of 100 feet bgs.

- A minimum of four soil samples was collected from each borehole for laboratory analysis of selected radiological and non-radiological constituents. Additional samples were collected when field screening indicated the presence of elevated concentrations of radiological or non-radiological constituents. Soil samples were also collected at 5-foot intervals for screening of gross radioactivity by CST-9's Mobile Radiochemical Analytical Laboratory (MRAL or rad van) and selected non-radiological constituents by CST-9's Mobile Chemical Analytical Laboratory (MCAL or chem van).

- Arrays were advanced laterally in the direction needed in order to adequately bound the zones of contamination based on field screening and mobile laboratory analytical data.

All TA-10 RFI activities were performed in accordance with the RFI Workplan (LANL 1992, 0783), NOD Response (DOE, 1993), DOE and LANL directives and policies, ERM/Golder's Field Implementation Plan (FIP), and LANL Environmental Restoration Program Standard Operating Procedures (SOPs).

4.0 FIELD OPERATIONS

4.1 Field Team Members

Two ERM/Golder field crews, supervised by a Field Operations Manager and a Field Team Manager and each consisting of a Field Team Leader and three field team members, provided on-site management, borehole geologic logging, subsurface materials sampling, sample control, site safety and radiation protection, and waste management support during the investigation. Field analytical services were provided by LANL CST-9 for sample radioactivity screening and waste characterization. These services included an on-site MRAL and an off-site MCAL.

Site surveying services were completed by SURV-TEK, Inc. of Albuquerque, New Mexico, a subcontractor to ERM/Golder. Drilling services were provided by a LANL contractor, Stewart Brothers Drilling Company of Grants, New Mexico. Site security personnel were provided by TEG Security and North Central Security, both subcontracted to ERM/Golder.

4.2 Mobilization

Mobilization involved improving the existing road into the site, building foundation pads on which to install the office trailers, building drum storage areas, constructing the barbed wire fence, and installing electricity to three of the office trailers. Johnson Controls, Inc. (JCI), who improved the road, built the fence and drum storage areas, and installed the temporary power lines, began site improvement activities in May 1994. Office trailers, the MRAL, a core curation trailer, and a core storage trailer were installed in early June after the road was improved and trailer pads constructed. JCI wired three office trailers and the MRAL for electricity by installing a low-voltage, temporary line from a DOE-owned, high voltage power line that crossed the site.

During this time, ERM/Golder and Stewart Brothers Drilling mobilized field equipment and supplies to the site including drilling rigs, augers, a fork lift, the decontamination pad, monitoring and sampling equipment, and office furniture and equipment. Field mobilization was completed by mid-June 1994.

4.3 Surveys

4.3.1 Geodetic Surveys

A geodetic survey was performed to identify the locations of former buildings and other structures associated with TA-10 operations. All points were recorded in the New Mexico State Planar Coordinate System. SURV-TEK completed the initial surveying of planned borehole locations on 5 May 1994. SURV-TEK completed the final surveying of as-built borehole locations on 16 December 1994. Data provided by SURV-TEK can be accessed through FIMAD.

4.3.2 Radiological Surveys

A pre-drilling radiological survey of the site was performed by LANL ESH-1 personnel on 18 May 1994. ERM/Golder also performed a pre-job radiological survey of the drilling area. Additionally, more detailed surveys were performed prior to mobilizing to each drilling array. The ground surface and vegetation in the areas in and around the drilling arrays and support areas were surveyed with an Eberline ESP-1/HP-260 for the presence of beta and gamma radiation. Any areas found to contain elevated levels were cordoned off with yellow polypropylene rope and/or caution tape. Appropriate radiological control signs were posted on the rope or tape.

Radiological surveys performed by ESH-1 and ERM/Golder revealed native chamisa plants exhibiting elevated levels of beta radiation in Drilling Arrays #1, 2, 3, and 4. Beta radiation ranged from approximately 190 counts per minute (cpm) up to approximately 10,000 cpm, as measured with an ESP-1. The vegetation exhibiting elevated beta radiation within drilling arrays was cut at ground level and containerized in lined, 55-gallon drums. Outside of the drilling arrays, the area surrounding the radioactive chamisa plants was delineated with yellow caution tape.

Post-job radiological surveys were performed by ERM/Golder to assess the presence of residual surface contamination. The area encompassing Arrays 1, 2, and 3 was determined to contain vegetation with radioactivity above background levels. This area remains delineated and posted with appropriate radiological control signs. No surface contamination was detected that may have been caused by the spread of contaminated soil as a result of the subsurface investigation.

4.3.3 Geophysical Surveys

SWMU 10-005 is a former solid waste surface disposal pit. The original dimensions and precise location of the center of the pit are unknown. Therefore, a magnetometer survey was performed in and around the area suspected to be SWMU 10-005 in order to assess the presence of metallic debris in the subsurface. The survey was conducted by Geophex, Ltd. personnel engaged in the shrapnel removal task of the Bayo Canyon field work. The survey was conducted on 13 October 1994. No large, metallic anomalies were detected in the subsurface during the survey.

4.4 Drilling and Subsurface Sampling

4.4.1 Equipment

Stewart Brothers Drilling Company, a LANL contractor, provided all drilling and subsurface soil sampling equipment, drilling personnel, and support services for the TA-10 drilling effort. All boreholes were advanced using two Failing F-10 drill rigs with 8.25-inch outside diameter (OD) and 4-inch inside diameter (ID) hollow-stem augers. Continuous subsurface core samples were collected as the augers were advanced using 3.125-inch OD, 5-foot long, stainless-steel, split-barrel samplers that were retrieved on a wireline system. Stewart Brothers provided two rigs and crews to facilitate rapid completion of the large number of boreholes.

Plastic sheeting was placed under the drilling rigs and surrounding area prior to setting up on each borehole to help prevent surface soil contamination in the event of leaks or spills from the drill rigs. The edges of the plastic were bermed to prevent the runoff of rig fluids or captured rain water. Drill cuttings were retrieved in a metal cuttings box that was placed over the borehole. The box helped recover the cuttings and, thus, prevented the spread of potentially contaminated soil over the ground surface. A hole was cut into the bottom of the cuttings box through which the augers passed to core into the subsurface. Cuttings were recovered from the box and placed in clear, 4-mil plastic bags. The bags were then labeled and stored on plastic sheeting within the exclusion zones pending MCAL and MRAL analysis. If the cuttings were determined to contain elevated radiological levels (based on field screening with hand-held instruments), the bags were containerized in lined, DOT-approved, 55-gallon drums.

4.4.2 Borehole Locations

Boreholes were located in 11, four-armed drilling arrays, which were generally centered on or near former waste pits, drain line manholes, septic tanks, or known areas of subsurface beta contamination as determined from previous studies. Most of the arrays consisted of five or nine boreholes. Two arrays each consisteid of 10 boreholes while one array contained six boreholes. Nine arrays were located in the vicinity of the location of the former radiochemistry laboratory, support buildings, and several waste pits. One array targeted the site of a septic system and overflow tank (TA-10-40) that serviced the personnel building (TA-10-21). The last array, targeting SWMU 10-005,

was located near a firing site approximately 1/4 mile west of the laboratory area (Figures 4-1 and 4-2).

Boreholes were spaced 5 to 15 feet apart along the arms of the arrays. The arms of some arrays were oriented along former drain lines, trenches, surface depressions, or the long axis of suspected areas of contamination. The arms of other arrays were oriented in the four cardinal directions. Drilling arrays and borehole identification numbers are identified in Table 4-1. Additional details regarding borehole and array placement may be found in the FIP and the Revised TA-10 Subsurface Sampling Plan (DOE, 1993).

4.4.3 Deviations From Workplan

Several deviations were made to the original workplan regarding borehole placement. Additional deviations made included the installation of a groundwater monitoring well and a neutron access tube, which were not required by the workplan. The well and access tube were completed in boreholes drilled and sampled in accordance with the workplan.

Borehole #10-1294 was added to the north arm of Drilling Array #3 (Figure 4-1) in order to bound an area of subsurface beta contamination.

Borehole #10-1295 was added during the course of the field program when three former employees of TA-10 identified an area of the site suspected to be the location of an undocumented laboratory waste pit. Mr. Garry Allen, Field Project Leader, requested that a borehole be drilled at the location identified by the three former employees to assess the presence of subsurface radiological or non-radiological constituents. The location of the borehole is shown in Figure 4-1.

An additional nine-borehole array was added to assess the presence of beta contamination previously detected in the area of TA-10-48, a former waste pit. Prior to the start of the field sampling program, SURV-TEK identified inconsistencies in the NOD Response and RFI Workplan regarding the location of the drilling array. The inconsistencies were found between the figures showing the location of the waste pit and array, the written descriptions of the array, and the survey coordinates of the array.

In meetings between Derek Faulk (Field Team Manager), SURV-TEK, and Scott Baldridge, a geologist with EES-1 and one of the authors of the NOD Response, it was decided that the survey coordinates would likely be the most accurate description of the array location.

During the course of drilling the original nine-hole array, additional questions were raised regarding the location of the array in reference to the location of the waste pit and previously detected beta contamination. The array appeared to be too far west of the location of the former waste pit and previously detected beta contamination. After discussing the situation with Garry Allen, he determined that the survey coordinates were, in fact, incorrect and that the center of the array should have been located 50 feet to the east of the original surveyed location. On 1 September 1994, SURV-TEK surveyed and placed the new drilling array 50 feet east of the center of the original array. Both arrays are shown in Figure 4-1.

Nine boreholes in Arrays #1, 2, and 3 were relocated due to drilling refusal generally attributed to concrete or rebar debris encountered at depths between 5 and 15 feet bgs. After experiencing refusal, each abandoned borehole was backfilled with its drill cuttings and another drilling attempt was made within a few feet of the previous boring. Cuttings were screened with hand-held instruments for radioactivity and volatile organic compounds (VOCs) prior to backfilling each borehole. Each new borehole attempt was initially labeled with the original FIMAD identification number plus a letter of the alphabet , i.e., #10-1219A, B, etc. Eventually, new FIMAD identification numbers were assigned. The new FIMAD identification numbers are listed in Table 4-2.

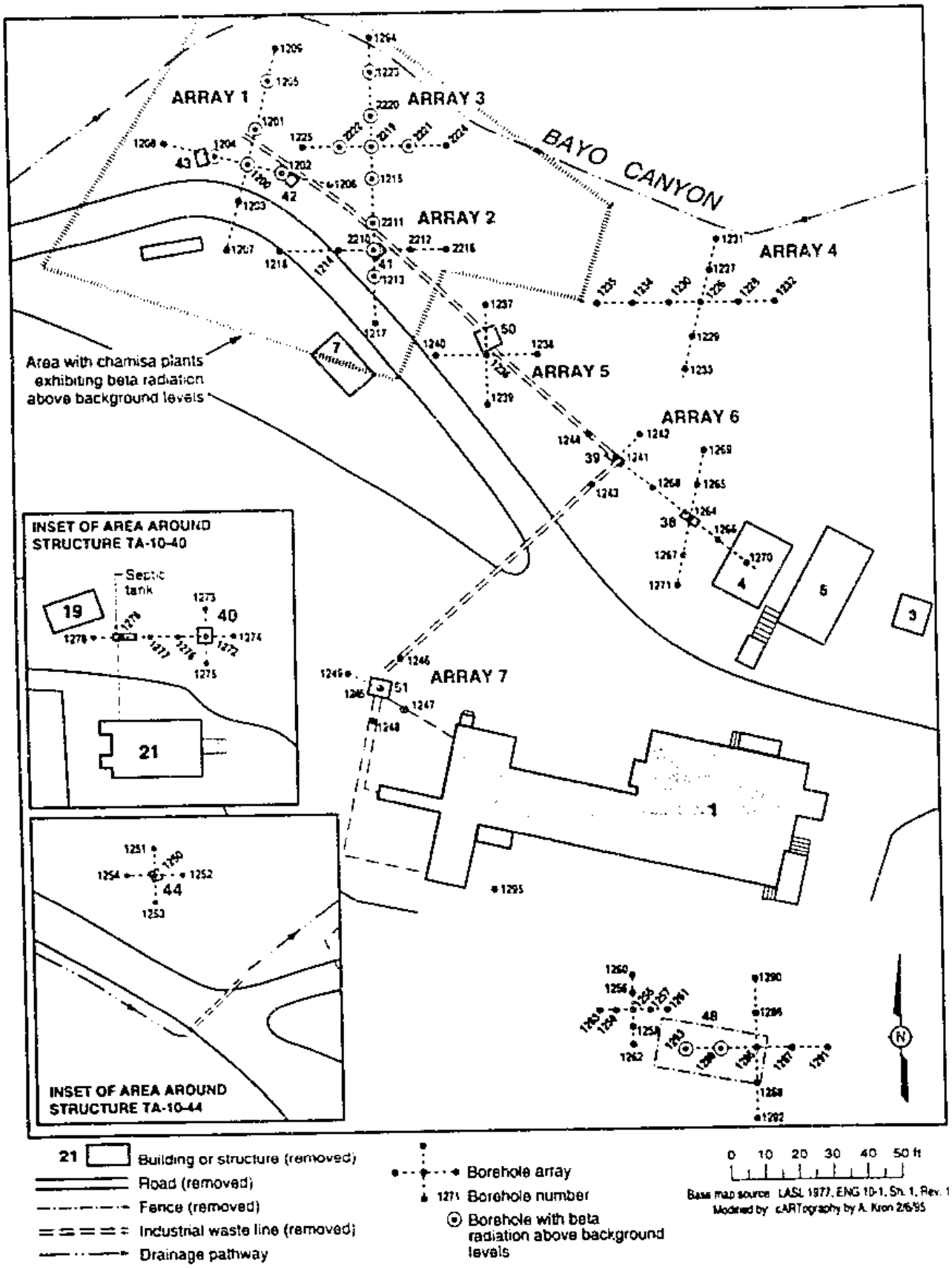

Fig. 4-1. Borehole locations—Central Area, TA-10-40 and TA-10-44.

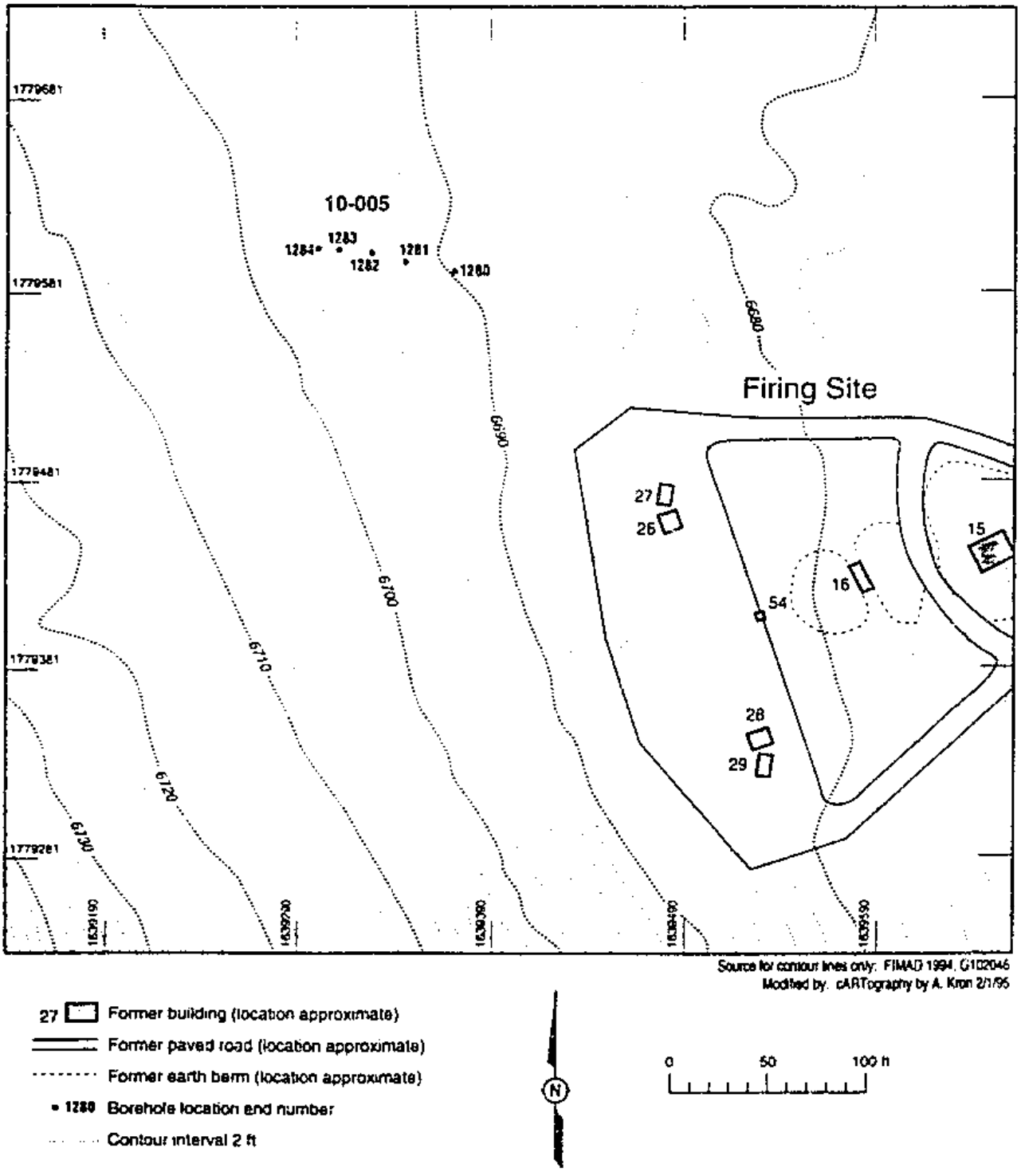

Fig. 4-2. Location of boreholes at SWMU 10-005.

TABLE 4-1

TA-10
BOREHOLE LOCATION IDs

PRS No.	Aggregate Name	Borehole Location IDs	
10-002(a)	Waste Disposal Pit TA-10-44	10-1250 10-1251 10-1252 10-1253 10-1254	
10-002(b)	Waste Disposal Pit TA-10-48	Original Drilling Array 10-1255 10-1256 10-1257 10-1258 10-1259 10-1260 10-1261 10-1262 10-1263	Additional Drilling Array 10-1285 10-1286 10-1287 10-1288 10-1289 10-1290 10-1291 10-1292 10-1293
10-003(a-o) and 10-007	TA-10 Central Area Drilling Array #1	10-1200 10-1201 10-1202 10-1203 10-1204 10-1205 10-1206 10-1207 10-1208 10-1209	
10-003(a-o) and 10-007	TA-10 Central Area Drilling Array #2	10-1210 10-1211 10-1212 10-1213 10-1214 10-1215 10-1216 10-1217 10-1218 10-1219	
10-003(a-o) and 10-007	TA-10 Central Area Drilling Array #3	10-1220 10-1221 10-1223 10-1224 10-1225 10-1294	

TABLE 4-1 (continued)

PRS No.	Aggregate Name	Borehole Location IDs
10-003(a-o) and 10-007	TA-10 Central Area Drilling Array #4	10-1226 10-1227 10-1228 10-1229 10-1230 10-1231 10-1232 10-1233 10-1234 10-1235
10-003(a-o) and 10-007	TA-10 Central Area Drilling Array #5	10-1236 10-1237 10-1238 10-1239 10-1240
10-003(a-o) and 10-007	TA-10 Central Area Drilling Array #6	10-1241 10-1242 10-1243 10-1244
10-003(a-o)	TA-10 Central Area Drilling Array #7	10-1245 10-1246 10-1247 10-1248 10-1249
10-004(a)	TA-10-40, Septic Tank for Personnel Building (TA-10-21)	10-1272 10-1273 10-1274 10-1275 10-1276 10-1277 10-1278 10-1279
10-004(b)	TA-10-38, Septic Tank for Radiochemistry Laboratory	10-1264 10-1265 10-1266 10-1267 10-1268 10-1269 10-1270 10-1271
10-005	Solid Waste Surface Disposal Pit	10-1280 10-1281 10-1282 10-1283 10-1284
Not Applicable	Suspected Laboratory Waste Disposal Pit for Radiochemistry Laboratory	10-1295

TABLE 4-2
NEW BOREHOLE LOCATION IDs

Original Borehole ID	New Field Borehole ID	New FIMAD Borehole ID	Location of Borehole	Comments
10-1210	10-1210A	10-2210	2 feet east of 10-1210	
10-1211	10-1211A	10-2211	2 feet west of 10-1211	
10-1212	10-1212A	10-2212	2 feet east of 10-1212	
10-1216	10-1216A		2 feet east of 10-1216	Refusal
	10-1216B	10-2216	2 feet south of 10-1216	
10-1219	10-1219A		2 feet east of 10-1219	Refusal
	10-1219B	10-2219	4 feet east of 10-1219	
10-1220	10-1220A		2 feet west of 10-1220	Refusal
	10-1220B	10-2220	2 feet east of 10-1220	
10-1221	10-1221A	10-2221	2 feet east of 10-1221	
10-1222	10-1222A		1 foot north, 1 foot east of 10-1222	Refusal
	10-1222B		3 feet north, 1 foot east of 10-1222	Refusal
	10-1222C		3 feet north, 3 feet east of 10-1222	Refusal
	10-1222D		4 feet north, 3 feet east of 10-1222	Refusal
	10-1222E		3 feet south of 10-1222	Refusal
	10-1222F	10-2222	5 feet south of 10-1222	
10-1224	10-1224A		2 feet south of 10-1224	Refusal
	10-1224B		4 feet east of 10-1224	Refusal
	10-1224C	10-2224	2 feet south of 10-1224	

Three boreholes were not drilled as planned. Borehole #10-1267, in Drilling Array #6, was not drilled because radiological and non-radiological constituents were not detected in other boreholes in the array above background or Screening Action Levels (SALs), based on field screening, MRAL results, and MCAL results. Furthermore, #10-1267 was located on a steep slope that prevented the safe operation of the drill rig in the designated location.

Borehole #10-1260 was in the original array targeting the previously detected beta contamination associated with TA-10-48. The array was moved before the borehole was drilled. Borehole #10-1292 was included in the new drilling array targeting TA-10-48 but was not drilled. No radiological and non-radiological constituents were detected in other boreholes in the new array above background or SALs, based on field screening, MRAL results, and MCAL results. In addition, #10-1292 was located on steep terrain and adjacent to a large tree that prevented the operation of the drilling rig.

SWMU 10-005 was a surface disposal pit associated with the firing pads. It was suspected to be a shallow, linear surface depression located west of the firing sites. However, the original dimensions and precise location of the center of the disposal pit are unknown. Due to the large dimensions of the existing depression and the lack of information regarding the location of the original pit, a four-armed drilling array centered on the existing depression was deemed impractical. Therefore, the array was replaced with a series of boreholes aligned along the center of the depression. The first borehole (#10-1284) was drilled at the western end of the linear depression with the succeeding four boreholes (#10-1283 through #10-1280) spaced approximately 15 feet apart and extending down slope in an easterly direction. A four-armed array was to be extended in north and south directions if radiological or non-radiological constituents were detected by field screening in any of the five boreholes. However, no radiological or non-radiological constituents were detected above

background levels in the SWMU 10-005 boreholes. The boreholes targeting SWMU 10-005 are shown in Figure 4-2.

Borehole #10-1277 was drilled and sampled to a total depth of approximately 68 feet bgs. It was then reamed to a 10.75-inch diameter and completed as a groundwater monitoring well. Although completed as a dry hole, it will be used for long-term monitoring by ESH-18. The monitoring well was completed with 4-inch, Schedule 40, PVC casing and #20 slot screen. The gravel pack was composed of 10/20 Colorado Silica Sand (CSS). A 3-foot bentonite seal was installed above the gravel pack and the remainder of the annular space was filled with a concrete/bentonite slurry to the surface. The surface completion included a 2.5-foot by 2.5-foot by 6-inch deep concrete pad and a locking, steel protective casing. A Well Completion Information Form and Well Construction Field Data Log are included in Appendix C.

Borehole #10-1276 was originally drilled and sampled to a total depth of 50 feet bgs. It was extended to a depth of 67 feet bgs and completed as a neutron access tube. The neutron tube is a 2.5-inch OD aluminum tube that will be used by ESH-18 for long-term monitoring of the subsurface soil moisture. A copy of the field diagram as completed by ESH-18 is included in Appendix C. The locations of boreholes #10-1276 and #10-1277 are shown in Figure 4-1.

4.4.4 Field Screening

Recovered core was field-screened for radioactivity (gross beta and gamma) and VOCs. Core barrels and borehole cuttings were initially screened for gross beta/gamma as they were retrieved from the borehole. Each borehole was screened for VOCs and combustible gases. Gross beta/gamma and VOC screening was also performed immediately after the core barrel was opened and prior to core logging and sampling.

4.4.5 Borehole Logging and Core Curation Procedures

All core extracted from each borehole was logged, or described, by an ERM/Golder geologist within the exclusion zone. Field Borehole Sample Logs were completed describing the core in each 5-foot run. Recovered core was placed in core boxes with the following information recorded: top and bottom of core run, samples removed, core loss locations, and depth intervals. Each box was then labeled with the borehole identification number, depth interval, and box number. Details of core logging and curation are described in the FIP.

Recovered core with radioactive constituents detected at levels below the EES-4 Sample Management Facility (SMF) acceptance criteria was stored in core boxes, placed in a locked trailer on-site, and then transported to the SMF for permanent storage. Recovered core in which radiological constituents were detected at levels that exceeded the SMF acceptance criteria was stored in a second, locked, on-site storage shed until permanent storage or disposal can be arranged. The storage shed holding the contaminated core is posted as both a Radiological Controlled Area (RCA) and a Radioactive Materials Management Area (RMMA).

4.4.6 Subsurface Sampling Strategies

Sample containers, sample labels, and QA/QC samples were prepared in accordance with the information contained in the sample matrices provided in Appendix A of the FIP. At least four sample suites were collected for laboratory analyses (full suites) under the following criteria:

I. One full sample suite from the midpoint of the first 10-foot interval,
II. One full sample suite from the bottom of the borehole,
III. One full sample suite per borehole from the interval exhibiting the highest field screening levels for radionuclides or VOCs, and

IV. One full sample suite selected at random from core runs retrieved from depths below 10 feet. The randomly selected sample depth interval was selected by the geologist based on the following criteria:
   A. immediately underlying previously existing structures,
   B. change in color or obvious staining of the core,
   C. significant changes in lithology, and
   D. contact with the fill/tuff interface.

Full sample suites initially included sample aliquots for laboratory analysis of semi-volatile organic compounds, Target Analyte List metals, total uranium, ^{90}Sr, and MRAL analyses for moisture and gross alpha, beta, and gamma. If field screening revealed elevated gross radioactive levels, the lab analysis request included isotopic uranium and gamma spectroscopy. In accordance with the NOD Response (DOE, 1993), 50 percent of the total number of full sample suites also included HE.

Initially, the RFI Workplan (LANL 1992) and the NOD Response (DOE, 1993) called for the collection of VOC samples only if field screening suggested the presence of VOCs. However, the US EPA Region VI approval of the NOD Response (DOE, 1993) stipulated that samples for VOC analysis must be collected regardless of field screening results. Notification of this EPA Region VI approval requirement was not received by the field team until the middle of September, 1994. As a result, VOC samples were not collected from approximately one-half of the boreholes.

Sample suites were collected for analysis by the MRAL and MCAL every 5 feet from each borehole (Rad Van Suites). Samples were collected from that portion of the core run showing the highest radioactivity based on field screening or from an interval selected at random. Rad Van suites included MRAL analyses of moisture and gross alpha, beta, and gamma radiation and MCAL analyses of SVOCs and X-ray Fluorescence (XRF) Metals.

Soil and QA/QC water samples were submitted for MRAL, MCAL, and laboratory analysis for a variety of radiological and non-radiological PCOCs as outlined in the FIP and the RFI Workplan (LANL 1992). The PCOCs, analytical methods, sample containers used, preservation and sample storage requirements is presented in Table 4-3.

4.4.7 QA/QC Sample Collection

QA/QC samples are used as a planned check of a measurement system operation to obtain a measure of the quality of the data generated (LANL-ER-SOP 01.05). QA/QC samples, including duplicates, field blanks and rinsate blanks were collected during subsurface soil sampling activities at TA-10.

Duplicate soil samples are two separate, independent samples collected in such a manner that they are equally representative of the sampled soil matrix at a given depth and time. Duplicate samples are utilized as a quality control check of the analytical methods used at the laboratory. Ten percent duplicates were collected during the course of the investigation.

Field blanks are collected to determine if any external sources of sample contamination are present at the time of sample collection. Field blanks were in a controlled area prior to entering the exclusion zone and initiating sampling operations. Field blanks were prepared by pouring deionized water into appropriate sample containers and adding the proper preservative as necessary. The blanks were then transported to the sampling area inside the exclusion zone and opened as a soil sample was collected from the core barrel. Field blank containers were sealed, labeled, stored and documented as described in the FIP upon collection of the specified soil sample. Five percent field blanks were collected.

Rinsate blanks are collected to determine if field equipment decontamination procedures are being adequately followed. The rinsate blank consists of deionized water that is poured over and through the decontaminated equipment and captured in appropriate sample containers. The containers are

then properly labeled, processed, and shipped to the laboratory for analysis. Five percent rinsate blanks were collected.

4.5 Equipment Decontamination Procedures

The drill rigs, augers, and core barrels were surveyed for fixed and removable radioactive contamination by an RCT upon arrival at the site. Surveys were performed by collecting and counting smear samples and large area swipes and direct read surveys. Similar surveys were performed prior to moving the rigs and equipment between drilling arrays and demobilization from the site. A more limited survey of the working area of the rigs was performed prior to moving between boreholes within an array.

A "dry decontamination" procedure consisting of the removal of all soil particles with stiff nylon brushes and cleaning with Fantastik® spray cleaner and paper towels was performed if removable radioactive contamination was detected on any equipment. Smear samples were collected and direct read surveys performed following the dry decontamination procedure. If necessary, the procedure would be repeated until the equipment could be released by the Radiation Control Technician (RCT). All dry decontamination wastes were drummed in accordance with the approved Waste Management Plan (WMP).

Following any necessary dry decontamination, drill rigs and equipment released by the RCT were steam cleaned prior to re-use. Whether contamination was detected by field screening or not, augers were steam-cleaned prior to re-use in boreholes and drill rigs were steam-cleaned prior to mobilization to a new drilling array. Drill rigs and equipment were also steam cleaned prior to demobilization from the site. A portable decontamination pad provided by Stewart Brothers was set up in a designated area for the decontamination of the downhole equipment. Waste water and soil generated from the steam cleaning operation were drummed and stored in accordance with the approved WMP.

The individual components of the split spoon core barrels and the stainless steel sampling bowls were decontaminated between samples at a small decontamination pad set up within each exclusion zone. Sampling equipment which was not suspected to be radiologically contaminated based on field screening was subjected to a decontamination regimen which included an Alconox®/potable water wash, followed with a potable water rinse, a methanol rinse, and a final deionized water rinse. Decontamination fluids were captured in plastic buckets and later transferred to 55-gallon drums for storage. The core barrel components were then wiped dry using a clean paper towel. Following reassembly, core barrels were temporarily wrapped and stored in clean plastic. Decontaminated sample bowls were wiped dry with paper towels and lined with aluminum foil.

4.6 Backfilling of Boreholes

Boreholes were backfilled with either a cement/bentonite slurry or drill cuttings based on field screening data, MCAL results, and MRAL results. Boreholes were backfilled with drill cuttings if 1) neither VOCs nor elevated radioactivity were detected in recovered core using hand-held screening instruments, 2) MCAL results indicated that metals and SVOCs were not present above SALs, and 3) MRAL results indicated that gross alpha, beta, and gamma levels were below background levels. Upon returning drill cuttings to their respective boreholes, each boring was completed with a 2-foot thick concrete cap.

Boreholes were backfilled with a concrete/bentonite slurry when field screening, MRAL results, or MCAL results indicated the presence of radioactivity or chemical contamination above background or SALs, respectively. A grout pump was used to inject the slurry into the borehole through a tremie pipe. The tremie pipe was extended to the bottom of the borehole so that each boring was backfilled from the bottom up to the surface. Each backfilled borehole was identified with a wooden stake set in the boring's concrete cap.

TABLE 4-3

TA-10 SAMPLES AND ANALYSES

VOLUME	CONSTITUENTS	ANALYTICAL METHOD	MATRIX	CONTAINER TYPE	PRESERVATION	HOLDING TIME
125 ml	Total Uranium Isotopic Uranium ^{90}Sr Gamma Scan	KPA ICP/MS GFPC GAMMA SPEC	Soil	Poly	Store at 4°C	6 Months
2 Liters	Total Uranium Isotopic Uranium ^{90}Sr Gamma Scan	KPA ICP/MS GFPC GAMMA SPEC	Water	Poly	HNO_3 to pH <2 Store at 4°C	6 Months
250 ml	TAL Metals[1,2]	US EPA SW-846 EPA Method 6010 (Mercury - EPA Method 7471)	Soil	Poly	Store at 4°C	6 Months (Hg 28 days)
500 ml	TAL Metals	US EPA SW-846 EPA Method 6010 (Mercury - EPA Method 7471)	Water	Poly	HNO_3 to pH <2 Store at 4°C	6 Months (Hg 28 days)
250 ml	Semi-Volatiles	US EPA SW-846 Method 8270	Soil	Amber Glass w/ Teflon-Lined Caps	Store at 4°C	7 days until extraction, 30 days thereafter
1 Liter	Semi-Volatiles	US EPA SW-846 Method 8270	Water	Amber Glass w/ Teflon-Lined Caps	Store at 4°C	7 days until extraction, 30 days thereafter
40 ml	Semi-Volatiles Screen	MCAL	Soil	Amber Glass w/ Teflon-Lined Caps	Store at 4°C	
125 ml	Volatiles	US EPA SW-846 Method 8240	Soil	Amber Glass w/ Teflon-Lined Caps	Store at 4°C	14 days
125 ml	High Explosives	HPLC	Soil	Amber Glass	Store at 4°C	7 days until extraction, 30 days thereafter

TABLE 4-3 (continued)

1 Liter	High Explosives	HPLC	Water	Amber Glass	Store at 4°C	7 days until extraction, 30 days thereafter
150 g	Gross Alpha, Beta, and Gamma	MRAL	Soil	Ziploc Bag	None	N/A
500 ml	Gross Alpha, Beta, and Gamma	MRAL	Water	Poly	HNO_3 to pH < 2 Store at 4°C	N/A

1 - TCLP analyses will be run for any metal constituent detected at a concentration greater than 20X the TCLP thresholds

2 - TAL Metals Include:

Mercury	Antimony
Nickel	Arsenic
Selenium	Barium
Silver	Beryllium
Thallium	Cadmium
Vanadium	Chromium
Zinc	Lead

4.7 Stratigraphy

Surface soils within Bayo Canyon are located in the upper 5 to 10 centimeters of the soil column and consist of poorly developed, well drained soils of the Totavi Series (LANL 1992, 0783). The soils are underlain by fan deposits near the valley floor which are primarily discontinuous Quaternary alluvial and colluvial units. These units are well- to poorly-sorted, clay-rich to sandy alluvium and gravels. The gravels consist of pumice (likely Tsankawi Pumice), angular to subrounded welded tuff (likely Tshirege Tuff), Otowi Tuff, and dacite (likely reworked Tschicoma dacite weathered from the Cerro Toledo and Otowi Tuff) (Drake and Inoué, September 1993).

The thickness of the alluvium at TA-10, based on ERM/Golder findings as a result of the drilling operation, ranges from approximately 30 to 45 feet bgs. In many areas, the upper 5 to 15 feet of alluvium has been reworked, displaced, filled and mixed with construction debris during the construction, decontamination, and decommissioning activities that took place while the site was operational.

The MRAL data collected during the investigation indicated that subsurface beta contamination is present in the shallow alluvial sediment ranging from a depth of 5 feet bgs to a maximum depth of 32 feet bgs (Sections 7 and 8).

Detailed descriptions of site geology, hydrology, and soils of the Bayo Canyon site are provided in the RFI Workplan (LANL 1992, 0783) and the 1991 Installation Workplan for Environmental Restoration (LANL 1991, 0553).

5.0 HEALTH AND SAFETY

5.1 Health and Safety Plan Overview

Work was performed in accordance with the requirements set forth in the Site-Specific Health and Safety Plan (SSHASP). The SSHASP identified site hazards, roles and responsibilities of site personnel, personnel protection measures, and requirements for Industrial Hygiene/Health Physics monitoring.

Initially, separate Site Safety Officers (SSOs) and Radiation Screening Personnel (RSPs) were assigned to monitor each drilling area. Following the departure of one SSO, a primary SSO was designated to oversee monitoring actions performed by Health and Safety Technicians (HSTs) assigned to each drill crew. ESH-1 and ESH-5 provided technical support. Industrial Hygiene and Health Physics technical oversight was provided by ERM/Golder staff. Individual assignments are delineated in the SSHASP.

Several change orders to the SSHASP were issued. The majority of these either added personnel to the project or reassigned tasks. Change orders to the SSHASP were also used to designate a site visitor area, modify rig decontamination protocol, and alter radiological monitoring requirements.

A Radiological Work Permit (LANL RWP# 94TOS-510) was issued by ESH-1 specifying radiological monitoring and PPE requirements based on radioactive contamination levels present during site operations.

5.2 Health and Safety Briefings

All workers assigned to duties on site were briefed by the SSO on SSHASP requirements and personal health and safety responsibilities. Site personnel were required to read the SSHASP and LANL RWP. Individual understanding of personal health and safety responsibilities delineated in the SSHASP and LANL RWP was acknowledged by worker signature. Visitors to the site received an abbreviated health and safety briefing from either the SSO or the FTM prior to touring site facilities.

Health and Safety briefings (Tailgate Meetings) were conducted by the SSO each day work was performed on-site. These daily briefings generally consisted of a pre-job discussion of health and safety concerns identified during site operations, site hazards produced by changing environmental conditions, and a review of previously identified health and safety concerns requiring specific attention.

5.3 Personal Protective Equipment (PPE)

Level "D" PPE was required for work in exclusion zones. Disposable "Kleengard" coveralls were used in areas in which radioactive contamination had been detected. This requirement was occasionally increased to double gloves and coveralls when contamination levels addressed in the RWP were encountered. Reusable LANL issue coveralls were used in zones in which field screening of samples and work areas failed to detect radioactive contamination. Rubberized steel toe work boots were provided to site personnel to be used in contaminated zones as corrective action for an on-site radiological incident involving contamination of personal work boots.

Respiratory protection (full-face, air-purifying respirators) was required during the mixing of grout to backfill boreholes and the wipedown of augers during removal from contaminated borings.

5.4 Industrial Hygiene Monitoring

Photoionization Detectors (PIDs) were used to monitor for VOCs immediately after opening core barrels. Low concentrations of VOCs were occasionally encountered because of plant root decomposition in the core interval. No sustained indication of VOCs in the workers breathing zone was encountered during operations.

Combustible gas indicators were used to monitor each borehole for gases. No combustible gases were detected during drilling operations.

Dust monitoring was conducted using portable aerosol monitors to determine dust levels at each drill rig, sampling table, and dry decontamination area. No levels exceeding the SSHASP action levels were encountered. Respiratory protection during grouting operations and contaminated auger wipedown was deemed necessary due to the high amount of visual dust generated during performance of these tasks. Personal monitoring of worker breathing zone for silica was attempted and abandoned due to insufficient task duration to obtain required sample volume.

5.5 Radiological Monitoring

Strontium-90 was the anticipated radiological PCOC during site operations. Radiological monitoring efforts were consequently directed toward the detection of beta/gamma radiation. Eberline ESP-1/HP-260 and Ludlum Model 12/44-40 shielded probe ratemeters were used for direct monitoring of personnel and equipment. These instruments were also used in field monitoring of large area Maslin wipes used for screening equipment for contamination.

Ludlum Model 12 air proportional probe ratemeters were used for direct monitoring of personnel and equipment for alpha contamination during initial site operations. Failure to detect alpha contamination during this period prompted ESH-1 to reduce alpha monitoring to only those instances when beta/gamma contamination was determined to be present. No alpha contamination was detected during field operations.

Radiological monitoring for loose surface contamination was performed by use of smears and large area wipes. Only smears were used for tests in which quantitative activity levels were required. Large area wipes were used in situations requiring a pass/fail indication of removable contamination prior to movement of equipment and materials between controlled areas on site. Smears were counted using a Ludlum 2221 scalar with tray counter apparatus.

5.6 Radiological Incident

A personnel contamination event, designated a "radiological incident" by LANL ESH-1 personnel, occurred on 26 July 1994. Contaminated soil from a wetted surface adhered to two drill crew members' personal work boots. This contamination was detected during routine personnel monitoring prior to exiting an exclusion zone. Decontamination of the boots was easily accomplished in the exclusion zone. No contamination was spread to uncontrolled areas.

Rubberized work boots were provided to site workers as corrective action for this incident. These work boots were maintained on-site and mandated for use in any work zone in which radioactive contamination had been detected. Subsequent to this corrective action, no radioactive contamination of boots or coveralls was detected during exit monitoring.

6.0 WASTE MANAGEMENT

6.1 Waste Management Overview

The on-site waste manager maintained bound logbooks documenting the generation, collection, placement, and removal of site wastes in accordance with the approved WMP. The WMP identified roles and responsibilities of site personnel, waste minimization procedures, decontamination procedures, waste materials anticipated to be generated, and proper waste handling procedures.

Three temporary drum staging areas were constructed at the site. Each pad was constructed of 4 inches of asphalt bermed on all sides. The storage pads were surrounded by temporary fencing. One storage area was posted as both an RCA and RMMA for potentially radiologically-contaminated waste.

Solid waste generated included drill cuttings, plastic sheeting; PPE; sampling materials such as plastic scoops, paper towels, plastic ziploc bags, and aluminum foil; and empty bags of cement, bentonite, and sand. Liquid waste generated included steam-cleaning rinsate, potable water/Alconox® mix, deionized water containing trace amounts of methanol, and rain water collected from the decontamination pad. All materials were screened in the field for radioactive and organic contamination either by direct measurement or by screening of the core, augers, or split spoons.

A total of 248 drums of solid waste and 114 drums of liquid waste were generated during the subsurface sampling field operations.

6.2 Segregation

Materials were segregated according to waste type and potential for contamination (based on field screening data), borehole or drilling array, and date. Segregated wastes were placed in clear plastic bags and labeled prior to placing the bags in 55-gallon drums, which were also labeled. Waste generated from contaminated boreholes was drummed separately from waste generated from non-contaminated boreholes.

Printed labels were affixed to the drums in clear, plastic ziploc bags, in accordance with the approved WMP. Label information included the site identification, i.e., OU and TA, borehole identification number and depth interval, generation date, and waste type. Each drum was assigned a unique identification number which was written on each drum with a paint pen as well as printed on the label.

6.3 Disposal

Analytical results of soil samples will be used to characterize the waste and to assist in assessing the appropriate disposal option. Non-contaminated waste will be segregated from contaminated waste if analytical results indicate the presence of radioactivity or RCRA hazardous waste constituents. Drill cuttings shown to be non-contaminated based on analytical results, and not previously returned to respective boreholes, will be spread on the surface of the site.

Waste Profile Forms will be completed upon receipt of analytical results. Chemical Waste Disposal Request Forms and Radioactive Solid Waste Disposal Record Forms will be completed after receipt of approved Waste Profile Forms. Prior to waste shipment, Hazardous Material Transportation Forms will be approved by BUS-6. All waste will be transported with appropriate placarding, labeling, packaging, and shipping papers as required by DOT.

7.0 DATA ASSESSMENT AND ANALYSIS

Analytical results from samples submitted to off-site laboratories are not yet available. Therefore, only field screening, MRAL, and MCAL data are presented here. MRAL and MCAL data will be inputted into FIMAD by CST-3

Volatile organics were detected with a PID in concentrations greater than 2.0 ppm in 15 boreholes. However, the organics detected in the core from 11 of those boreholes appeared to be a result of ponderosa pine roots that were present in the core. Elevated VOC concentrations that appeared to be the result of moisture in the core and in the air were detected in core from two boreholes. Moisture can fog a PID lamp and cause anomalous measurements. No soil staining or odor was observed in any core in which elevated VOCs were detected. Soil samples were collected for laboratory analyses of VOCs by EPA Method 8240 from those intervals in which VOCs were detected in elevated concentrations.

MCAL analyses of TAL metals and SVOCs indicated that neither metals nor SVOCs were detected above SALs in any of the 93 boreholes. Metals results are shown in Table 7-1 while SVOC results are summarized in Table 7-2. MRAL and radioactive field screening data indicated that no radioactivity was detected above background levels in boreholes targeting SWMU 10-005, former disposal pit TA-10-44, former septic tank TA-10-40, or Drilling Arrays #4, 5, 6, and 7. However, field screening and MRAL results did indicate the presence of radioactivity above background levels in boreholes in Drilling Arrays 1, 2, and 3, and the second array targeting TA-10-48. Table 7-3 summarizes all of the MRAL results. Table 7-4 shows those boreholes from which samples were collected exhibiting above background levels of radioactivity and the associated MRAL results. Tables 7-1 through 7-4 are included in Appendix D.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Preliminary conclusions are based on MCAL and MRAL analytical results. These results indicate the presence of beta contamination in boreholes in Drilling Arrays #1, 2, 3, and the second array targeting TA-10-48. The contamination was detected in soil samples collected from depths ranging from a minimum of 5 feet bgs in Borehole #10-1210A (new FIMAD identification number in #10-2210) to a maximum depth of 32 feet bgs in Borehole #10-1215. Both boreholes were located in Drilling Array #2. On an average, contamination was detected in the various boreholes in depths ranging from approximately 14 feet bgs to 22 feet bgs.

Based on data collected and evaluated, ERM/Golder recommends that the results of the investigation be used to evaluate whether the contamination present at the site represents a risk. Laboratory results (not discussed in this report) of soil samples collected during the investigation can be used in a risk assessment to assess the need for a Phase II investigation, for initiation of a long-term monitoring program, or for remediation of the locations of former waste pits TA-10-41, -42, and -43, and -48 in the central area of former TA-10.

9.0 REFERENCES

Department of Energy, March 1993, "TA-10 Revised Sampling Plan," Los Alamos, New Mexico. (DOE, 1993).

Drake, P. and C. Inoué, September 1993. "Geomorphic Characterization of Operable Unit 1079 (OU 1079), Formerly Technical Area 10, Los Alamos National Laboratory, Los Alamos, New Mexico." Glorieta Geoscience, Inc., Santa Fe, New Mexico.

Los Alamos National Laboratory, November 1991. "Installation Workplan for Environmental Restoration," Revision 1, Los Alamos National Laboratory Report LA-UR-91-3310, Los Alamos, New Mexico. (LANL, 1991, 0553).

Los Alamos National Laboratory, May 1992. "RFI Workplan for Operable Unit 1079," Los Alamos National Laboratory Report LA-UR-92-850, Los Alamos, New Mexico. (LANL 1992, 0783).

10.0 EXHIBITS

The following exhibits are not included with this report but have been submitted to the LANL Records Processing Facility.

FTL Field Logbooks
Field Photographs and Video Tape
Daily Drilling Summaries
Borehole Sample Matrices
Sample Chain of Custody Documentation
Sample Collection Logs
Sample Master Collection Logs
Site-Specific Health and Safety Plan
Waste Management Plan
Site-Specific Spill Prevention and Control Plan
Radiological, VOC, and Dust Monitoring Documentation
Daily Activity Reports
Tailgate Health and Safety Meeting Forms
Health Physics Equipment Release Form

APPENDIX A

CORE SAMPLE LOGS

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 300 Page 1 of 3

Driller [illegible] Box #(s) 1-3 Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
10					No Recovery Center Bit Lost			
15	Run 1 2.5/2.5	NONE	0 Dpm Recovery B2	Bot 14.5'	12.5-13.0: Dark brown/black SILT, Clayey (engine grained SAND) 13.0-13.5: Dark moist, small water movement in cohesive, Moderate Brown 5 YR 3/4 SILT.			28 Sept 94, Began drilling at four hours, 28 to clear winds 5 mph WSW 22.2
17.5	Run 2 2.5/2.5	AA89228 Full Set Lost Bit	0 Dpm Recovery B2		Very fine, homogeneous SILT, Brownish Orange 10 YR 7/4 with large 5cm gray Pumice fragment at 13.5 feet. Augmore has 2mm basalt fragments			
20	Run 3 2.5/2.5	NONE	0 Dpm Recovery B2		Coarsening downwards becoming a SANDY SILT with med grained angular BASALTIC ANDESITE SILT & very fine with very few Pumice fragments			
22.5	Run 4 2.5/2.5	AA89229 2nd Recovery Set Lost Bit	0 Dpm Recovery B2	Bot 24.5' Bot 25.0'	SAA with large 4cm-8cm PINK TUFF fragments			
	Run 5 2.5/2.5	Lost Bit NONE	0 Dpm Recovery B2		22.5-24.0: Very dense grained angular SAND with abundant and lesser pebbles present 24.0-25.0: Moist, consolidated CLAY, Very fine grained [illegible]			
25	Run 6 2.5/2.5	AA89230 Full Set Lost Bit	0 Dpm Recovery B2	Bot 35.0'	250 - 300 as depth. Very fine grained unconsolidated, SILT, Moist homogeneous with 10% SAND present.			
27.5	Run 7 2.5/2.5	NONE	0 Dpm Recovery B2		Very fine grained, homogeneous, ASH. Contains a Sandy texture with few to no lithic or Pumice fragments		ASH	

Prepared by [illegible] Date 29 Sept 94 Checked By [illegible] Date 12 Oct 94

- Samples
Full: Biological, Dioxin, Gamma Spec, Moisture, Total uranium, Strontium, TAL metals, Semi-volatiles, Volatiles, and high explosives
- Red: Gross alpha, beta, gamma, Sr, moisture, semi-volatiles and TAL metals

SILT TUFF
SAND
CLAY
ASH
Rhyolite, Dacite, and Pumice fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50' Page [illegible] of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 29 Sept 94 [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	Run 8 2.5/2.5	9AB9252 Rad [illegible]	0 ppm [illegible]		SAA.		+ ALLUVIAL	
[illegible]	Run 9 2.5/2.5	NONE	0 ppm 1000 ppm [illegible]		32.5-34.0 SAA 34.0-35.0 - Coarsening downwards to fine [illegible]			Drilling ended at 1140 hours for the day
[illegible]	Run 10 2.5/2.5	[illegible] FULTHE [illegible]	0 ppm [illegible]		Moderately consolidated nonbreakable TUFF [illegible]		OTOWI MEMBER of the BANDALIER TUFF	29 Sept 94 Begin drilling at 0810 hours [illegible]
[illegible]	Run 11 2.5/2.5	NONE	0 ppm 1000 ppm [illegible]		SAA, Very Rich Coarse [illegible]			
[illegible]	Run 12 2.5/2.5	[illegible] RAD [illegible]	0 ppm [illegible]		SAA			
[illegible]	Run 13 2.5/2.5	NONE	0 ppm 1000 ppm [illegible]		SAA			
[illegible]	Run 14 2.5/2.5	[illegible] RAD [illegible]	0 ppm 1000 ppm [illegible]		SAA			
[illegible]	Run 15 2.5/2.5	[illegible] FULTHE [illegible]	0 ppm 1000 ppm [illegible]		SAA			Drilling ended at 0920 hours at a total depth of 50 feet

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 12 Oct 94

ASH

Rhyolite, Dacite, and Pumice Fragments

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								[illegible]
5								
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
	[illegible]	[illegible]	[illegible]		[illegible]			[illegible]
15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
	[illegible]	[illegible]	[illegible]		[illegible]			[illegible]
20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
	[illegible]	[illegible]	[illegible]		[illegible]			[illegible]
25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
	[illegible]	None	[illegible]		[illegible]			
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

Silt

Sand

Clay

Ash

Tuff / [illegible]

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology · Petrology · Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	
[illegible]	[illegible]	None	[illegible]	[illegible]	[illegible]			
	[illegible]	[illegible]	[illegible]		[illegible]			
[illegible]	[illegible]	None	[illegible]	[illegible]	[illegible]			
	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			Drilling stopped at 1245 4 Nov 94
50					Ended TD at 50.0 ft			

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30' Page 1 of 2

Driller [illegible] Box #(s) 1-3 Start Date/Time 28 Sep 94 1302 End Date/Time 29 Sep 94 1035

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Core Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
					No Run			
0	Run 1 2.5/2.5	None	0 cpm 100cpm Bkg	Box 1 0-12.5'	0-2.5' dry, unconsolidated, coarse grained, moderate Brown 5YR 4/4 SAND. No core. Unconsolidated, cohesive, very light buff TUFF. Large Pumice fragments shatter upon impact.			29 Sep 94 Drilling began 1302 hours elevation reads 2.5 ft with WSW.
2.5	Run 2 2.5/2.5	AA69237 Full 12.5-10.0'	0 cpm 100cpm Bkg		Moderate Consolidated TUFF composed of 40% pumice fragments. Fragments vesiculation upon impact oriented and have 1-3 angular phenocrysts.			
5	Run 3 2.0/2.5	None	0 cpm 100cpm Bkg	Box 2 12.5-17.5'	Fine to medium grained unconsolidated, nonconsolidated SAND/SILT. Moderate Yellowish Brown 10YR 5/4.		ALLUVIUM	
7.5	Run 4 2.5/2.5	AA69236 Full 18.5-23.5'	0 cpm 100cpm Bkg	Box 3 17.5-23.5'	20.0-21.0' Med. Coarse grained unconsolidated angular SAND 21.0-22.5' moist, moderately consolidated, SAND/SILT/Wood Composites approximately 30% total			
10	Run 5 1.5/2.5	None	0 cpm 100cpm Bkg		Fining downwards to form a moist consolidated CLAY by 23.5 feet. Very fine grained with few 5mm pumice fragments present.			
12.5	Run 6 1.9/2.5	AA69235 Full 23.5-28.5'	0 cpm 100cpm Bkg	Box 3&4 23.5-30.0'	DAA			
15	Run 7 2.5/2.5	None	0 cpm 100cpm Bkg		Very fine grained, soft, homogeneous ASH. no pumice or lithics present			Total elevation 1435 hours

Prepared by [signature] Date 30 Sep 94 Checked By [signature] Date 12 Oct 94

Samples

- Full - Gross alpha, beta, gamma, Sr90, moisture, total uranium, strontium, TAL metals, semi-volatiles, volatiles.
- Red - Gross alpha, beta, gamma spec, moisture, semi-volatiles, XRF metals

SILT
SAND
CLAY
ASH
Rhyolite ondesic or Pumice frags
TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1202 TA/OU 10-1039 Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 4-6 Start Date/Time 29 Sep 94 1302 End Date/Time 29 Sep 94 1625

Drilling Equip./Method F-10 Hollow Stem Auger Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 8 2.0/2.5	AAB9210 AAB9211 AAB9212 [illegible]	0.0 cm 100 cpm Bc	Bar 6 30.0 35.0	DAA		OTOWI MEMBER of the BANDALIER TUFF	Returned and started drilling at 1520 hours.
35	Run 9 2.5/2.5	NONE	0.0 cm 100 cpm Bc		32.5-34.0 Becomes medium grained conglom SAND: ASH 34.0-35.0 Unconsolidated, heterogeneous TUFF [illegible]			
35	Run 10 2.5/2.5	AAB9293 Red 36.0 36.1	0.0 cm 100 cpm Bc	Bar 5 35.0 42.5	Unconsolidated, depth phase altered TUFF in a fine grained ASH matrix. Lithics moderately abundant. 35.0 36.0 exhibits oxidation staining			
40	Run 11 2.5/2.5	NONE	0.0 cm 100 cpm Bc		DAA [illegible] 10-30 mm.			
40	Run 12 2.5/2.5	AAB9294 Red 41.5 41.0	0.0 cm 100 cpm Bc		DAA			
45	Run 13 2.5/2.5	NONE	0.0 cm 100 cpm Bc	Bar 6 42.5 50.0	DAA			
45	Run 14 2.5/2.5	AAB9295 Red 46.2 46.7	0.0 cm 100 cpm Bc		DAA			
50	Run 15 2.5/2.5	AAB9296 Red 47.7 47.5	0.0 cm 100 cpm Bc		DAA			Drilling ended at 1625 at a total depth of 50 feet

Prepared by [signature] Date 30 Sep 94 Checked By [signature] Date 12 Oct 94

ASH
SAND
Rhyolite, Andesite, or Pumice fragments
TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY | **CORE SAMPLE LOG**

Borehole ID 10-1223 TA/OU 10-1279 Drill Depth From 2' To 30' Page 1 of 2

Driller Environmental Services Box #(s) 1-2 Start Date/Time 13Oct94 0730 End Date/Time 14Oct94 0730

Drilling Equip./Method Dual Wall Reverse Circulation Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0					Center Bit Used No Recovery Center Bit Used to drill through, cemented rebar, rubble and other obstructions			
2.5	Run 1 2.0 2.5	94B1385 Full 136 138	2.0cm 100cpm B1	Box 1 0 5	Unconsolidated Non-cohesive, moist, with abundant rock to SAND. Grains angular and fine-medium grained. 30% SILT present		ALLUVIUM	13 Oct 94 Cmmd entered Zone at 0740 Hrs. Skys Clear winds calm, temp 45°
5	Run 2 1.4 5.0	NONE	2.0cm 500cpm B1		Fining downwards to fine grained non-cohesive SILT. Run contains approx 10% sand. Moist and Moderate Yellowish Brown (10YR5/4)			
7.5	Run 3 1.3 7.5	94B1386 RAD 155 160	3.0cm 500cpm B1		Very fine grained moderately consolidated SILT with abundant white crystalline altered pumice and clay shards & fragmental			
10	Run 4 1.2 10.0	94B1387 Volatiles 205 208	4.0cm 500cpm B1	Box 2 5 10	AAA with a darker Moderate Brown 5YR3/4 color, and contains 10% SAND.			
12.5	Run 5 3.0 12.5	94B1387 RAD 233 238	1.0cm 500cpm B2		225-235- Unconsolidated dated fine to med grained SAND. 235-245- Moderately consolidated, unconsolidated Ash with 5-10mm white pumice fragments.			
15	Run 6 1.0 15.0	94B1387 Full NONE 252 257	0.0cm 100cpm B2		Fine grained, moist, unconsolidated CLAY, moderately cemented with few small pumice fragments			
17.5	Run 7 1.2 17.5	94B1387 Full 275 283	0.0cm 100cpm B2	Box 3 15 20	Consolidated, moist, non-cohesive ASH & SILT. Light grey back to Dark Yellowish Orange 10YR4/6. Few volcanic pumice fragments			0950 Tools break.

Prepared by [signature] Date 14Oct94 Checked By Rebecca Rocco-Stone Date 11/16/94

Samples

- Full - Gross alpha, beta, gamma spec, moisture, total uranium, Strontium-90, semi-volatiles, volatiles, and XRF metals
- Rad - Gross alpha, beta, gamma spec, moisture, semi-volatiles, TAL metals

SILT
SAND
CLAY
Rhyolitic Andesitic pumice fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 0' To 50' Page 2 of 2

Driller [illegible] Box #(s) 3 - 5 Start Date/Time [illegible] End Date/Time 14Oct940130

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 1.2 5.5	NONE	3.0cm 50cpm BK	Box 3 0-5' 2.5'-3.5'	Very fine, moderately consolidated, moist, homogeneous ASH. Contains fewer no. pumice and has light buff/grey color		QTcm ASH	Recovered 82 at 1030 hours windshow increased to 20mph gust and 5 mph sustained TDD
2.5	Run 2 2.5 5.5	AA89391 Replicate 93-3334	4.0cm 50cpm BK		SAS 310 - SAA 340-350 - Moderately consolidated unconsolidated TUFF composed 80% pumice most is 2 APT Pumice in size			
5	Run 3 2.5 5.5	NONE	0cm 50cpm BK		SAA, with less stratification showing present			1110 hours winds too strong to continue, Crew on stand by
7.5	Run 4 2.5 5.5	AA89390 thru AA89393 DUP 93-3335	0cm 100cpm BK	Box 3 5-10' 3.5'-4.5'	SAA unconsolidated some no stratification showing			0830, 14Oct.94 Began drilling. Sky is cloudy winds 2-5mph wind 32°
10	Run 5 2.5 5.5	NONE	0cm 100cpm BK		SAA			
12.5	Run 6 2.5 5.5	AA89395 RAD 93-3443	0cm 50cpm BK		SAA			
15	Run 7 5cm 50	AA89397 Full 93-3500	0cm 40 cpm BK	Box 3 10-15' 13.5'-14.5' 50 0'	SAA			Drilling ended 94 C930hours at a total depth 50 feet TDD
50								

Prepared by [illegible] Date 14Oct94 Checked By [illegible] Date 11/1/94

ASH

Rhyolite, Andesite or Pumice fragments

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 0 To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
25	Run 1 25 / 25	488934 Field HC 15.2 ppm	20cm 2000 Background Pt		15.0 - 16.5' Very consolidated, cohesive, moist Moderate Brown 5YR 3/4 CLAY with 10% SILT. 16.5 - 17.5' Grayish Orange 10YR 7/4 very cohesive TUFF with small pumice fragments			0810 Oct 5, 94 Drilling began with Site personnel and Radiation Tech
	Run 2 3.5 / 3.5	488935 RAD 15.5 mrem	20cm 2000 Background Pt	Box 1 of 2	17.5-19.0 Consolidated TUFF with 3mm pumice phenocrysts no dist. Unconsolidated, noncohesive Moderate Brown 5YR 4/4 SILT with 10% SAND			Due to high radiation levels, drilling ended and then re began at 0945 hours
	Run 3 2.5 / 2.5	488936 RAD 239-214 mrem	20cm 1800 Background Pt		Consolidated downward becoming a SANDY SILT of all fine sand grains coarse and angular 2mm in size. Contains 5% pumice fines a Dark Yellowish Orange 10YR 6/6 fragments			
	Run 4 2.1 / 2.5	488937 NONE	20cm 2000 Background Pt	Box 2 of 2	Very coarse angular, unconsolidated SAND with 15% silt and Clay 19.0 - 21.0 Very consolidated, cohesive, moist CLAY with numerous 5-20mm vesicular pumice			
	Run 5 1.5 / 2.5	488938 Field HC 15.2 ppm	20cm 2000 Background Pt		Unconsolidated to moderately consolidated SANDY ASH with pumice nodules present. 21.0 - 21.8 Consolidated, Cohesive ASHEY CLAY very moist with 5mm pumice fragments			Drilling ended 1140 hours 10/5/94
	Run 6 1.9 / 2.5	488939 NONE	20cm 2000 Background Pt		Moist consolidated, noncohesive Moderate Brown 5YR 4/4 ASHEY SILT. Ash adds a light sugary texture			Drilling began 10/6/94 at 1000 hours Site clear winds moderately gusty

Prepared by [illegible] Date 10-6-94 Checked By [illegible] Date 12 Oct 94

Field Screening:
Gross alpha, beta, gamma
Static, moisture, smell
[illegible]

Field Screening:
Gross alpha, beta, gamma
[illegible]

SILT
SAND
CLAY
Rhyolite, Pumice or Pumice fragments
ASH
TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 7 1.3 / 2.5	AAB[illegible] RAD [illegible]	Ø0.0m 1000pm pt	[illegible]	Moist unconsolidated nonCaps or ASH. Lightening to Brownish Orange 10 YR 7/4		[illegible]	
32.5	Run 8 1.3 / 2.5	NONE	Ø0.0m 500pm pt	[illegible]	DAA			
35	Run 9 2.0 / 2.5	AAB[illegible] Fully HE 35[illegible]	Ø0.0m 500pm pt	[illegible]	DAA with [illegible] pumice or lithic fragments			
37.5	Run 10 1.9 / 2.5	NONE	Ø0.0m 500pm pt	[illegible]	Very [illegible] Orange 10 YR 8/2 fine grained ASH, with moderately abundant 2-20mm [illegible] phase altered pumice. Few to no lithics present.			
40	Run 11 2.0 / 2.5	AAB[illegible] RAD 40.0-40.5	Ø0.0m 500pm pt	[illegible]	40.0-40.5 Dark moist unconsolidated ASH with 50mm 2cm pumice fragments 40.5-42.0 DAA			
42.5	Run 12 0.0 / 2.5	NONE		[illegible]	NO Recovery			
45	Run 13 [illegible] / 2.5	NONE	Ø0.0m 500pm pt	[illegible]	DAA, 30% pumice fragments in fine ASH and crushed pumice matrix			
47.5	Run 14 2.0 / 2.5	AAB[illegible] Fully HE 47.7-47.5	Ø0.0m 1000pm pt		DAA			Drilling ended at 1210 hours at a depth of 50 feet
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 12 Oct 94

ASH

Rhyolite, Dacite or Pumice fragm

Tuff

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) 3 Start Date/Time [illegible] End Date/Time 11 Nov 94 1015

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
					Center Bit Used No Recovery Center Bit Used No Recovery			
[illegible]	[illegible]	[illegible] Full	[illegible]	[illegible]	[illegible] SILTY SAND, [illegible]		ALLUVIUM	[illegible]
[illegible]	2.5	[illegible]	[illegible]		[illegible] SAND [illegible]			[illegible]
[illegible]	2.5	[illegible] Rad	[illegible]		[illegible] AAA [illegible] SILTY SAND [illegible]			
[illegible]	2.5	[illegible] Full	[illegible]		Moist, [illegible] SILTY SAND. [illegible]			
[illegible]	2.5	AAB[illegible] Full	[illegible]	[illegible]	[illegible] SAND [illegible]			
[illegible]	2.5	None	[illegible]		22.5 24.0 [illegible] SAND [illegible] SILTY Clay [illegible]			[illegible]
[illegible]	2.5	AAB7305 Rad	[illegible]	[illegible]	[illegible] moist, [illegible] SILTY ASH. Contains [illegible] and tuff fragments are present at 27.5 feet			[illegible]
[illegible]	2.5	NONE	[illegible]	[illegible]	27.5-28.5 AAA 28.5-30.0 [illegible] SAND [illegible] ash. 2.5 cm [illegible] and tuff fragments present [illegible]			[illegible]

Prepared by [illegible] Date 11 Nov 94 Checked By [illegible] Date 11/10/94

- Samples -

Full - Gross alpha, beta, gamma spec, moisture, total uranium, strontium, TAL Metals, Semi-volatiles, volatiles

Rad - Gross alpha, beta, gamma spec, moisture, Semi-volatiles, XRF metals

Silt

SAND

CLAY

ASH

Rhyolite, Andesite or pumice fragments

Tuff

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 Page 2 of 2

Driller [illegible] Box #(s) 4-6 Start Date/Time 10 Nov 94 0830 End Date/Time 11 Nov 94 1045

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 9 2.5/3.5	9489306 Rad 30.5-32.5	0 ppm 100 cpm Bl	Run 9 30.5' Run 10 32.5'	Fining to fine matrix moderately consolidated ASH, light brown 5YR 5/6 and some vitrified pumiceous by 32.0 feet. Rhyolitic and andesitic fragments abundant at top of run.		ASH & ALLUVIUM	
32.5	Run 10 2.5/5.5	NONE	0 ppm 100 cpm Bl	Run 10 32.5' Run 11 35.0'	unconsolidated, noncohesive, medium - coarse grained SAND. Few 25mm - 200mm rhyolite fragments present			
35	Run 11 2.5/2.5	9489307 Rad 36.0-36.5	0 ppm 100 cpm Bl		35.0-36.5 - DAA 36.5-37.5 - Banded orange clay fine grained ASH. Homogeneous with no apparent fabric or fragments			
37.5	Run 12 2.5/2.5	9489308 Full 37.5-38.0 Rad 37.5-38.0	0 ppm 100 cpm Bl	Run 11 35.0' Run 12 37.5'	37.5-39.0 Fine banded orange and tan ASHFALL SAND 39.0 - 40.0 Very consolidated, cohesive, moist CLAY with abundant white vesicular pumice shards.			
40	Run 13 2.5/2.5	NONE	0 ppm 100 cpm Bl	Run 12 37.5' Run 13 40.0'	Very consolidated, cohesive Tuff with moist clay matrix. Pumice fragments abundant 30% vesicular, and vitric phenocrysts		DOUBLE MEMBRANE TUFF	
42.5	Run 14 2.5/2.5	9489309 Rad 42.5-43.0	0 ppm 100 cpm Bl		DAA			
45	Run 15 2.5/3.5	NONE	0 ppm 100 cpm Bl	Run 13 40.0' Run 14 42.5' Run 15 45.0'	DAA			
47.5	Run 16 2.5/2.5	9489310 Full 47.5-50.0	0 ppm 100 cpm Bl		DAA Total Depth			11 Nov 94 Drilling ceased at 1045 hours at a total depth of 50 feet

Prepared by [signature] Date 11 Nov 94 Checked By [signature] Date 11/16/94

SAND
Clay
ASH
Rhyolitic Andesitic or Pumice Deposit
Tuff

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 3 Dec 94 1130 End Date/Time 4 Dec 94 0755

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
10					Center Bit used			
					No Recovery			
					Center Bit used			
15	2.5/2.5	NONE	0 ppm		12.5-13.5: Consolidated dense cemented sandstone SAND, some clasts of rock fragments and volcanic pebbles present. 13.5-15.0: Consolidated sandstone, homogeneous massive			3 Dec 94 Drilling began 1130 hours Direction winds 5-10 mph W
17.5	2.5/2.5	[illegible]	0 ppm	Bit 14.0-17.5	dAA with light purple tephra deposit			
20	2.5/2.5	NONE	0 ppm		17.5-17.8: Very consolidated cemented sandstone SAND, light brown 5 YR 6/4. 17.8-20.0: Very fine grained, light brown 5 YR 6/4 SILT and ASH moderately consolidated and cemented			
22.5	2.5/2.5	[illegible]	0 ppm	Bit 20.0-22.5	Consolidated sandstone to fine consolidated nonvesicular homogeneous SILTY SAND.			
25	2.5/2.5	NONE	0 ppm		22.5-24.5: Very unconsolidated medium grained angular SAND 24.5-25.0: very fine, consolidated, cohesive SILT with small 2-3 mm white pumice inclusions			Tectonomat 1120 hours.
27.5	2.5/2.5	[illegible]	0 ppm	Bit 25.0-27.5	Very fine grained, moderately consolidated most ASH with white Vesicular pumice fragments present between 25.0-25.5 feet		QTuT	4 Dec 94 Begin drilling at 0700 hours Skys mostly cloudy, winds from W.
30	2.5/2.5	NONE	0 ppm	Bit 27.5-30.0	dAA			

Prepared by [illegible] Date 4 Dec 94 Checked By [illegible] Date 12 Dec 94

- Full Suite:
  Americium, beta gamma spec, moisture, total uranium, strontium-90, semi-volatiles, volatiles, high explosives and TAL metals
- Radium:
  Gross alpha, beta gamma spec, moisture, semi-volatiles, TAL metals

SILT
SAND
CLAY
SILT
Rhyolite, Dacite Andesite or Pumice fragm

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 4Oct94 0955

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
50	Run 9 2.5 2.5	[illegible] RAD [illegible]	ØDUM 500cpm PZ	[illegible]	DAA		← NE WALL ↑ SASF MW #8 Tuff	
52.5	Run 7 2.5 2.5	NONE	ØDUM 500cpm PZ		52.5-53.0 DAA 53.0-55 Gray fine-grained Ash matrix Contains 10% pumice & pumice rich TUFF by 54 Crystal rich andesitic lavaflow clasts to bottom of core			
55	Run 10 2.5 2.5	[illegible] [illegible] [illegible]	ØDUM 500cpm PZ		Nonconsolidated, pumice rich Tuff. Composed of 20% crystal phase altered, Oxidized mafics, 30-35% pumice fragments. Very pale Orange 10YR 8/2 Ash and pumice matrix feldspars			
57.5	Run 8 2.5 2.5	NONE	ØDUM 500cpm PZ		DAA — no 10YR 7/2 oxidation staining			
60	Run 12 2.5 2.5	[illegible] RAD [illegible]	ØDUM 500cpm PZ		DAA			
62.5	Run 13 2.5 2.5	[illegible]	ØDUM 500cpm PZ		DAA			
65	Run 11 5.0 5.0	[illegible] RAD [illegible]	ØDUM 500cpm PZ		DAA			Drilling ended 0955 hours at a total depth of 50 feet.
67.5								
70								

Prepared by [illegible] Date 4Oct94 Checked By [illegible] Date 12Oct94

Ash

Tuff

Andesite Rhyolite or Pumice Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY | **CORE SAMPLE LOG**

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 0' To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-3 Start Date/Time 31 Oct 94 1400 End Date/Time 0945 Nov 1 94

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0					No Recovery Center Bit Used			
10'	Run 1 2.0/2.5	AAB9327 Full Suite 10.5-11.5	0 ppm 80 cpm BB	10.0-14.5 Box 1	Moist fine to medium grained, moderately organic SILTY SAND. Quartz grains angular and run is unconsolidated and non-cohesive		ALLUVIUM	31 Oct 94 Begin drilling 1400 hours SKYS Clear winds gusty 5-15 mph NNW.
12.5'	Run 2 2.5/2.5	NONE	0 ppm 80 cpm BB		SAA Pale Yellowish Brown 10YR 6/4 with 5-25 mm [illegible] altered pumice fragments present			
15'	Run 3 2.5/2.5	AAB9328 Red Suite 16.2-16.7	0 ppm 80 cpm BB		15.0-16.5 SAA 16.5-17.5 Moderately consolidated, mildly cohesive fine grained SILT with 15% fine sand grains			
17.5'	Run 4 2.5/2.5	NONE	0 ppm 80 cpm BB	17.5-25.0 Box 2	Very fine grained SAA SILT coarsening downwards to form a very fine grained SILTY SAND.			
20.0'	Run 5 2.5/2.5	AAB9329 Red Suite 21.0-21.4	0 ppm 80 cpm BB		Fine to medium grained, unconsolidated, angular SAND with 15% fine silt present			
22.5'	Run 6 2.5/2.5	NONE	0 ppm 80 cpm BB		SAA, with Clay becoming moderately abundant by 23.5 feet. Color darkening to moist [illegible] 5YR 4/4. Rhyolite and pumice [illegible]			
25.0'	Run 7 2.5/2.5	AAB9330 Full Suite 25.5-26.1	0 ppm 80 cpm BB	25.0-30.0 Box 3	SAA with clay fraction resuming to fine grained Silt			
27.5'	Run 8 2.5/2.5	NONE	0 ppm 80 cpm BB		Moderately consolidated, coarse homogeneous ASH. No apparent lithics or fragments. Color lighters to a light Brown 5YR 6/4			Drilling ended for the day at 1555 hours
30'								

Prepared by [signature] Date 01 Nov 94 Checked By [signature] Date [illegible]

- Full Suite -
Gross Alpha, beta, gamma spec, moisture, total uranium, strontium-90 TAL metals, semi-volatiles, volatiles

- Red Suites -
Gross alpha, beta, gamma spec [illegible] TAL metals

SILT
SAND
CLAY
ASH
Rhyolite, Andesite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 1 Nov 94 0945

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 9 30-35	[illegible]	[illegible]	[illegible]	DAA		QBT 3 BANDELIER TUFF	1 Nov 94: Begin drilling operations. Steve Clem witness calm
35	Run 10 35-40	NONE	[illegible]	[illegible]	30.5-39.5 DAA 39.5-39.9 Compact reworked tuff to fine conglomeratic sand with abundant pumice fragments (reworked pumice fragments)			
	Run 11 35-40	[illegible]	[illegible]	[illegible]	39.9-40.5 DAA 40.5-47.5 Light Pale Orange (10YR8/2) Pumice Rich Tuff. Pumice fragments 2-5% 2-10mm (Reworked pumice fragments - unaltered pumice - appearance)			
40	Run 12 40-45	NONE	[illegible]	[illegible]	DAA, with banded iron oxide staining throughout the core. Core is very thinly and thickly bedded from unconsolidated to well consolidated.		QBT 3 BANDELIER TUFF	
	Run 13 40-45	[illegible] RAD [illegible]	[illegible]	[illegible]	DAA			
45	Run 14 45-50	NONE	[illegible]	[illegible]	DAA, with no reworked sediments			
	Run 15 45-50	[illegible] RAD [illegible]	[illegible]	[illegible]	DAA.			
50	Run 16 50-55	[illegible]	[illegible]	[illegible]	DAA			Drilling ended at 55 feet total depth. 50 feet

Prepared by [illegible] Date 01 Nov 94 Checked By [illegible] Date 1/Nov/94

ASH

Pumice Andesite or Rhyolite Fragments

TUFF

SAND

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30' Page 1 of 2

Driller [illegible] Box #(s) 1-3 Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
					No Recovery			
15	[illegible] 2.5/2.5	[illegible]	0 cpm [illegible] 32	[illegible]	[illegible] SILTY SAND [illegible] SILT [illegible]	[illegible]	[illegible]	[illegible] Begin drilling at [illegible]
20	[illegible] 2.5/2.5	[illegible]	0 cpm Screen 32	[illegible]	Continuing to fine [illegible] SILT [illegible] SAND [illegible] fragments [illegible] moist and [illegible]	[illegible]	[illegible]	
22.5	[illegible] 2.5/2.5	[illegible]	0 cpm [illegible] 32	[illegible]	Continues [illegible] SILT [illegible]	[illegible]	[illegible]	
25	[illegible] 2.5/2.5	196951 [illegible]	0 cpm Screen 32	[illegible]	Fine to medium [illegible] SAND [illegible] SILT [illegible] Moist [illegible]	[illegible]	[illegible]	
22.5	[illegible] 2.5/2.5	None	0 cpm Screen 32	[illegible]	Continues slightly [illegible] coarse grained SAND	[illegible]	[illegible]	
25	[illegible] 2.5/2.5	[illegible]	0 cpm Screen 32	[illegible]	SAND [illegible] fragments [illegible] and SILT [illegible]	[illegible]	[illegible]	
27.5	[illegible] 2.5/2.5	None	0 cpm Screen 32	[illegible]	SAND [illegible] by very fine grained ASH [illegible] forming a [illegible] ASH	[illegible]	[illegible]	Took a break at 1025 hours
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

Samples

Field - [illegible]

Read - [illegible]

SILT

SAND

CLAY

ASH

Rhyolite or Pumice Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	Resumed [illegible]
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			Drilling ended at 1240 hours at a depth of 50 feet PD

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 12 Oct 94

ASH
SAND
Rhyolite Andesite or Pumice fragments
TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30' Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 11-8-94 1440 End Date/Time 11-9-94 1130

Drilling Equip./Method Eight Inch Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0					Cuttings Used No Recovery			
5					Contents Used No Recovery			
10	Run 1 15 1/5	None	0 cpm background		Dark brown to brown (10YR3/3) to Moderate Brown (10YR4/4) fine SILTY SAND, medium sorted, fine grained Quartz Feldspar Subangular to angular			05 Nov 94 Cuttings from 10 to 30 feet begin discharging into Mud tank
	Run 2 25 1/25	[illegible] Field	5 cpm background		Fine grained SAND with Abundant Trace fine grained sized Tuff fragments. Remainder of the sample is subangular sized quartz			
15	Run 3 25 1/25	None	0 cpm background		15.0 to 20 - SAA 10 YR 3/3 - Moderate Yellowish Brown (10YR5/4) fine to coarse grained SILTY SAND with many fine grained tuff fragments			
	Run 4 25 1/25	[illegible] Field	0 cpm background		170 192 SAA with fine laminated to thin laminated medium grained tuff fragments 192 - 195 Pale Brown (5YR5/2) fine grained TUFF 195 - 200 Moderate Yellowish Brown (10YR5/4) fine SILTY SAND			
20	Run 5 25 5/5	[illegible]	0 cpm background		200 219 - SAA fine grained medium to coarse grained sand with 5-10% tuff fragments 219 - 222 Pale Brown (5YR5/2) fine SILTY SAND with 10% tuff fragments			
	Run 6 25 1/25	[illegible] Field	0 cpm background		222 - 223 SAA, Uranium detected slightly 223 - 230 Pale Brown (5YR5/2) fine grained SAND & SILT interbedded fragments			06 Nov 94 Stop Drilling from the day 4 at 225 feet
25	Run 7 25 1/25	None	0 cpm background		SAA with trace to few fine ASH shard grains from 230 to 235 feet, fragments ID as non-vesicular colorless tuff fragments			7 Nov 94 Begin drilling @ 0800 hours. Systems were checked & working properly
	Run 8 25 5/5	[illegible] Field	0 cpm background		235 - 245 - Very fine grained Brown (10YR4/3) Ash with 10% fine grained angular fragments 245 - 250 Very fine to fine grained SAND with angular quartz crystals, very fine grained ASH particles			
30								

Prepared by [illegible] Date 09 Nov 94 Checked By [illegible] Date 11/10/94

Samples -

Fuel-site - Gross alpha, beta, gamma spec, moisture, total uranium, strontium-90, TAL metals, semi-volatiles, and volatiles

Radium - Gross alpha, beta, gamma spec and strontium, VR = metals and semi-volatiles

SILT

SAND

ASH

Physical Analysis Bonus Samples

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 35' To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 11-5-97 1440 End Date/Time 11-6-97 1150hrs

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		ALLUVIUM / ASH	
35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
50	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
55	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
60	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
65	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			

Prepared by [illegible] Date 11-6-97 Checked By [illegible] Date [illegible]

SAND

Ash

Rhyolite Ashfall on Pumice Deposits

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 3.5 Page 1 of 1

Driller [illegible] Box #(s) 1 Start Date/Time [illegible] End Date/Time 2011,94,0852

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology Soil	Graphic Log	Lithologic Unit	Notes
0	[illegible]		240/58 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
30								
35								
40								
45								
50								
55								
60								
65								
70								
75								
80								

Prepared by [illegible] Date 2011,94 Checked By [illegible] Date 29 July 94

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY | **CORE SAMPLE LOG**

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-5 Start Date/Time [illegible] End Date/Time 25 July 94 [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
1	0/0						ALLUVIUM	[illegible]
2	2/2	[illegible]	[illegible]		[illegible]			
3	2/2.5	[illegible]			[illegible] SAND [illegible]			Exit zone 1155 due to over [illegible]
4	2.5/2.5	[illegible]	[illegible]		SAA, increasing silt			
5	0/2.5				[illegible]			
6	2.3/2.5	[illegible]	[illegible]		SAA to 16.2 ft [illegible]			
7	[illegible]		[illegible]		SAA [illegible]			
8	1/2.0	[illegible]	[illegible]		[illegible] SILT [illegible]			Exit zone break [illegible] Back in 1050
9	2/2.5		[illegible]		[illegible] SAND [illegible]			
10	2.5/2.5	[illegible]	[illegible]		SAA to 23.6 ft [illegible] SILT [illegible]			Exit zone 1150
11	2.0/2.5		220 BZ 0.0 ppm		SAA			Exit zone 1335
12	2.5/2.5	[illegible]	220 BZ 0.0 ppm		SAA			

Prepared by D. [illegible] Date 20-21 July 94 Checked By [illegible] Date 29 July 94

Silt

Sand

Gravel

Non-welded Ignimbrite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

Soil

Sand

Gravel

Non-[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1211A TA/OU 10/1000 Drill Depth From 0 To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-4 Start Date/Time 2 August 94 0736 End Date/Time 2 August 94 1141

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] Spoil Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								Used [illegible] to drill 10-1211A to 12.5 ft. Drilled on 4 August 94. 10-1211A - two feet west of surveyed 10-1211 which was abandoned on 4 August 94 because of obstructions in the hole
1	23/25	AAB6338 [illegible]	500 ppm 0 ppm		[illegible] SAND [illegible]			Entered zone 0732 Drilling 0736
2	24/25	AAB6339 [illegible]	17 ppm 0 ppm		[illegible] SAND with 15-25% [illegible]			
3	25/25	AAB6340 [illegible]	500 ppm 0 ppm		17.5 to 19.5 ft SAA [illegible]			
4	23/25		250 ppm 0 ppm		[illegible] SAND with silts and clays [illegible]			
5	25/25	AAB6341 [illegible]	380 ppm 0 ppm		SAA - [illegible]			Break 0913 Back in 0955
6	25/25		260 ppm 0 ppm		[illegible]			
	25/25	AAB6342 [illegible]	250 ppm 0 ppm		SAA			

Prepared by [illegible] Date 2 Aug 94 Checked By Derek Faulk Date 17 Aug 94

Silt

Sand

Gravel

Non-welded Ignimbrite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
8	2.5 / 2.5	[illegible]	<250 0.0 ppm	[illegible]	SAA to 32.0 ft large cobble [illegible]		[illegible]	
9	2.5 / 2.5	[illegible]	<250 [illegible] ppm	[illegible]	[illegible]		[illegible]	
10	5.0 / 5.0	[illegible]	<250 [illegible] ppm	[illegible]			Lower Bandelier Tuff	
11	5.0 / 5.0	[illegible]	<250 [illegible] ppm	[illegible]	SAA - [illegible]			
12	5.0 / 5.0	[illegible]	<250 [illegible] ppm	[illegible]	SAA			TD 1141

Prepared by D Foss Date [illegible] Checked By [illegible] Date 17 Aug 94

Silt

Sand

Gravel

Non-welded laminite

Boulder - large cobble

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 0 To 3.5 Page 1 of 1

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip /Method [illegible] Stem Auger Sampling Equip /Method [illegible] Steel Split Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	[illegible]		[illegible]	[illegible]	[illegible]			Entered zone 0802 Drilling 0825
2.5	[illegible]		[illegible]	[illegible]	[illegible]			[illegible] recovery packed off on rock? 0925 - [illegible] bit but concrete and rebar moved rig back 2 feet to start a new hole
5								
7.5								
10								
12.5								
15								
17.5								
20								
22.5								
25								
27.5								
30								

Prepared by [illegible] Date 29 [illegible] 94 Checked By [illegible] Date [illegible]

Dum #

S.H

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From ___ To 5.5 Page ___ of 2

Driller [illegible] Box #(s) 1 of 1 Start Date/Time 29 Sept 1105 End Date/Time 1 Oct 94 1312

Drilling Equip./Method Drive Hammer Sampling Equip./Method Stainless Steel Split K Barrel

Depth (feet)	Recovery (feet per liner / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2/2 100%		2208 S 0 ppm	Box 1 of 5	medium to [illegible] SILT/clay to medium Gravelly Sandy SILT with increasing clay to depth, 10% clay, [illegible]		A	Entered 29th 1100 Drilling 1105, 29th
2.5	2/2 100%	[illegible]	2208 S 0 ppm		moderate brown SILT/clay, [illegible] Sandy SILT with Sand, very hard, moderate [illegible]			
5	2/2 100%	[illegible]	2208 S 0 ppm		SAA			
7.5	1.9/2 95%		2208 S 0 ppm	Box 2 of 5 5.0 - 10.0	moderate brown SILT/clay, medium to coarse, non plastic Sandy SILT 10% [illegible]			
10	1.8/2 90%	[illegible]	2208 S 0 ppm		medium to dark yellowish brown SILT/clay to medium Sandy with SAND [illegible]			
12.5	2.0/2.5 80%		2208 S 0 ppm	Box 3 of 5 10.0 - 15.0	SAA			
15	1.6/2.5 64%	[illegible]	2208 S 0 ppm		SAA with 5 - 20% medium to coarse sub-rounded gravel - dark [illegible]			Break 1300, 29th 94 End of drilling for day due to weather Estimate 0855 1 August 95 Begin Drilling 0855
17.5	2.1/2.5 84%		2208 S 0 ppm	Box 4 of 5 15.0 - 20.0	SAA 0 - 19 ft approx 10% medium to coarse sub-rounded gravel SILT - [illegible]			
20	2.0/2.5 80%	[illegible]	2208 S 0 ppm		SAA - Sporadic layers 0% coarse - Granule gravel [illegible]			
22.5	2.3/2.5 92%	[illegible]	2208 S 0 ppm	Box 5 of 5 20.0 - 25.0	22.5 - 23.5 ft coarse - Cobble Sandy SILT/clay, [illegible] 23.5 - 25.0 ft fine - medium sandy SILT - [illegible]			Large - Cobble [illegible]
25	2.3/2.5 92%	[illegible]	2208 S 0 ppm		SAA			
27.5	2.5/2.5 100%		2208 S 0 ppm	Box 6 of 5 25.0 - 27.5	SAA - [illegible]			
30								

Prepared by [illegible] Date 29 Sept 94 Checked By [illegible] Date [illegible]

Silt

Sand

Gravel

Boulder - large cobble

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	2.5/2.5	[illegible]	[illegible]	[illegible]	SAA to 30 [illegible]	[illegible]	[illegible]	Break 1040 Back in 1111 [illegible]
32.5	2.5/2.5		220 pr [illegible]	[illegible]	[illegible]			
35	5.0/5.0	[illegible]	240 pr [illegible]	[illegible]	SAA to 36 [illegible]			37.2 to 37.9 ft 320 pr
37.5		[illegible]			[illegible]			
40	5.0/5.0	[illegible]	[illegible]	[illegible]	SAA [illegible]			
45	5.0/5.0	[illegible]	240 pr [illegible]	[illegible]	SAA			
47.5		[illegible]						TD 1212 [illegible] Leave 30 [illegible] 1240
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

Silt

Sand

Gravel

Non-welded [illegible]

Boulder - large cobble

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								[illegible]
	[illegible]	[illegible]	[illegible]		[illegible]			
	24/25		[illegible]		[illegible]			
	24/25	[illegible]	[illegible]		[illegible]			
	24/25		[illegible]		[illegible]			[illegible]
5	23/25	[illegible]	[illegible]		[illegible]			
6	22/25	[illegible]	[illegible]		SAA [illegible]			
7	25/25	[illegible]	[illegible]		[illegible]			
8	21/25		[illegible]		SAA to 22.7 ft [illegible]			[illegible]
9	25/25	[illegible]	[illegible]		SAA			
10	25/25		[illegible]		SAA			

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 22 Aug 94

Silt

Sand

Gravel

Non-welded [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								
2								
4								
6								
8								
10								
12								
14								
16								TD Soil

Prepared by [illegible] Date [illegible] Checked By David Frank Date 27 Aug 94

Soil

Sand

Gravel

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of [illegible]

Driller [illegible] Box #(s) 1 - 4 Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

ALLUVIUM

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 21 Aug 94

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet bar feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes

Prepared by _____ Date _____ Checked By _____ Date 21 Aug 94

Soil

Sand

Gravel

Non-welded tuff

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To 30 Page 1 of 2

Driller _____ Box #(s) 1 - 4 Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Prepared by _____ Date _____ Checked By _____ Date _____

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]		[illegible]		[illegible]		[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			
[illegible]	[illegible]		[illegible]		[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			
15	[illegible]							TD [illegible]
[illegible]								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 25 Aug 94

[illegible]

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 3.0 Page 1 of 1

Driller [illegible] Box #(s) N/A Start Date/Time [illegible] End Date/Time 2 August 94, 0940

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] Steel Split Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.0/2		240 ppm 0.0 ppm		[illegible]		Alluvium	[illegible] 0732, 2 August 94 Drilling 0855
2.5	[illegible]		[illegible]		SAA [illegible]			Drilling Obstructed [illegible]
5								
7.5								
10								
12.5								
15								
17.5								
20								
22.5								
25								
27.5								
30								

Prepared by [illegible] Date 2 August 94 Checked By [illegible] Date [illegible]

Silt

Sand

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 1

Driller [illegible] Box #(s) N/A Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	10/10		[illegible]		[illegible]		Alluvium	[illegible]
5	10/10		[illegible]		[illegible]			[illegible]
10								
15								
20								
25								
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

Silt

Sand

Gravel

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-5 Start Date/Time 3August94 0900 End Date/Time 3August94 1155

Drilling Equip /Method [illegible] Sampling Equip /Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								Hand auger - used sandy soil to get through rocks and retain
5								10-12163 - 5 feet south of 10-12116
10	1.5/5	AA06321 AA06322 Duplicate	0 ppm	Box 1 0 to 13.2 ft	medium brown SYR 4/4 (moist) sandy SILT, moderate dark yellowish brown and moisture with depth, visible cleaning with depth			Extract 0900 Aug 94 Drilling 0712
10	1.9/5	AA06323 AA06324 Duplicate	0 ppm		SAA, with small angular gravel and rock spars to wet dacite and rhyolite			
15	2.2/5		0.0 ppm		SAA, increasing coarse-grained sand and medium-grained gravel			
15	2.0/5	AA06325 AA06326 Field Blank	0 ppm	Box 2 13.2 to 23.0 ft	SAA			
15	2.2/5	[illegible]	0.0 ppm		SAA to 18.4 ft grades to fine-grained sandy SILT, moderate yellowish brown, very cohesive and sticky with clay			
20	2.2/5	AA06327 AA06328 AA06329 Duplicate	0 ppm	Box 3 18.4 to 23.0 ft	moderate brown SYR 4/4, coarse to medium-grained sandy SILT moderate moisture and cohesion very sticky			
25	2.5/5		0 ppm	Box 4 23.0 to 28.0 ft	SAA to 23.8 ft grades to fine-grained sandy SILT 20-30% fine gravel, moderate grained sandy clay, moderate moisture very cohesive sticky texture			
25	2.5/5	AA06330 AA06331 Duplicate	0 ppm		SAA with light gray fragments of basaltic welded - vapor phase altered vesicular to large basalt cobbles, 1 to 2 feet of [illegible]			Break 0925 Back in 1015
30	1.4/5	AA06332 AA06333 Duplicate	0 ppm	Box 5 28.0 to 30.0 ft	SAA alternating silt/clay with lt gray basaltic fragments cobble-size			

All unconsolidated

Prepared by D Foss Date 2-3August94 Checked By [illegible] Date 8/30/94

Silt

Sand

Gravel

Non-welded [illegible]

Boulder - large cobble

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 5-8 Start Date/Time 3 August 94, [illegible] End Date/Time 3 August 94, 1135

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] Steel Split Barrel

Run #	Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
	30		[illegible]	[illegible]	[illegible]	SAA to 30.4 ft 30.4 to 31.5 ft soil-tuff transition zone intermixed silt, clay and pumice fragments - moderate moisture 31.5 to 35.0 ft coarse-grained non-welded - ignimbrite with 85 to 90% pumice fragments 10-5% lithic [illegible]		Lower Bandelier Tuff	← Alluvium ← Soil-tuff transition zone
10	30.5	5.0/5.0							
	35		[illegible]	[illegible]	[illegible]	SAA, little to no clay present low moisture and cohesion			
11	35.5	5.0/5.0							Drain leaving 1104 R. Brown logging
	40		[illegible]	[illegible]	[illegible]	SAA slightly coherent very vitric Pumice fragments up to [illegible] [illegible] mostly glass, some [illegible], some [illegible], are coarse grained			
12	42.5	5.0/5.0							
	45		[illegible]	[illegible]	[illegible]	SAA			
13	47.5	5.0/5.0	[illegible]	[illegible]	[illegible]				Borehole TDd 3 August 94 1135
	50					Borehole TDd at 50.0 ft			

Prepared by D. Foss / R. Brown Date 3 August 94 Checked By [illegible] Date [illegible]

Silt

Sand

Gravel

Non-welded Ignimbrite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 0 To 30' Page 1 of 2

Driller [illegible] Box #(s) 1-4 Start Date/Time [illegible] End Date/Time 8 August 1994

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								Hand cored, but encountered gravel
5	2.0/2.5	[illegible]	0 ppm		[illegible]			
	2.0/2.5	[illegible]	0 ppm		[illegible]			
10	1.0/2.5	None	0 ppm		SAA			
	2.5/2.5	[illegible]	0 ppm		SAA			
	2.5/2.5	[illegible]	0 ppm		SAA to 19.4 change in [illegible]			
	2.5/2.5	[illegible]	0 ppm		SAA to 19.4 change in [illegible]			
20	1.3/2.5	None	0 ppm		Fine grained - med grained angular SAND/SILT. Coarsening downward. Light Brown 5 YR 5/6 - Moderate Brown 5 YR 4/4			
	2.0/2.5	[illegible] (R40)	0 ppm		22.4 - 24.0 SAA becoming [illegible] 22.7 - 23.2 [illegible] CLAY [illegible] small [illegible] (organic)			
25	2.5/2.5	None	0 ppm		Dark Yellowish Orange 10 YR 6/6 CLAYEY SILT - fine clay fine [illegible] material - very consolidated. 27.3 - 27.5 Tuff - Silty [illegible] very consolidated			
	1.5/2.5	[illegible] (R40)	0 ppm		Med-Coarse angular SAND - 15mm - 25mm Pumice and rhyolite fragments with small [illegible]			
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 21 Aug 94

SILT

SAND

CLAY

TUFF

Andesite, Rhyolite and Obsidian Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30' To 50' Page 2 of 2

Driller [illegible] Box #(s) 5-8 Start Date/Time 11 Aug 94 1111 End Date/Time 12 Aug 94 0900

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Run #	Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
11	30	23 / 25	None	0.0 cm 2500 ppm [illegible]	Box 7 of 8 35.0-40.0	Very Pale Orange (10 TR 8/2) Tuff small to medium pebble fragments in a very pale orange clay matrix. Some pumice [illegible]		TUFF	Soil - Tuff [illegible]
12		25 / 25	[illegible]	0 cm 2500 ppm [illegible]		SAA - [illegible]			
13	35	50 / 50	[illegible] Full ([illegible])	0 cm 2500 ppm [illegible]	Box 6 of 8 40.0-45.0	SAA			
14	40	50 / 50	[illegible] Rain [illegible]	0 cm 2500 ppm [illegible]	Box 7 of 8 48.0-45.0	SAA [illegible]			
15	45	50 / 50	[illegible] (Full) [illegible]	0 cm 2500 ppm [illegible]	Box 8 of 8 45.0-50.0	SAA			Stopped drill [illegible] 0900 [illegible] 50'
	50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 21 Aug 94

SILT

SAND

CLAY

TUFF

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0					[illegible]			[illegible] Drilling 1428 [illegible]
	[illegible]	[illegible]	[illegible]		[illegible]			[illegible]
1								
	[illegible]	[illegible]	[illegible]		[illegible]			
2								
	[illegible]		[illegible]					
3								
	[illegible]	[illegible]	[illegible]		SAA [illegible]			
4								
	[illegible]		[illegible]		SAA [illegible]			
5								
	[illegible]	[illegible]	[illegible]		[illegible]			[illegible]
6								
	[illegible]	[illegible]	[illegible]		[illegible]			Drilling 0703
7								
	[illegible]	[illegible]	[illegible]		SAA			
8								
	[illegible]		[illegible]		[illegible]			
9								
	[illegible]	[illegible]	[illegible]		SAA			
10								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 21 Aug 94

Silt

Sand

Gravel

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
11	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	
12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
14	[illegible]		[illegible]	[illegible]	[illegible]			
15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 21 Aug 94

Silt

Sand

Gravel

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1219C TA/OU 10/1079 Drill Depth From 0 To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-3 Start Date/Time [illegible] End Date/Time 30 Aug 94 [illegible]

Drilling Equip./Method [illegible] F-10 Holle [illegible] Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0					[illegible]			1011 to 1039 hours 26 Aug 94
1	21/25	[illegible]	[illegible]	Box 1 of 5	[illegible] 5YR 4/4 [illegible] SAA [illegible]		Alluvium	[illegible]
2	17/25	[illegible]	[illegible]					Field Screen sample [illegible]
3	16/25	[illegible]	[illegible]	Box 2 of 6	[illegible] 10YR 4/6 [illegible] SAA to 23.5 [illegible]			Break 1220 [illegible]
4	25/25		[illegible]					[illegible] Break 0820 Back in 1010 Drilling 1026
5	19/25	[illegible]	[illegible]	Box 3 of 6	SAA			
6	25/25	[illegible]	[illegible]		SAA [illegible]			

Prepared by D. [illegible] Date 26-29-30 Aug 94 Checked By [illegible] Date 31 Aug 94

Soil

Sand

Gravel

Non-welded Ignimbrite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-12BC TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 3-6 Start Date/Time 30 Aug 94 1200 End Date/Time 30 Aug 94 1200

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible]	[illegible]	[illegible]	[illegible]	SAND			
	[illegible]		[illegible]	[illegible]	SAND [illegible]			[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	SAND [illegible]			
	[illegible]		[illegible]	[illegible]	[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	SAND			
	[illegible]		[illegible]	[illegible]	SAND			
	[illegible]	[illegible]	[illegible]	[illegible]	SAND			TD 12:00

Prepared by [illegible] Date 30 Aug 94 Checked By [signature] Date 31 Aug 94

Silt

Sand

Gravel

Non welded Ignimbrite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1220 B TA/OU 10 / 1079 Drill Depth From 0 To 30 Page 1 of 2

Driller Stewart Bros Box #(s) 1-4 Start Date/Time 7 Sept 94 / 1345hr End Date/Time 8 Sept 94 / 1220hr

Drilling Equip./Method Fm Log F-12/ Hollow Stem Augers Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results OVM, CAM R/B	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	No Recovery				0-12.5' No Recovery Drilling w the center bit thru rubble zone (soil, concrete, rebar etc)			BH 10-1220: drilled to ~12' bls concrete. Moved ~2' west to BH 10-1220A. 1220A stalled at ~10'. Moved ~4' east to Start 10-1220B. Start drilling 10-1220B at 1345hr.
5								
10								
15	Run 1 5.5'/5'	AA66524 12.5-13.5 RAD AA66523	0 OVM 5350 B'	Bag 1 of 4 12.5-17.5 Ft	12.5-15.0' Sandy silt to silty fine sand, fine gravel clasts, trace clay. Mod. dk brown, Dry, 5YR 3/4. Increase in clay w the depth (orange by color)		9	Stop Dr Rig 1500hr
	Run 2 5'/5'	AA66524 15-17.5 Soil, HE	0 OVM 18 000+ 40 000 CAM B/G		15-16' SAA 16-17.5' SAA No gravel clasts coarse sand, 10-15% clay 16.6' 18 000 CAM B/G clay zone 17.5' 40 000 CAM B/G clay zone		8	Cuttings left in barrel overnight 8 Sept 94/0740hr
20	Run 3 2.5'/5'	AA66525 17.5-17.8 RAD AA66526 18.0-18.4 Soil, HE	0 OVM 15 000+ 5000 B/G 0 OVM 17.5-20.0	Bag 2 of 4 17.5-22.5 Ft	17.5-19.5' Sand fine grained, fine clay, mod brown 19.5-19.5' Sand coarse grained fine clay, mod dk brown 5% gravel clasts. 19.5-20 0.5' Core loss		7	
	Run 4 2.5'/5'	AA66527 20-20.3 RAD	0 OVM 4000-40 000 B/G 220-225 B/G	Bag 3 of 4 17.5-27.5 Ft	20-22.5' Sand coarse grained, mod ft 5% clay 5% gravel increase w/ depth mod brown to dk brown 22-22.5' 5 Hy orange dk brown silty mod ft 10% 5% 10-15% sand, 5-10% gravel clasts (1.0 cm)		6	
	Run 5 2.5'/5'	AA66528 22.7-23 RAD	0 OVM 5350 B'	Bag 4 of 4 22.5-27.5 Ft	22.5-25' SAA		5	Alluvium
	Run 6 2.5'/5'	Run 6 Sample	0 OVM 4350 B/G		25-27.5' SAA		4	Break 0930hr Drilling 1030hr
	Run 7 1.5'/2.5'	AA66529 27.5-27.8 RAD	0 OVM 5350 B'		27.5-28' SAA 28-30' Core loss		3	
30								

Prepared by [signature] Date 8 Sept 94 Checked By [signature] Date 9/27/94

Sand

Silt/clay

Gravel

Pumice

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1610 B TA/OU 10/1077 Drill Depth From 30 To 50' Page 2 of 2

Driller Stewart Boss Box #(s) 4-7 Start Date/Time 8 Sept 94/1345hr End Date/Time 8 Sept 94/1810hr

Drilling Equip./Method Fo Log ESD/Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number AA#'s	Field Screening Results OVM, CPM, pH	Top/Bottom of Core in Box	Lithology · Petrology · Soil	Graphic Log	Lithologic Unit	Notes
30	Run 7 5'/5'	NAT Sample	0 OVM 2500 cpm		30-31.5' SAA 31.5-32.5' Fine grained, Hy sand, tan 10YR 7/4, moist, 20% Pumice			
	Run 8 AA/5'	AA86497 33-33.3' RAC	0 OVM 2500 cpm		32.5-33' 0.5' Caliche 33-34.5' SAA 34.5-35' Coarse grained Sand stone clasts 1", mgt large (10") stone clasts, mostly other than rhyolite			
35	Run 10 5'/5'	AA86499 37-37.5' FILTER	0 OVM 2500 cpm		35-38.5' medium grained s. Hy sand, small (1" dia) Fragments (20%) Slightly clay certain above.			
	Run 11 5'/5'	AA86500 38-38.5' RAC	0 OVM 2500 cpm		38.5-40' Fine to coarse sand contact layer brown gravel to coarse sand contact (1.5"-2" dia) Strong unconformable contact between pumice clasts almost all orange with Rhyolite			
40	Run 12 5'/5'	AA86501 40-40.5' RAC	0 OVM 2500 cpm		40-45' 90% white rounded pumice, 10% sand & silt fines, clump, less than 1% lapilli, 0.5 Silicate/pumice		Alluvium	
45	Run 13 5'/5'	AA86502 45'-50' RAC	0 OVM 2500 cpm	Bottom of Hole 45.5-50'TD	45-50 SAA		Fluvial Fill	Completed to 50' at 1810hrs.
50					Total Depth = 50'			

Prepared by SMF/Jo Hinckley Date 8 Sept 94 Checked By Nick Smith Date 9-7-94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 19-12511 TA/OU 19/1072 Drill Depth From 0 To 30 Page 1 of 2

Driller Stewart Bros Box #(s) 1-4 Start Date/Time 16Sept94/1530 End Date/Time 19Sept94/0930

Drilling Equip./Method Failing F-10/Hollow Stem Auger Sampling Equip./Method Stainless Steel Spl tSpoon (Core Barrel 9/21/94)

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	No Recovery				0-12.5' No recovery. Drilling w th center bit through rubble zone (to l concrete rubble, etc.)			
5								
10								
15	Runs 2 & 3 5ft/5ft	19-12511-94-0002 thru -0012 FC	0 DVM 5350 BT	Box 1 of 4 12.5-17.5 Ft	12.5-15 moist to saturated gra s ft sand dk brown (7.5YR 4/4) mod*, 20% clay nodules, trace small gravel clasts			In zone at 1500hr Drilling at 1510hr
	Runs 4 & 5 5ft/5ft		0 DVM 5350 BT		15-16 5 SAA 16-17.5 5 as above & sand, upto 15% clay, brown 5YR 5/6 moist			
20	Runs 6 & 7 5ft/5ft	19-12511-94-0013 thru -0020 KAC	0 DVM 5350 BT	Box 2 of 4 17.5-22.5 Ft	17.5-22.5 5 as above, sand, 5% clay nodules, dk brown 5YR 4/4 moist trace small gravel clasts			
	Run 8 1.5ft/1.5ft		0 DVM 5350 BT		22.5 SAA 22.5-23 5 Coarse			
25	Run 9 1.5ft/1.5ft	19-12511-94-0021 thru -0027 KAC BA	0 DVM 5350 BT	Box 3 of 4 22.5-27.5 Ft	23-24' Fines & zone + some Pumice sand 24-25 Coarse			End of day 1610hr 19Sept94 In zone 0715 Drilling 0730
	Run 10 2.5ft/2.5ft		0 DVM 5350 BT		25-26.5 med to fine sand (5YR 4/4) trace silt, moist 26.5-27 Silt/clay zone, brown (5YR 5/6) moist			
	Run 11 2.5ft/2.5ft	19-12511-94-0028 thru -0030 FC	0 DVM 5350 BT	Box 4 of 4 27.5-30 Ft	27-27.5 Coarse 27.5-29.5 fine gra n sand, trace silt, moist 29.5-30 some loss			
30								

Alluvium

Prepared by Jeff Whitehead Date 19Sept94 Checked By Mark Turk Date 9.27.94

fine to coarse gra - Sand

Clay/Silt

Pmce Pumice

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 13-1631-E TA/OU 13/1002 Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 4-7 Start Date/Time 15Sept94/1500 End Date/Time 19Sept94/0930

Drilling Equip./Method Failing F10/Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon w/ Brass Liners

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number AA#	Field Screening Results OVM/PID/FICAM	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	R-6 2.5/2.5		0 OVM ≤350 BT	Bot 32.5 ft	30-32.5 SAA			Stopped at 0930 hrs
	R-7 2.5/2.5	AA89423 32.5-33.5 RAD	0 OVM ≤350 BT	Top 32.5 ft	32.5-33.0 Gravel zone. Fine rice gravel to coarse sand matrix supported, sand matrix is moderate brown 5YR 4/4 medium sand, fine clay, moist, brown 5YR 4/4			
					33.5-34.5 Core loss			
35	R-10 2.5/2.5	AA89424 35.3-36 Full	0 OVM ≤350 BT	Bot 35.3 ft	34.5-35 SAA			
				Top 35.3 ft	35-35.3 SAA			
					35.3-36 Rice w/sand from horizon, weathered pumice and lithic sand from 5YR 5/3 moist, clay matrix supported, friable, soft to (10YR 6/3), moist.			
	R-11 2.5/2.5	AA89425 38.5-40 RAD	0 OVM ≤350 BT		36-38 Rice lapilli weathered yellowish brown 10YR 5/4 moist, clay matrix supported, friable, soft to (10YR 6/3), moist.			
					38-50 Rice crystals large white to light pink, friable, soft to (10YR 6/3), moist.			
40	R-12 2.5/2.5		0 OVM ≤350 BT	Bot 40.5 ft	Rice lapilli cont'ns, weathered, weathered.			
				Top 40.5 ft	40-42.5 Caliche			
	R-13 2.5/2.5	AA89426 42.5-43 RAD	0 OVM ≤350 BT	Bot 43.5 ft	SAA trace FeOx, consolidated, friable.			
45	R-14 2.5/2.5		0 OVM ≤350 BT	Top 43.5 ft	SAA			
	R-15 2.5/2.5	AA89427 49-50 Full	0 OVM ≤350 BT	Bot 45.5 ft	SAA slight increase in FeOx staining			End Dr. 1130 19Sept94
50				Top 45.5 ft	EOT D.			

Prepared by Jeffrey Peterson Date 19Sept94 Checked By Mark Funk Date 9/27/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1283-F TA/OU 10-16-5 Drill Depth From 0 To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-3 Start Date/Time 22 Sept 94 0745 End Date/Time 22 Sept 94 1155

Drilling Equip./Method 5" SS Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0					Used a Center bit			
2.5	Run 1 1.1	None	0 cpm		Moist, interbedded non-cohesive SILTY SAND and cohesive clay, varies to med. unconsolidated SAND. 13.2-15.0 - Caliche		ALLUVIUM	22 Sept 94, Drilling began at 0745 hours at depth of 13.5 feet
5	Run 2 2.5/5	AAA3295 Fluoride 12.2 mg/L	0 cpm 100 cpm Bz	12.5 - 20.0 Box 1 of 3	Dusky Brown 5 YR 2/2, heterogeneous SAND, consisting of 90% SAND and 10% SILT			
7.5	Run 3 2.5/5	None	0 cpm 100 cpm Bz		12.5-17.3 SAA 15.3-20.0 - Very dense, brown gravelly moist sandy CLAY, w/ many very light gray tuff fragments encountered to 20 feet			
10	Run 4 3.5/5	AAA3299 Fluoride 9.6 mg/L	0 cpm 100 cpm Bz	20.0 - 30.0 Box 2 of 3	20.0-21.3 - Very moist, Light Olive Brown 5Y 5/2 clay, unconsolidated and cohesive 21.3-22.5 - Very moist, consolidated, cohesive Tuff, common tuff fragments			Tool advancement at 0909 hours
12.5	Run 5 2.1/5	None	0 cpm 100 cpm Bz		SAA 2Y1 24.1-24.6 - Very wet Light Brown 5 YR 5/6 CLAY, some pumice and gravel sized clasts			Reamed zone at 1000 hours
15	Run 6 2.0/5	AAA3297 Fluoride 25.4 mg/L	0 cpm 100 cpm Bz	30.0 - 31.3 Box 3 of 3	Orange Pink to SILTY SAND, unconsolidated, very moist - fine to med grained 26.5-27.0 - Consolidated, moderately cohesive CLAY, Possible light orange ASH influence present			
17.5	Run 7 1.8/5	None	0 cpm 100 cpm Bz		Very fine grained, unconsolidated, homogeneous Dusky Orange 10YR 7/4 ASH.			
20								
22.5								
25								
27.5								
30								

Prepared by [signature] Date 22 Sept 94 Checked By [signature] Date 9/6/94

Full suite:
Gross alpha, beta, gamma spec, moisture, total uranium, strontium 89+90, volatiles, semi-volatiles, high explosives, TAL metals

Reduced:
Gross alpha, beta, gamma spec, moisture, total uranium, strontium 89+90, TAL metals

SILT
SAND
CLAY
ASH
TUFF
Rhyolite Rock and

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 4-6 Start Date/Time [illegible] End Date/Time 22 Sept 97 1155

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per inch / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 5 20 2.5	[illegible] Red	0 ppm 100 ppm Bl		DAA		DEWEY MEMBER of BANDELIER TUFF	
32.5	Run 6 2.1 2.5	No [illegible]	0 ppm 100 ppm Bl	30 32.5 Red Ash	DAA with 20-30 mm Shard Pumice			
35	Run 7 2.2 2.5	[illegible] Red	0 ppm 100 ppm Bl		DAA becomes more Resistant down to 37 feet with complete Samples 10YR 5/2 Ash and Pumice lithics ect			
37.5	Run 8 2 2.5	None	0 ppm 100 ppm Bl		Clay nodules present first 5 feet of run. 20-30 mm from 35 to beginning then slight to plane alignment into 2 cm fine grained Ash matrix			
40	Run 9	[illegible]	0 ppm 100 ppm Bl		DAA with Pumice fragments becoming more dominant at 40 to 45 then 2 cm. to 4 cm.			Pumice from run from 40 to 45 ft.
42.5	Run 9 5.0	[illegible]	0	42.5 47.5 Box 5 Ash				
45	Run 10 2.0 2.5	[illegible]	0 ppm 100 ppm Bl		DAA			
47.5	Run 11 2.1 2.5	[illegible]	0 ppm 100 ppm Bl	47.5 50 Rubble	DAA			Drilling ended at 1155 hours ceased at 50 feet

Prepared by [illegible] Date 22 Sept 97 Checked By [illegible] Date 9/22/97

Ash

Tuff

Rhyolite Debris and Pumice Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1223 TA/OU 10/1032 Drill Depth From 0 To 30 Page 1 of 2

Driller Stewart Bros Box #(s) 1-3 Start Date/Time 26 Sept 94/0930 End Date/Time 12 Sept 94/1500hr

Drilling Equip./Method Foley F-10/Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel 5' Liner

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number AA# s	Field Screening Results OVM, CAM, BY	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	No Recovery				0-13.5' No Recovery Dr. Heed thru rubble zone w the center bit			26 Sept 94 Completed cementing 10-1250, moved and set up over 10-1223. Began to dr. Heed w center bit to pass thru the rubble (concrete, rebar, etc.) zone. Dr. Heed to ~10.5' hole is angled under 3' Tone clowning and moved casin 2 inches w Hream hole on Monday
5								12 Sept 94 Reaming hole at 0700hr, 1st sample run at 0800hr
10								
15	Run1 0/5			Box 1 of 6 12.5-20'	12.5-15.0 No Recovery		Core loss	
	Run2 1.5/5	AA#s 15-16.5' AA#s 16.5-17.5' RAO	@ OVM 1200+ 16.5'		15-16' Sand dk b sm med grain, 5YR 3/4, mo st 5-10% gravel 16-16.5' S lt/sandy SS low Pl 12-22%, clay mo st, 5% gravel		Core loss	
	Run3 2.5/5	15-16 AA#s 17.5-17.8 RAO	@ OVM 800-810 & Y		16.5-17.5 Core loss			
20					17.5-20 Sand, dk brown med to coarse grained 5-10% clay, increasing w depth, no gravel, mo st			0950hr Zone 0940hr In zone 0940hr clouds ppt
	Run4 2.5/5	Not Sampled	@ OVM 5250 A Y	Box 2 of 6 20-25'	20-22.0' SAA, slight color change 10YR 5/4		Alluvium	
					22-22.5' Core loss			
	Run5 1.5/5	AA#s 6418 225-227.2 RAO	@ OVM 5250 A Y		22.5-24.2 SAA			
25					24.2-25.0' Core loss			
	Run6 2.5/5	Not Sampled	@ OVM 5250 A Y	Box 3 of 6 25-30'	25-25.2' SAA 25.2-26.4' S, Mg sand w 10-50% small gravel clasts Similar, mo st 26.4-27.5 f-coarse sand, Lt to dk YR Y/4, trace clay, mo st			
	Run7 1.5/5	AA#s 28-29.3 RAO	@ OVM 5250 A Y		27.5-28' SAA 28-28.5' med grain sand, mg st 28.5-29' f-m grained Mg sand, 5 Y, clay 5YR 5/6 29-30' Core loss		Core loss	Lunch 1130 hr

Prepared by [signature] Date 12 Sept 94 Checked By Derek Foulke Date 9-27-94

f-m to coarse grain Sand

clay

Pumice

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Pebology - Soil	Graphic Log	Lithologic Unit	Notes
30								
35								
42								
45								
52								

Prepared by _____ Date _____ Checked By _____ Date _____

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30 Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0					0-15' [illegible]			
10								
15	Run 1 5ft/5ft	AAB6617 FCH, HE	0 ppm SVOA BY		15-17.5' med to coarse grained sand, moist, dk brown SYR 3/4, unconsolidated, clasts			Drilling - 1010
	Run 2 5ft/5ft		0 ppm SVOA BY		Work 15-16 SAA 16.5-17.5 Fragments of sand moist brown consistent SYR 5/6 trace small gravel			
20	Run 3 5ft/5ft	AAB6616 FCH RDX	0 ppm SVOA BY		17.5-20 SAA SYR 5/6 trace small gravel, SYR clay matrix			
	Run 4 5ft/5ft		0 ppm SVOA BY		20-22 SAA 22-22.5' Cobbles		Alluvium	
25	Run 5 5ft/5ft	AAB6617 22-25 HE FCH AAB6618 22-25 RDX	0 ppm SVOA BY		22.5-23.5 SAA large granite clasts matrix supported 23.5-25 fine to med grained SAND w/ some pebbly, moist large gravel clasts matrix, SYR 4/4			
	Run 6 5ft/5ft		0 ppm SVOA BY		25-26.5 SAA 26.5-27 POOR black well weathered to unconsolidated 27-27.5 Fragments of sand, trace gravel, moist			
30	Run 7 5ft/5ft	AAB6619 AAB6620 AAB6621 Contamination	0 ppm SVOA BY		27.5- SAA w/ some med grained sand, slight increase in clay w depth			Drilling - 1100

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

Sand to coarse grained Sand

clay

Pumice

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 14Sept94/1630

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Spoon (no Barrel Liner)

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run F 5'/5'		0 ppm Bkgd PT	Bottom of Box 1 = 31.5'	30-31.5 SAA		Alluvium	In at 1330 hr out at 1333 hr Darts thunder Back at 1500
	Run G 1.7'/2.5'	AA96403 31.5-32.2 RAC	0 ppm Bkgd PT	Bottom of Box 2 = 33.5'	31.5-32 Medium to coarse sand, trace gravel, trace clasts 32-33 Core loss			
35	Run H 0'/2.5'		0 ppm Bkgd PT	Bottom of Box 3 = 35.5'	33-37.5 SAA (very clasts (cobbles) @ 36.5')			
	Run I 0'/2.5'	AA96403 37.5-38.3 Full Hm	0 ppm Bkgd PT		37.5-38.3 Rim of tube difficult to clamp. Hammering on rim of IDTB 8/2 until successful 38.3-40 Core loss		Fanglomerate	
40	Run J 2.5'/2.5'		0 ppm Bkgd PT	Bottom of Box 4 = 40.5'	40-42.5 Rim of tube difficult to clamp. Hammering on rim of IDTB 8/2 until successful. Core recovery 2.5'			
	Run K 2.5'/2.5'	AA96404 44.7-45' RAC	0 ppm Bkgd PT		42.5-45 SAA, showing increase in Fe-oxide staining			
45	Run M 2.5'/2.5'	3m 2.5'	0 ppm Bkgd PT	Bottom of Box 5 = 45.5'	45-47.5 SAA		Rincon Mbr	
	Run N 2.5'/2.5'	~~Drilling Cuttings~~ CANCELLED Full 47.5-50 Full Hm	0 ppm Bkgd PT		47.5-50 SAA			Completed 1620
50					TD 50'			

Prepared by [illegible] Date 14Sept94 Checked By Mark Faulk Date 9-27-94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID C-1-385 (2 303) TA/OU D-1079 Drill Depth From 5 To 30 Page 1 of 2

Driller Arizona Drillers Box #(s) 1-3 Start Date/Time 23 Sept 94 0730 End Date/Time 23 Sept 94 1150

Drilling Equip./Method 7-1/2 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0					Core uncontained until Center bit			
12.5	Run 1 2.5/2.5	None	0 ppm (Background) BZ		Dry moist, unconsolidated SILTY SAND and Stained small consolidated clay sands forming coarse angular grained SAND. Loose Particles Munsell 5YR 6/4			23 Sept 94 Begin drilling @ 0730 hrs D Rig System, windsock, temp 28°
5	Run 2 3.5/3.5	AA89252 Full Suites	0 ppm (Background) BZ	12.5 - 17.5 Box 1 of 2	dAA, Coarse unconsolidated SAND			
12.5	Run 3 2.5/3.5	None	0 ppm (Background) BZ		dAA.			
20	Run 4 2.5/2.5	AA89258 Full AA89259 Dup	0 ppm (Background) BZ	17.5 - 24.5 Box 2 of 2	dAA becoming very coarse grained, angular SAND Dry moist Moderate Brown 5YR 3/4 95cm Pint Tool Refusal @ 22 feet Duncompahgre			
22.5	Run 5 2.5/2.5	None	0 ppm (Background) BZ		22.5-24.5' dAA with large Rhyolite fragments 24.5-25.0 Very Cohesive CLAY with numerous small Pumice fragments imbedded. Dry melez			
25	Run 6 2.5/2.5	AA89260 Full 24.5-25.5	0 ppm (Background) BZ	24.5 - 30.0 Box 3 of 3	Moderately Consolidated, Cohesive, Heterogenous CLAY with Some Pumice (Inclusions) throughout			
27.5	Run 7 2.5/2.5	None	0 ppm (Background) BZ		27.5-28.0 - dAA 28.0-30.0 Containing no fine downwards into a fine Reduction Sample ASH. Homogenous uncon- solidated with few to no lithics			Took a break at 0920
30								

ALLUVIUM

Prepared by _____ Date 23 Sept 94 Checked By _____ Date 9/26/94

-Full suites-
Assay alpha, beta, gamma spec. moisture, total uranium, strontium-90, semi-volatiles, volatiles TAL metals.

-Reduced-
Assay alpha, beta, gamma spec.

Sand
Silt
CLAY
ASH
Tuff
Rhyolite, Andesite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1335 TA/OU 10-10.39 Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 4-7 Start Date/Time 23 Sept 97 0730 End Date/Time 23 Sept 97 1130

Drilling Equip./Method 5-1/2 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run5 2.5/2.5	9489241 and 9489242 and 9489243	0 ppm 100 cpm Bz	30 - 32.5 Qbt 4	320 - 320 - ditto			Removed and began drilling at 1030 hours
32.5	Run9 1.9/2.5		0 ppm 100 cpm Bz		320 - 325 - Abundant dacite and rhyolite fragments from 1-3 cm in size present at 320 feet. From 320 - 325 very consolidated, angular mod. dense material. ditto			
35	Run10 3.2/2.5	9489244 Field 322 326	0 ppm 100 cpm Bz		325 - 325 ditto			
37.5	Run11 2.5/2.5		0 ppm 100 cpm Bz	35.0 - 43.1 Qbt 4	325 - 330 - Dry fine grained homogeneous Ash. Mildly cohesive, unconsolidated with 1-2 mm quartz crystals present			
40	Run12 2.5/2.5	9489245 Field 412 421	0 ppm 100 cpm Bz		Dry fine to medium grained SAND with light colored ash. Abundant large rhyolite, clastic and pumice fragments present throughout. All have quartz crystals present			
42.5	Run13 2.5/2.5		0 ppm 100 cpm Bz		330 - 335 ditto			
45	Run14 2.5/2.5	9489246 Field 446 456	0 ppm 100 cpm Bz	43.1 - 47.5 Qbt 3	335 - 340 - Dry fine grained homogeneous Ash. Mildly cohesive, unconsolidated with 1-2 mm quartz crystals present			
47.5	Run15 0.5/2.5	9489247 Field 495 503	0 ppm 100 cpm Bz	47.5 - 50 Qbt 3	340 - 345 ditto			
50					345 - 350 ditto			Drilling ended at 1150 hours at a depth of 50 feet.

Prepared by [signature] Date 23 Sept 97 Checked By [signature] Date 9/24/97

Ash

Rhyolite, Andesite, Dacite and Pumice fragments

Tuff

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 19-1226 TA/OU 19/1226 Drill Depth From 0 To 30 Page 1 of 2

Driller Stewart Brothers Box #(s) 1-6 Start Date/Time 21Jul94 0745 End Date/Time 21Jul94 1030

Drilling Equip /Method Rotary Percussion/hollow stem auger Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.5/5 Core 1	none	0 ppm 340 BZ		0-0.2 gravel, root mats 0.2-2.5 organic rich, sandy, heterogeneous, slight brown/grey, some medium gravel, moist clay, root channels Alluvium		ALLUVIUM	entered EZ 22 Jul 94 at 0740 Background for Cr = 0.2 All Cr not known to exist at all
2.5	2.5/5 Core 2	AMS 3654 AMS 3655 Full list	0 ppm Soil moist		2.5-5 SAA slightly gravelly 5-5.5 silty sand with some interbedded clay 5.5-7 interbedded sand and clay			
5	1.6/2.5 Core 3	none	0 ppm Soil RT		moist, unconsolidated, clayey silty sand, interbedded coarse sand, some gravel, some cobbles			
7.5	2.5/2.5 Core 4	AMS 3656 AMS 3657 RPF	0 ppm 220 BZ moist		SAA			
10	2.5/2.5 Core 5	none	0 ppm 220 BZ moist		SAA			
12.5	2.5/2.5 Core 6	AMS 3658 RPF	0 ppm 220 BZ moist		SAA			Bentonite 0750
15	2.5/2.5 Core 7	none	0 ppm 220 BZ moist		Clayey silt, tan, moist, interspersed with sand and clay lenses			
17.5	2.5/2.5 Core 8	AMS 3659 RPF 111-10	0 ppm 220 BZ moist		Clayey SILT, tan, moist, interspersed with sand and clay lenses SAA, sand and silt lenses, fine grained, moist			
20	2.5/2.5 Core 9	none	0 ppm 220 BZ moist		SAA, sand and silt lenses, fine grained, moist, interbedded with clay lenses, moist, fine grained, poorly sorted, unconsolidated, moderately well sorted			
22.5	2.5/2.5 Core 10	AMS 3660 Rad 24 24 4 AMS 3652	0 ppm 220 BZ moist		Sand, fine grained, clayey silt, interbedded with silty, some zones of fine grained clay @ 26 ft, first saturated light			AMS 3655 - red rad scrn Interbedded Soils @ first encounter water, Sand - needed to get through and remove cobbles but got through complete core run water EZ @ 30 94 0730
25	0/2.5 Core 11				SAA, pockets of fine grained sand, white phenocrysts (2 mm) Core loss			
27.5	2.5/2.5 Core 12	AMS 3654 RPF 221-224 AMS 3655	0 ppm 220 BZ moist		27.5-27.7 light grey, well sorted, clayey, silt, some sand 27.7 fine grained, moderately consolidated, interbedded sand and clay			
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

Full Suite
gross GPC metal
TAL metals
SVOA
Tot U, Sr-90
HE

Rad Suite
gross GPC metal
GPC metals
SVOA Screen

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller Stewart Brothers Box #(s) 7-10 Start Date/Time 20Jul94 0746 End Date/Time 21Jul94 1030

Drilling Equip./Method Fading Front/hollow stem auger Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	2.5/2.5 Run 4	none	0 ppm 240 BZ no α	Box 7 of 10 [illegible]	SAA		Soil-tuff interface	
32.5	2.5/2.5 Run 15	AAB 3056 [illegible] AAB 3057 Full [illegible]	0 ppm 240 BZ no α		[illegible] SAA [illegible] pumice fragment [illegible] glass shards, [illegible]		Lower Bandelier Tuff	AAB 3057 Full [illegible] (random) from bottom of soil tuff interface
35	2.5/2.5 Run 16	none	0 ppm 200 BZ no α	Box 8 of 10 35-40	SAA			
37.5	2.5/2.5 Run 17	AAB 3058 RAD 393-397	0 ppm 240 BZ no α		SAA			
40	2.5/2.5 Run 18	none	0 ppm 220 BZ no α	Box 9 of 10 40-45	SAA			
42.5	2.5/2.5 Run 19	AAB 3059 RAD [illegible] AAB 3059 Full [illegible]	0 ppm 300 BZ no α		SAA			AAB 3059 Full high rad (300 BZ)
45	2.5/2.5 Run 20	none	0 ppm 260 BZ no α	Box 10 of 10 45-50	SAA			
47.5	2.5/2.5 Run 21	AAB 3060 Full 491-498	0 ppm 260 BZ no α		SAA			
50					Bottom of borehole 1020			

Prepared by Laurel L Shesh Date 21 Jul 94 Checked By [illegible] Date [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 17-1233 TA/OU 17-1-30 Drill Depth From 0 To 350 Page 1 of 2

Driller Lawrence Baca Box #(s) 1-5 Start Date/Time 2 Aug 94 1030 End Date/Time 3 Aug 94 1130

Drilling Equip./Method Rotary Sonic Auger Sampling Equip./Method Stainless steel split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5	None	0 Dam 3 cpm/pt		Soft, yellowish red (10YR 4/2), homogeneous alluvial Silty Clay. Angular to Subangular coarse sand grains. Small pebbles present			2 Aug 94 Begin drilling at 1030
2.5	Run 2 2.5/2.5	Full Suite HE AABoard3 (3-13)	0 Dam 2 cpm/pt		SAA Small grains increase in decimeter sized aggregates as clasts in clay matrix			
5	Run 3 2.5/2.5	None	0 Dam 2 cpm/pt		SAA w/ an decrease in % of silt. Becoming a Sandy Clay Poorly Sorted		Alluvium	
7.5	Run 4 2.4/2.5	AABoard3 Replicate (9-11)	0 Dam 2 cpm/pt		SAA Increase Clayey Sand			
10	Run 5 2.5/6.5	None	0 Dam 2 cpm/pt		SAA, decrease in Clay content to a Sand 1-3 mm coarse sand fragments Possible lithic fragments present			
12.5	Run 6 2.5/2.5	AABoard3 Replicate (14-16)	0 Dam 2 cpm/pt		SAA @ 13.5' 13-15- Begin to encounter Pale buff shards Some pumice clasts above			
15	Run 7 2.0/2.5	None	0 Dam 2 cpm/pt		SAA @ 17' 17' Soil Tuff interface		✓	
17.5	Run 8 2.5/2.5	AABoard3 Replicate (19.5-22)	0 Dam 2 cpm/pt		Non-welded, Yellowish Gray (5Y 8/1) Tuff Hard, Cemented, Possible minor alteration & oxidation		↑ Tuff	21' Tuff-sediment Contact
20	Run 9 2.5/2.5	Duplicate/MS/MSD	0 Dam Tuff 2 cpm/pt		SAA - 21.5 21.5-22.5 Fine grained well sorted Sandy Clay		Alluvium	A time was taken at 1245 hours. Drilling resumed at 1345 hours
	SD	AAB Board3 Replicate (24.1-26)	Clay - 2 cpm/pt		22.5-25.0 Very cohesive, Consolidated moderate reddish brown (10R 4/6) Clay. Minor amounts of sand, silt, and lithics			
25	Run 10 2.5/2.5	None	0 Dam 2 cpm/pt		25.0-27.0 Unrecovered 27.0-28.5 - Sandy Clay with fragments of dacite, pumice, and feldspars		Tuff	
	SD	AABoard3 Full (Duplicate) (27.1-29)			28.5-30.0 - Interbedded clay with pumice fragments. Larger fragments than above			

Prepared by D. Douglas Date 08-08-94 Checked By Herb Faulk Date 8/8/94

SILT
SAND
Clay
pumice
pumice fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
32.5	Run #11 2.5/5	None	@ 0 cm background 82	32.5	Sandy alluvial, interbedded, poorly sorted, medium reddish brown (10 R 4/6) from 30.5 to 31.5 ft from 31.5 - 32.5 interbedded clay and pumice fragments, locally altered, angular, dacite		QTO cf	Box 6 contains last 5 ft run #10.
35	Run #12 2.5/5	AAA 6129 Red 32.5-33.0	@ 0 cm background P2	35	Very pale orange (10 yR 8/2) matrix contains from 0 to 5% pumice with increase in size and core supported downward			
37.5	Run #13 5.0/5.0	AAA 6130 Red 36.6-37.1	@ 0 cm background B1	37.5	SAA with an increase in pumice fragment size to 4-6 mm Particle distribution (orange fragments)			
40	Run #14 5.0/5.0	AAA 6131 Red 40.0-40.5 AAA 6132 Pumice 40.5-41.0	@ 0 cm background B3 35 cm	40	40.0 - 40.5 unconsolidated, poorly sorted, heterogeneous Sandy matrix pumicites, Cemented dacite, Pumice, coarse feldspars		Puye Fm.	
42.5				42.5	40.5 - 45.0 SAA (32.5 35.0)			
45	Run #15 5.0/5.0	AAA 6133 Red 44.5-45.0 AAA 6134 Pumice 44.5-45.0	@ 0 cm background B3	45	45.0 - 45.9 unconsolidated pumice and poorly sorted clay matrix			2-1-94 Drilling ended at 10:20 hrs.
47.5				47.5	45.9 50.0 SAA (32.5 35.0)			
50				50				

Prepared by [illegible] Date 09-08-94 Checked By Kirsti Fault Date 8/8/194

SILT
SAND
CLAY
PUMICE
PUMICE FRAGMENTS

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1226 TA/OU 10/[illegible] Drill Depth From 0 To 30 Page 1 of 2

Driller Stewart Services Box #(s) 1-6 Start Date/Time 26-JUL-94 0706 End Date/Time 27-JUL-94 1000

Drilling Equip./Method Rotary Fluid/Hollow Stem Auger Sampling Equip./Method Stainless steel split spoon

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.5/2.5 Run 1	none	0 ppm 250 BZ	Box 1 of 10 0 to 5 ft	0-0.3 moderate yellowish brown silty, heterogeneous organic rich soil, some roots, rootlets 0.3-2.5 pale brown fine sand some silt trace clay 2.5 moderate brown medium fine sand		ALLUVIUM	Collection 26 Jul 94 0706
2.5	2.4/2.5 Run 2	AAB3062 Grab 35-42	0 ppm 220 BZ		SAA increasing in quartz very dense towards coarse sand, some granite silicic tuff trace rocks			
5	0.5/2.5 Run 3	none	0 ppm 220 BZ		moderate brown, very soft, heterogeneous, Coarse sand and gravel, some cobbles of dacite, trace silt			
7.5	2.3/2.5 Run 4	AAB3063 Grab 9 95-10	0 ppm 240 BZ	Box 2 of 10 5 to 10 ft	SAA			
10	2.4/2.5 Run 5	none	0 ppm 250 BZ		10-11 ft SAA increased amount of silt to coarse sand & gravel, some silt trace clay			
12.5	2.5/2.5 Run 6	AAB3064 Grab N 3-48	0 ppm 250 BZ		SAA, increasing amount of pumice fragments throughout			Break @ 0926 Recovered EZ 10 10
15	2.3/2.5 Run 7	none	0 ppm 240 BZ	Box 3 of 10 10 to 15 ft	pale brown very soft, heterogeneous, silt and fine grained sand, little pebbles of dacite, increasing amount of pumice towards bottom pebble sand			
17.5	2.5/2.5 Run 8	AAB3065 Grab 16 18-1	0 ppm 270 BZ		17.5-18.1 SAA pebble sized pumice and silt 18.1 pale brown silty sand some clay			
20	2.3/2.5 Run 9	AAB3066 Grab 2.4-2.9	0 ppm 290 BZ	Box 4 of 10 15 to 20 ft	light light brown stiff heterogeneous clay and silt, some pebble sized pumice fragments			
22.5	2.3/2.5 Run 10	AAB3067 Grab 24.7-25.2	0 ppm 280 BZ	Box 5 of 10 20 to 25 ft	SAA except pumice fragments			
25	2.0/2.5 Run 11	none	0 ppm 290 BZ		SAA except from 25.5 to 26.5 dusky brown a boulder of gray welded tuff			
27.5	0/10 Core 12	NA	NA	Box 6 of 10 25 to 30 ft	no recovery had to drive through rock or clasts out			hit rock
30	1.5/1.5 Run 13	AAB3068 Grab 28.5-28.8	0 ppm 280 BZ 290 BZ		non-welded ignimbrite in a clay matrix light brown, pebble sized pumice fragments, SLIGHT INTERFERENCE			1200: break for lunch

Prepared by L Shady Date 7/27/94 Checked By [signature] Date 7/27/94

Silt
Sand
Gravel
non-welded ignimbrite

RAD Suite
gross α β moisture
XRF metals
SVOA screen

Full Suite
gross α β moisture
TAL metals
SVOA
Tot U Sr-90
High Explosives

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU 10/1579 Drill Depth From 31 To 50 Page 2 of 2

Driller Stevens Brothers Box #(s) 6 - 10 Start Date/Time 7/26/94 0700 End Date/Time 7/27/94 1000

Drilling Equip./Method Rotary Reset / Hollow Stem Auger Sampling Equip./Method stainless steel split spoon

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
325	25/25	AAB 3069 Soil 321-325	0 ppm 290 Abs 3246 321-325	Bot 6 of 10 321-325 ft	SAA			Logged E.Z. 7/29/94 0720 AAB 3069 Soil suite for high rad 320 pp
325	25/25	AAB 3070 Soil 321-324	0 ppm 190 pp		SAA			
330	22/25	None	0 ppm 220 pp	Bot 7 of 10 325.5 - 327.5 ft	325 325 SAA nonvesicular to vesicular, 70% pumice sized, angular pebble sized pumice inclusions disturbed ~ 30%, 10% ground mass (fine clay, pebble sized) (clastic fragments)			
335	24/25	AAB 3070 Soil 327-330	0 ppm 290 pp		SAA increase in pumice to 95% (no clay) pumice may be taken 5% groundmass (clastic fragments)			
340	20/25	None	0 ppm 210 pp	Bot 8 of 10 330.5 to 332.5 ft	SAA			
345	25/25	AAB 3071 Soil 343-345	0 ppm 200 pp	Bot 9 of 10 332.5-335 ft	SAA			
345	22/25	None	0 ppm 240 pp		SAA			
350	25/25	AAB 3072 Soil 348-349	0 ppm 230 pp	Bot 10 of 10 335-337.5 ft	SAA bottom of borehole 1000			AAB 3073 Soil Suite Random 214 - 218 from clay - soil interface

Prepared by L Shostak Date 7/27/94 Checked By [illegible] Date 8/1/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] Area [illegible] Drill Depth From [illegible] to 25' Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 5-1-94/1330 End Date/Time 5-1-94/1530

Driller Equip/Method [illegible] Sampling Equip/Method 5' STAINLESS STEEL SPLIT BARREL SAMPLER - DS

Depth (feet)	Recovery (feet per run)	Field Analytical Sample Number	Field Screening Results	Top/bottom of Core in Box	Lithology Petrology Soil	Graphic Log	Lithologic Unit	Notes
5	2.5/2.5	NO SAMPLE	3M=0 B/G=250		RUN #1, 2.5-5' VERY LOOSE UNCONSOLIDATED DK. BROWN SANDY SILT (SM) TRACE ORGANICS, DAMP			4" PIECE OF WIRE AND A WOODEN STICK ENCLOSED IN SAMPLE
	10/1							FULL SAMPLE SLEEVE, SAMPLE FROM 3.5'-5'
	2.5/2.5	AAB 3095	3M=0 B/G=200		RUN #2, 2.5-5' VERY LOOSE DARK BROWN (CLAYEY) SAND (SM) SOME CLAY, DAMP			
	10/1							
	2.5/2.5	NO SAMPLE	3M=0 B/G=90		RUN #3, 5-7.5' VERY LOOSE BROWN COARSE SAND (SM) SOME SILT & FINE GRAVEL FRESH ANGULAR QUARTZ, DAMP			SAMPLE FOR RAD SUITE ONLY SAMPLE FROM 9.4'-9.7'
	10/1							
	2.5/2.5	AAB 3096	3M=0 B/G=90		RUN #4, 7.5-10' SNA			
	10/1							
10	2.5/2.5	NO SAMPLE	3M=0 B/G=90		RUN #5, 10-12.5' VERY LOOSE BROWN COARSE SAND (SM) SOME ANGULAR GRAVEL CLASTS PREDOMINATELY QUARTZ TRACE SILT DAMP			SAMPLE FOR RAD SUITE ONLY SAMPLE FROM 14.4'-14.6'
	10/1							
	2.5/2.5	AAB 3098	3M=0 B/G=90		RUN #6, 12.5-15' SNA			
	10/1							
15	2.5/2.5	NO SAMPLE	3M=0 B/G=220		RUN #7, 15-17.5' VERY LOOSE UNCONSOLIDATED BROWN COARSE SAND (SM) SOME ANGULAR GRAVEL & CLAY PRESENT, CLASTS PREDOMINATELY QUARTZ TRACE SILT, MOIST			SAMPLE FOR RAD SUITE ONLY SAMPLE FROM 16.3' TO 16.5'
	10/1							
	2.5/2.5	AAB 3099	3M=0 B/G=90		RUN #8, 17.5-20' SOFT CLAYEY SILT (ML) AND BROWN INTERBEDDED CLAYEY SAND (SC) FINE TO COARSE SAND, FRESH CLASTS TO SAND IN 18.9' ANGULAR GRAVEL MOIST			
	10/1							
20	2.5/2.5	NO SAMPLE	3M=0 B/G=90		RUN #9, 20-22.5' FIRM, COHESIVE BROWN, INTERBEDDED CLAYEY SILT (MH) FINE GRAVEL CHANGE FROM COARSE SAND TO SILT AT 22.8' TRACE GRAVEL, DAMP			
	10/1							
22.5	2.5/2.5	AAB3091	3M=0 B/G=220	RUN #1 0-2.5' 20-22.5'	RUN #10, 22.5'-25' NON WELDED, PUMICE RICH ~ 70% UNALTERED ASHFLOW TUFF, FULLY INTERBEDDED PUMICE 1-4 CM, 2 CM D. THE SUNFLOWER PUMICE, AVERAGE WHITE TO LT GRAY IN COLOR, SLIGHT SUGARY TEXTURE MATRIX IS A RED BROWN, FINE TO V FINE GRAIN ASH < 1% LITHICS PRESENT ~ 5% QUARTZ SANIDINE WITH NO VISIBLE SMALLER, PHENOCRYSTS ARE FOLIATED TO SUBANGULAR ~ 1-3 MM < 5% FRACTURES FRACTURE SURFACES HORIZONTAL PREDOMINATELY FRACTURES SOME HORIZONTAL FRACTURES PRESENT ~ 2-4 CM APART, UNWEATHERED, DAMP		OTOWI MEMBER OF THE BANDELIER TUFF	SAMPLE AAB3091 FOR FULL RAD SUITE COLLECTED FROM 22.5' TO 22.8' AAB3092 IS A FIELD BLANK AAB0413 IS AN EQUIPMENT RINSATE BLANK. FIRST SIGN OF TUFF ENCOUNTERED AT 22.5 FT DRILLER THOUGHT HE HIT BEDROCK AT 24.6 FT.
	92/1	AAB3092						
		AAB3093						
		AAB0413						

Prepared by Dale Frank Date 5-1-94 Checked By Kevin Faulk Date 5/8/94

ALL D.A.S. READINGS ARE IN PPM ALL F/T READINGS ARE IN CPM

HOMOGENEOUS ALLUVIUM EXPOSURE

SANDY SILT

COARSE SAND & GRAVEL

CLAYEY COARSE SAND & GRAVEL

NON WELDED TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Page 2 of 2

Borehole ID [illegible] TA-01 [illegible] Drill Depth From 25' To 50' Page 2 of 2

Driller S. Bruce Box #(s) 1 Start Date/Time 5-9-94/0930 End Date/Time 5-10-94/1230

Drilling Equip/Method Rotary Air Sampling Equip/Method 5' Stainless Steel Split Spoon Sampler - 2.5

Depth (feet)	Recovery (feet per run)	Field Analysis/ Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology Soil	Graphic Log	Lithologic Unit	Notes
25					Run #10 on previous page			
	22/60	No Sample	DRY: 0 B/I: 220	Box 5 of 9 25.5' to 30'	Run #11, 24.6 - 29.6 SAA, Some large basalt gravels (from 1" diameter) and interbedded tuff cobbles in the 25' to 27'			Rad Sample Suite Sample From 28.0 to 28.2' ARBU419 is A Blank, ARBU418 Ens
	100%							
	22/60	ARBU418 Duplicate ARBU419	DRY: 0 B/I: 240		Run #12, 29.6 - 32' SAA Tuff, Non Consolidated, Some Interbedded Basalt Cobbles and Gravels			Rad Sample Suite Sample From 32.5' - 32.8'
	100%							
30	50/60	IAF 2419	DRY: 0 B/I: 220	Box 6 of 9 30' to 35'	Run #13, 32 - 37 SAA			
	100%							
35	50/60	ARBU413	DRY: 0 B/I: 230	Box 7 of 9 35' to 40'	Run #14, 37 - 42 Tuff Consisting of Gray Lithic and Pumice Interbedded with Basalt Gravels and Cobbles - 5% Lithics, Subangular to Subrounded, Poorly Sorted			Rad Sample Suite Sample From 39.5' to 39.8' ARBU421 is Rad Sample Suite, ARBU422 is A Duplicate
	100%	ARBU422						
40	50/60	IAF 2420	DRY: 0 B/I: 220	Box 8 of 9 40' to 45'	Run #15, 42 - 47 SAA			
	100%							Full Sample Suite Collected From 47.5' - 47.8'
45	50/60	IAF 2420	DRY: 0 B/I: 190	Box 9 of 9 45' to 50'	Run #16, 47 - 50 SAA			
	100%							
50					End of Boring 50 FT			

Bottom of Member of the Puye Fm

Prepared by Dave Frank Date 5-11-94 Checked By Derek Foulk Date 8/8/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To 30.0 Page 1 of 2

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time 4 Aug 94 0900

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	[illegible]	[illegible]	1.7 cm	[illegible]	Dusky Brown (5YR 2/2) SAND/SILT consisting [illegible]			Aug 3, 1994 began drilling at 1045
25	[illegible]	[illegible]	2 cm	[illegible]	SAA [illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.2 7.0 - SAA			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.0 7.5 - Medium to coarse grained angular [illegible] SAND [illegible]			
25	[illegible]	[illegible]	2 cm	[illegible]	7.5 9.0 Medium to coarse grained SAND [illegible]			[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	2 cm	[illegible]	Medium grained angular, moderately consolidated SAND/CLAY. 15-20 mm [illegible] 10.0 11.5 [illegible]			
12.5	[illegible]	[illegible]	[illegible]	[illegible]	12.6 - 12.9 - SAA			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.9 13.9 Dark fine grained consolidated [illegible] (10YR 3/4) SILT. 13.9 14.5 [illegible]			
[illegible]	[illegible]	[illegible]	2 cm	[illegible]	15.0 16.5 - SAA			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16.5 17.5 Homogeneous, [illegible] consolidated SAND/SILT with dark grey clay inclusions [illegible]			
[illegible]	[illegible]	[illegible]	2 cm	[illegible]	17.5 18.5 [illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	2 cm	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	2 cm	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	2 cm	[illegible]	22.5 24.0 - SAA with pumice fragments [illegible]			[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
25	[illegible]	[illegible]	2 cm	[illegible]	25.0 25.7 - SAA			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25.7 26.5 Medium coarse grained [illegible] SAND			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
30								

Prepared by _____ Date [illegible] Checked By Derek Faulk Date 16 Aug 94

SILT

SAND

CLAY

~~Tuff~~ Tuff [illegible]

Pumice, Rhyolite, Andesite and Obsidian Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] Steel Split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		FOTOWE MEMBER OF BANDALIER TUFF	Ended drilling at 1540
32.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			Aug 4 1994 Boom drilling at 0751
37.5	[illegible]	[illegible]	[illegible]	[illegible]				
40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
42.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
47.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			Ended drilling at [illegible] at [illegible] of 50 feet 04 Aug 94
50								

Prepared by [illegible] Date [illegible] Checked By Derek Faulk Date 16 Aug 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1031 TA/OU 1-16 Drill Depth From 0 To 32' Page 1 of 2

Driller [illegible] Box #(s) 1-16 Start Date/Time 9 Aug 94 0730 End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1	None	0 ppm		Dusty Brown (5YR 3/2) Sandy SILT, Medium grained Sand with Abundant Pumice fragments Approx 5% 2cm 20% sand 10% silt Moist, moderately consolidated			9 Aug 94 Started drilling @ 730
2.5	2.5/2.5		300+ ppm Pt					
5	Run 2	Analyses (Full)	0 ppm		Becoming Sandier with less pumice fragments 50% silt 40% sand 10% clay range organics long roots 15mm Dry moist			
7.5	4.5/5		25 ppm Pt		Contacting to Crumbly clay with 5-10mm Pebbles present SILTY SAND 75% Sand 20% silt 5% clay Moist unconsolidated			
10	Run 3	None	0 ppm					
12.5	2.5/2.5		300+ ppm Pt					100mm Rhyolite Cobble found at 5'
15	Run 4	Analyses (RAD)	5.0 ppm		15.0-15.5 SAA			- Abundant Roots and Small Rhyolite Pebbles 5-10mm
17.5	2.5/2.5		300+ ppm Pt		15.5-17.0 Moderate Brown (5YR 4/4) Unconsolidated heterogeneous mixture SAND			
20	Run 5	Analyses (Soil Rad)	Screening 30 ppm		17.0-18.0 SAA			- Contact Lithology 18.80cm 5YR 4/4
22.5	2.5/2.5		300+ ppm Pt		18.0-18.5 Moderate Brown SILTY CLAY Moist Unconsolidated Heterogeneous Contact			
25	Run 6	None	0 ppm		Reddish Brown, clay Coarse grained Alluvial SAND Angular unconsolidated heterogeneous Moderate Brown (No Roots)			
27.5	2.5/2.5		300+ ppm Pt					
30	Run 7	Analyses R90	0 ppm		25.5-27.0 SAA			- Roots Reappear
32.5	2.5/2.5	Analyses R93	300+ ppm Pt		27.0-27.5 Very fine Moderately Consolidated SILTY Clay			
35	Run 8	None	0 ppm		27.5-28.0 Fine to medium angular Sand (as above)			
37.5	2.5/2.5		300+ ppm Pt		28.0-30.0 Med-Coarse grained angular unconsolidated SILTY SAND Homogeneous and dry			
40	Run 9	Analyses Rad	0 ppm		30.0 Becomes to Dusty Brown (5YR 2/2)			
42.5	2.5/2.5		300+ ppm Pt		30.5-31.5 SAA			
45	Run 10	None	0 ppm		31.5-32.0 Moderately consolidated Fine Sand Silt Clay Mixture Dry			
47.5	2.5/2.5		300+ ppm Pt		32.0-33.5 Fine to medium Angular Sand (as above)			
50	Run 11	Analyses (Rad)	0 ppm		33.5-34.0 Moderately consolidated Fine Sand Silt Clay Mixture Dry			
52.5	2.5/2.5		300+ ppm Pt		34.0-35.0 Fine to medium Angular Sand (as above)			
55	Run 12	None	0 ppm		35.0-35.5 SILT SAA (Below Rad Unit 1)			
57.5	2.5/2.5		300+ ppm Pt		35.5-36.0 SAA with interbedded Clay bedding			
60					36.0-37.0 Interbedded Clay bedding Contacts Clay Characteristics Dark Brown CLAY			
					37.0-37.5 SILTY CLAY Increasing in Clastic Components Fair sorting Rhyolite pebbles with Small to medium phenocrysts Poorly sorted Pebbles ranging in size from 1/4 to 1 1/2 cm			- 37' Soil Tube impeded by Cobble Size Clasts

Prepared by [illegible] Date 9 Aug 94 Checked By [illegible] Date [illegible]

SILT

SAND

CLAY

TUFF

Pumice Fragments or Clasts

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run #13	AAB[illegible] (RAD)	0 ppm [illegible]		Tuffaceous clay. Very consolidated [illegible]	[illegible]	[illegible]	
32.5	50/50	AAB[illegible] 32.5 [illegible] 33.5 [illegible]			[illegible]			
35	Run #14	AAB[illegible] (Rad)	0 ppm [illegible]		Clay bases [illegible]	[illegible]	[illegible]	
37.5	50/50	[illegible]						
40	Run #15	AAB[illegible] (Rad)	0 ppm [illegible]		SAA [illegible]			
42.5	50/50	[illegible]						
45	Run #16	AAB[illegible] (Rad)	0 ppm [illegible]		SAA			1240 Ended Drilling at Depth of [illegible]
47.5	50/50	[illegible] 47.3						
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

SILT
SAND
CLAY
TUFF
Rhyolite, Pumice, and Obsidian [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 13-1232 TA/OU 13/22.75 Drill Depth From 0 To 30 Page 1 of 2

Driller Stratagraphic Box #(s) 1-6 Start Date/Time 25 Jul 94 0930 End Date/Time 26 Jul 94 1520

Drilling Equip /Method Rotary Flush / Water Sonic Auger Sampling Equip./Method Stainless steel split barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.5/2.5 Run 1	none	0 ppm 240 ft	Box 1 of 6 0 to 5.4	Silt, heterogeneous, moderate to high plasticity, organic rich, SILT, dark brown. Trace clasts and pumice pebbles. First one ft of core is moist, remaining core is damp. ALLUVIUM		ALLUVIUM	Sonic ER 26 Jul 94 0930
2	2.4/2.5 Run 2	AMS 377 11-12 ft Full	0 ppm 220 ft		SAA increase in grain size determined by SILT and CLAY mix			
4	2.0/2.5 Run 3	none	0 ppm 250 ft		SAA increase in grain size determined by SAND, some fine gravel, pumice fragments (possible depth) increase determined			
	2.5/2.5 Run 4	AMS 378 AMS 379 Full 4-5 ft Dup	0 ppm 190 ft	Box 2 of 6 5.4 to 11.4 ft	SAA			
6	2.5/2.5 Run 5	none	0 ppm 240 ft		SAA			
	2.5/2.5 Run 6	AMS 380 AMS 381 5-6 ft Full	0 ppm 190 ft	Box 3 of 6 11.4 to 17.5 ft	SAA			Break at 0940 resume ER 1000
8	3.1/5 Run 7	none	0 ppm 190 ft		Clayey SILT, heterogeneous, pale brown SILT, some sand, trace gravel			
	2.2/2.5 Run 8	AMS 382 7.5-8.5 ft Full	0 ppm 200 ft		SAA			
10	2.5/2.5 Run 9	none AMS 383 8.5-9.5 ft Full	0 ppm 220 ft	Box 4 of 6 17.5 to 23.5 ft	10.0 - 10.5 ft SILT, pale brown, slightly clay (abundant) 10.5 - 11.0 ft SILT, pale brown 11.0 - 11.9 ft SILT, pale brown, clayey silt (abundant) 11.9 - 12.3 ft SILT, pale brown SILT 12.3 - 13.5 ft SILT, pale brown, clayey silt 13.5 - 14 ft SILT, light gray, welded tuff (boulder)			Hit Rock!
	1.5/5 Run 10	AMS 384 9.5-10.5 ft Full	0 ppm 180 ft					
	0/1 Run 11	NA	NA	Box 5 of 6 23.5 to 29.5 ft	Complete core loss			
15	2.5/2.5 Run 12	none	0 ppm 240 ft		25 - 26.0 ft SILT, pale brown, soft, heterogeneous, trace sand, trace pumice fragments, slightly clay 26.0 - 27.0 ft SILT, pale brown, slightly clay, moderate heterogeneity, pumice fragments and cuttings of welded tuff (some core preserved)		SOIL-TUFF INTERFACE	
	2.5/2.5 Run 13	AMS 385 25.5-26.5 ft Full	0 ppm 160 ft	Box 6 of 6 29.5 to 30 ft	SAA to 28.5 ft, heterogeneous, some pumice fragments (somewhat angular pumice fragments (somewhat rounded (spheroidal)) in matrix of clay			Break for lunch 1149

Prepared by Laurel Shostak Date 29 Jul 94 Checked By [signature] Date 8/8/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1232 TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller Stewart Brothers Box #(s) 6-10 Start Date/Time 28 Jul 94 0710 End Date/Time 28 Jul 94 1520

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Pathology - Soil	Graphic Log	Lithologic Unit	Notes
30	2.3/2.5 Run 14	none	0 ppm [illegible]	[illegible]	SAA		Silt - Tuff Interface	Reenter EZ 1250
14								exit EZ - thunderstorm 1505
30.5	2.3/2.5 Run 15	AAB 3082 [illegible]	0 ppm 220 ppm	Box 1 of 10 [illegible]	30.5 2/3A SAA [illegible] 33.5 [illegible] nonwelded [illegible]		Lower Bandelier Tuff	Reenter EZ 1415
35	2.5/2.5 Run 16	none	0 ppm 250 ppm	Box 1 of 10 [illegible]	SAA 45% pebble sized pumice fragments 5% lithics (dacite pebbles) and ground mass			
37.5	2.5/2.5 Run 17	AAB 3083 [illegible] Rad	0 ppm 240 ppm	Box 1 of 10 [illegible]	SAA			
40	5.0/5.0 Run 18	AAB 3085 [illegible] Rad	0 ppm 240 ppm 360 cpm [illegible]	Box 1 of 10 [illegible]	SAA			AAB 3085 - high rad full suite from 41.8 42.3 360 cpm [illegible]
42.5		AAB 3086 [illegible] Rad	220 cpm	Box 1 of 10 [illegible]				
45	5.0/5.0 Run 19		0 ppm 220 ppm	Box 1 of 10 [illegible]	SAA			
47.5		AAB 3086 [illegible] Rad		Box 1 of 10 [illegible]	Bottom of Borehole 1520			
50								

Prepared by Laurel Shasta Date 29 Jul 94 Checked By [illegible] Date 8/8/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1233 TA/OU 10-1039 Drill Depth From 0 To 50 Page 1 of 2

Driller [illegible] Box #(s) 1-10 Start Date/Time 08 Aug 94 [illegible] End Date/Time 08 Aug 94 [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0.0	Run #1 2.4/2.5	None	0.1 DUM 150 cpm/BZ		[illegible]	1		[illegible]
2.5	Run #2 2.5/2.5	RADU447 (Full) 3-7-93	Ø DUM 150 cpm/BZ		[illegible]			
5.0	Run #3 2.1/2.5	None	Ø DUM [illegible] BZ		[illegible]	1		
7.5	Run #4 2.5/2.5	RADU448 (RAD) 9-1-93	Ø DUM 200 cpm/BZ		[illegible]			
10.0	Run #5 2.1/2.5	None	Ø DUM 200 cpm/BZ		SAA			
12.5	Run #6 2.5/2.5	RADU449 (Rad) 14-1-94	Ø DUM 150 cpm/BZ		[illegible]			[illegible]
15.0	Run #7 2.5/2.5	None	0.1 DUM 200 cpm/BZ		[illegible]			
17.5	Run #8 2.5/2.5	RADU450 (Rad) 15-2-94	Ø DUM 150 cpm/BZ		[illegible]			
20.0	Run #9 2.5/2.5	None	Ø DUM 250 cpm/BZ		[illegible]			[illegible]
22.5	Run #10 2.4/2.5	RADU451 (Rad) RADU452 (Full) [illegible]	Ø DUM 220 cpm/BZ		[illegible]			
25.0	Run #11 2.5/2.5	None	Ø DUM 270 cpm/BZ		[illegible]			
27.5	Run #12 2.3/2.5	RADU454 (Full) RADU455 (Rad) [illegible]	Ø DUM 270 cpm/BZ		[illegible]			28.5 Soil-Tuff [illegible]
30.0								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

SILT

SAND

CLAY

TUFF

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

SILT

SAND

CLAY

TUFF

Rhyolite, Andesite, Obsidian Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5	[illegible] (RAD) [illegible]	[illegible]		[illegible]			[illegible]
[illegible]	Run 2 2.5/2.5	[illegible]	[illegible]		[illegible]			
[illegible]	Run 3 2.5/2.5	None	[illegible]		SAA [illegible]			[illegible]
[illegible]	Run 4 2.5/2.5	[illegible]	[illegible]		[illegible] SILTY SAND [illegible]			[illegible]
[illegible]	Run 5 2.5/2.5	None	[illegible]		SAA [illegible]			
12.5	Run 6 2.5/2.5	[illegible] (RAD) [illegible]	[illegible]		[illegible] SILTY CLAY [illegible]			[illegible]
15	Run 7 2.5/2.5	None	[illegible]		[illegible]			
17.5	Run 8 2.5/2.5	[illegible] Rad [illegible]	[illegible]		[illegible] SILTY SAND [illegible]			
[illegible]	Run 9 2.5/2.5	[illegible]	[illegible]		[illegible] SAA [illegible]			[illegible]
22.5	Run 10 2.5/2.5	[illegible] (Full [illegible]) [illegible]	[illegible]		SAA - 95% Very consolidated Clay			
25	Run 11 2.5/2.5	None	[illegible]		SAA			
27.5	Run 12 2.5/2.5	[illegible] Rad [illegible]	[illegible]		Very consolidated tuff [illegible]			27.5 - Soil Tuff [illegible]
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

SILT

SAND

CLAY

TUFF

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 3 To 50' Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 10 Aug 94 1350

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30 / 32.5	Run [illegible] 5.0 / 5.0	[illegible]	[illegible]	[illegible]	SAA Lightening to Very Pale Orange (10YR 8/3) with the [illegible]			
35 / 37.5	Run [illegible] 5.0 / 5.0	[illegible]	[illegible]	[illegible]	SAA [illegible] Very Pale Orange [illegible]			
40 / 42.5	Run [illegible] 5.0 / 5.0	[illegible]	[illegible]	[illegible]	SAA - [illegible]			
45 / 47.5	Run [illegible] 5.0 / 5.0	[illegible]	[illegible]	[illegible]	[illegible]			Drilling ended at 1350 when depth of 50' was attained
50								

Prepared by [illegible] Date 10 Aug 94 Checked By [illegible] Date 5/20/94

SILT
SAND
CLAY
TUFF
Rhyolite, Pumice, and Obsidian Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5	None	40 cpm background Pb		Dusky Brown (5YR 2/2) heterogeneous loam [illegible]		ALLUVIUM	Began drilling 11 May 99 at 0945.
2.5	Run 2 1.5/2.5	4900455 (Rad) 4900456 (Rad)	32 cpm background Pb		SAA SAND/SILT, Moist			
5	Run 3 2.5/2.5	None	29 cpm background Pb		Commencing decrease of SILT/SAND. Mod. [illegible]			
7.5	Run 4 2.5/2.5	4900457 (Rad) 4900458 (Rad)	32 cpm background Pb		Commencing increase of SAND. [illegible]			
10	Run 5 2.5/2.5	None	30 cpm background Pb		Homogeneous SAND with minor clay [illegible]			
12.5	Run 6 2.5/2.5	4900459 (Rad) 4900460 (Rad)	0 cpm background Pb		Homogeneous with minor clay becoming CLAYEY SAND. Alternating CLAYEY SAND with [illegible]			- Sharp SAND-CLAY interface
15	Run 7 2.5/2.5	None	0 cpm background Pb		Becoming CLAYEY SAND with mod-coarse sand grains. Random heterogeneous fragments [illegible]			- Gradual decrease of clay & gravel content at this interval
17.5	Run 8 2.5/2.5	4900461 (Rad) 4900462 (Rad)	0 cpm background Pb		(17.5) Moderately consolidated CLAYEY SAND. Sand grains [illegible] CLAYEY SAND [illegible]			- Large Rhyolitic clast pumice fragment @ this interval
20	Run 9 2.5/2.5	None	0 cpm background Pb		[illegible]			Slowed drilling for lunch at 1125. Resumed 1319
22.5	Run 10 2.5/2.5	4900463 (Rad) 4900464 (Rad)	0 cpm background Pb		22.5-23.5: [illegible]			- 22' Tuff - Soil Zone
25	Run 11 2.5/2.5	None	0 cpm background Pb		Dry consolidated dusky brown Orange Pink 5YR 7/2 [illegible]			
27.5	Run 12 2.5/2.5	4900465 (Rad) 4900466 (Rad)	0 cpm background Pb		27.5-28.5 SAA [illegible]			

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1226 TA/OU 10-010 Drill Depth From 30' To 50 Page 2 of 2

Driller [illegible] Box #(s) 3 - 10 Start Date/Time 11 Aug 1998 0930 End Date/Time 12 Aug 1998 0730

Drilling Equip./Method Ford F-10 Italian Sonic Drill Sampling Equip./Method Shelby Steel Split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 10 5.0 / 5.0 80	AA60173 (Field Duplicate) AA60173 FD	0 ppm 200 cpm Pz	Top 30.0 Bottom 35.0	30'-31.5' - SANDY SILT - Alluvial Sediment moderately consolidated. 31.5'-35.0' - Pale yellowish Orange (10YR 8/6), moderately consolidated, light, 10% semi-permeable aggregate, containing dispersed pore space, slightly Smectitic, [illegible]		Alluvium	
35	Run 11 4.5 / 5.0 90	AA60174 AA60175 (Field Duplicate) AA60176 (Field Duplicate) AA60177 (Field Duplicate)	200 cpm Pz	Top 35.0 Bottom 40.0	35.0'-37.5' - [illegible] 37.5'-40.0' - SAA - trace amounts of [illegible]		Bandelier Tuff	Interbedding of Tsankawi Pumice Bed, Bandelier Ash, and Cerro Toledo Tephra Bucket # 07102
40	Run 12 4.8 / 5.0 96	AA60178 AA60179 (Field Duplicate) AA60180 AA60181 (Field Duplicate)	200 cpm Pz	Top 40.0 Bottom 45.0	SAA - trace amounts of clay - rust staining around lithics			Image Log sample AA60180 - 200 cpm
45	Run 13 4.8 / 5.0 96	AA60182 AA60183 (Field Duplicate) AA60184 AA60185 (Field Duplicate)	100 cpm Pz	Top 45.0 Bottom 50.0	SAA - increasing clay with depth, unconsolidated, trace increasing moisture			TD 49.35
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

[illegible]

[illegible] Sand

[illegible] Gravel

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								
2.5								
5								
7.5								
10								
12.5								
15								
17.5								
20								
22.5								
25								
27.5								
30								

moderate reddish brown (10R 4/6) to
moderate reddish orange (10R 6/6)

Prepared by _____ Date _____ Checked By _____ Date 1 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes

Prepared by _____ Date _____ Checked By _____ Date _____

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method Failing F-12 DOF 7/94 Sampling Equip./Method Stainless Steel Core Barrel DOF 7/94

Depth (feet)	Recovery (feet per foot / %)	Field Anaytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			

Prepared by _____ Date _____ Checked By Derek Faulk Date 1 July 94

[illegible]

[illegible]

Gravel

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
					[illegible]			
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
			[illegible]	[illegible]	[illegible]			
		[illegible]	[illegible]	[illegible]	[illegible]			
								[illegible]

Prepared by _____ Date _____ Checked By Dick Franck Date 1 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								Break 1400
10								Break 1430
11								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 12 July 94

Silt

Sand

Gravel

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30								
35	5.0/5.0							
40	5.0/5.0							
45	5.0/5.0							
50	5.0/5.0							TD 1540

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 12/6/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes

Prepared by _____ Date _____ Checked By _____ Date _____

Soil

Sand

Gravel

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes

Prepared by _____ Date _____ Checked By _____ Date _____

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			[illegible]

Prepared by [illegible] Date [illegible] Checked By Derek Faulk Date 12 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes

Prepared by _____ Date _____ Checked By Mark Faulk Date 12 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1241 TA/OU 10/1079 Drill Depth From 0 To 30 Page 1 of 2

Driller Stewart Brothers Box #(s) 1-6 Start Date/Time 8 Jul 94 1330 End Date/Time 11 Jul 94 1100

Drilling Equip./Method Failing F1500 / Hollow Stem Auger Sampling Equip./Method STAINLESS STEEL SPLIT BARREL

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5	none	0 ppm 2400 BP NA α		very soft light brown, silt, some sand, little clay, heterogeneous, trace organics, core is dry. Alluvium		ALLUVIUM	Auger drilling 8 Jul 94 1330 no α meter
2.5	Run 2 2.0/2.5	AAB 2911 Rad 35-37.5	0 ppm 2400 BP NA α		SAA contains medium pebble sized pumice fragments (pale orange)			
5	Run 3 2.5/2.5	none	0 ppm 2600 BP NA α		SAA			
7.5	Run 4 1.5/2.5	AAB 2912 Rad 65-67.5	0 ppm 2400 BP NA α		SAA core is damp			
10	Run 5 2.2/2.5	none	0 ppm 2600 BP NA α		SAA-VF very soft light brown heterogeneous fine to medium sand, some silt, trace clay, damp core, fining downwards to fine sand and silt			
12.5	Run 6 2.5/2.5	AAB 2913 Rad 12.7-13.2	0 ppm 2600 BP NA α		SAA sample from 12.5-12.7 there is a moderate brown silt, trace sand, trace clay horizon heterogeneous medium sand, some gravel, trace silt, moist core. Alluvium 12.7-13.2			0247 bunk
15	Run 7 2.2/2.5	none	0 ppm 2600 BP NA α		SAA good amounts of pumice fragments, fine sand is composed of quartz + feldspar grains			Begin drilling 0756 11 Jul 94 no α meter
17.5	Run 8 2.4/2.5	AAB 2914 Rad 17.5-18.0	0 ppm 2600 BP NA α		17.5-17.7 SAA 17.7-18.4 very soft light brown clayey silt, heterogeneous damp core			AAB 2914 Full Suite High rad (350 pCi/g)
20	Run 9 2.3/2.5	AAB 2915 Rad 21-21.3	0 ppm 3700 BP NA α		SAA moderately brown silt, some fine sand, trace clay, heterogeneous, 3-5 mm size pumice pebbles, gray in color. Alluvium			
22.5	Run 10 2.5/2.5	AAB 2916 Rad 24-24.3	0 ppm 2600 BP NA α		22.5-23.5 SAA with medium pebble sized stratified structure 23.5 silty clay, firm, light brown, little sand, damp core 23.9 contains fossil leaf and roots of deciduous understory			
25	Run 11 2.1/2.5	none	0 ppm 2600 BP NA α		SAA medium pebble sized like gravel at 24.5 ft light change in color from light brown to light brown at 24.5 ft			
27.5	Run 12 2.4/2.5	AAB 2917 Rad 29.5-29.6	0 ppm 2400 BP NA α		27.5-28.8 SAA 28.8 29.3 moist gray dark soil with pieces of grass 29.3 29.5 from light brown 5YR5/6 silty clay little fine sand trace medium sand			
30								

Prepared by Laurel Steck Date 11 Jul 94 Checked By Rebecca Bowen Date 7/14/94

- silt
- sand
- gravel
- nonwelded ignimbrite

Rad suite
gross α/β/rad
TAL metals
Dioxins

Full Suite
gross α β moist
Total U Sr-90
TAL metal
SVOA

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To ____ Page 2 of ____

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
	2.2/2.5	none	[illegible]	[illegible]	Stiff, heterogeneous, [illegible] silty clay (SAA) [illegible]	[illegible]	[illegible]	
125	1.4/2.5	AAB [illegible] RAD 34 [illegible]	[illegible]	[illegible]	SAA [illegible]	[illegible]	[illegible]	AAB 3003 Full random from within soil tuff interface 33.9 - 34.3
	2.2/2.5	none	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
175	2.5/2.5	AAB [illegible] RAD [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
	5.0/5.0	AAB [illegible] RAD [illegible]	[illegible]	[illegible]	SAA	[illegible]	LOWER BANDELIER TUFF	
225	5.0/5.0	AAB [illegible] Full [illegible]	[illegible]	[illegible]	SAA			
					bottom of hole 1031 [illegible]			Full suites high rad [illegible] AAB 3002 22 - 22.3 Random from within the soil-tuff interface AAB 3003 33.9 - 34.3

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] 12.42 TA/OU [illegible] Drill Depth From 0 To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-6 Start Date/Time [illegible] 0715 End Date/Time 14 July 94 1150

Drilling Equip./Method [illegible] Auger Sampling Equip./Method Stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.5/2.5	None	[illegible] NDA	[illegible]	0-1.2 [illegible] silt, some fine sand, little clay, organic rich (roots). [illegible] 1.2-2.5 [illegible] gravel [illegible]		ALLUVIUM	[illegible] 0715 L.P Green is driller
2.5	Core 1 2.3/2.5	AAB [illegible]	0 ppm [illegible] NDA	[illegible]	2.5-4 SAA [illegible] heterogeneous, [illegible] fine sand			AAB [illegible] field blank
5	Core 2 2.3/2.5	AAB [illegible]	[illegible] 0 ppm [illegible] NDA	[illegible]	SAA ([illegible] organic [illegible], lots of roots)			
7.5	Core 3 2.5/2.5	AAB [illegible] EAD [illegible]	0 ppm [illegible] NDA	[illegible]	SAA			
10	Core 4 2.0/2.5	None	0 ppm [illegible] NDA	[illegible]	[illegible] heterogeneous fine-coarse sand, [illegible] fining downwards [illegible]			B Chamberlain replaced [illegible] as driller (0825)
12.5	Core 5 2.4/2.5	AAB [illegible] EAD [illegible]	0 ppm [illegible] NDA	[illegible]	SAA [illegible]			
15	Core 6 2.4/2.5	None	0 ppm [illegible] NDA	[illegible]	SAA fining downwards to fine sand and silt [illegible]			
17.5	Core 7 2.4/2.5	AAB [illegible] EAD [illegible]	0 ppm [illegible] NDA	[illegible]	SAA [illegible] heterogeneous, silt, some sand, little clay, pale brown			
20	Core 8 2.3/2.5	None	0 ppm [illegible] NDA	[illegible]	SAA except [illegible] 25 in thick clay horizons [illegible] slight increase in amount of [illegible] core downwards to clay, sand			
22.5	Core 9 2.5/2.5	AAB [illegible] EAD [illegible]	0 ppm [illegible] NDA	[illegible]	SAA clayey sand, [illegible] 24.2 [illegible] boulder of [illegible] and medium grained sand			[illegible] 0935 entered EZ 1007
25	Core 10 2.5/2.5	None	0 ppm [illegible] NDA	[illegible]	25-26.2 light brown, very [illegible] heterogeneous fine grained sand, some silt, [illegible] 26.2 [illegible] increasing sand [illegible]			
27.5	Core 11 2.5/2.5	AAB [illegible] EAD [illegible]	0 ppm [illegible] NDA	[illegible]	27.5-29.7 SAA [illegible] increasing silt, more clay to silty clay. 29.7 [illegible] interlayered with silt sand [illegible] clay			
30	Core 12							

Prepared by Laurel [illegible] Date 14 Jul 94 Checked By [illegible] Date 7/[illegible]/94

[illegible] silt
[illegible] sand
[illegible] gravel
[illegible]

RAD Suite
gross αβγ moisture
XRF metals
SVOA screen

Full Suite
gross αβγ moisture
TAL metals
SVOA
Total U S-90
High Explosives

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 Page 2 of [illegible]

Driller [illegible] Box #(s) 7-10 Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology Soil	Graphic Log	Lithologic Unit	Notes
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
	50/50	AAB [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
	[illegible]/50	AAB [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AAB 3031 [illegible]
					[illegible] of borehole			[illegible] 300 cpm [illegible] AAB 3032 6.2-6.8 [illegible] AAB 3033 from sed tuff [illegible]

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1245 TA/OU 10/1071 Drill Depth From 0 To 30 Page 1 of _____

Driller Stewart Boehlein Box #(s) 1-5 Start Date/Time 12/14/94 0945 End Date/Time _____

Drilling Equip./Method Rotary Casing Hammer Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.0 / 2.5 Run 1	0-2 FB None	0 ppm 0 ppm	0 / 2.5	Silt, pale brown, calcareous, porous, rock fragments, sand, trace clay. Grass and roots. Some fine sand to 1/2" diameter. Contains few pebbles		ALLUVIUM	Entered 12 on 12/14/94 0946 Plateau in distance
2.5	2.5 / 2.5 Run 2	AAB 2.5-5 FB	0 ppm 0 ppm	2.5 / 5	SAA			
5	2.5 / 2.5 Run 3	None	0 ppm 0 ppm	5 / 7.5	SAA with thin zones of sand, some fragments			
7.5	2.5 / 2.5 Run 4	AAB 5-7.5 FB	0 ppm 0 ppm	7.5 / 10	SAA decreasing amount of sand to silt with little sand			
10	2.5 / 2.5 Run 5	AAB 7.5-10 FB	0 ppm 0 ppm	10 / 12.5	SAA increasing amount of fine sand to silt with very little sand			
12.5	0 / 2.5 Run 6	AAB 10-12.5 FB	N/A	12.5 / 15	NO RECOVERY			
15	2.5 / 2.5 Run 7	AAB 12.5-15 FB	0 ppm 0 ppm	15 / 17.5	light brown, moist sand and silt, interbedded medium sand, some gravel, with silt, moderate brown, fine SAND and SILT			Drilled 10-15 return 12.5
17.5	0 / 2.5 Run 8	AAB 15-17.5 FB	N/A	17.5 / 20	NO RECOVERY			
20	2.5 / 2.5 Run 9		0 ppm 0 ppm	20 / 22.5	pale brown, moist, sand and silt, some gravel, trace clay, interbedded			
22.5	2.5 / 2.5 Run 10		0 ppm 0 ppm	22.5 / 25	SAA increasing clay, decreasing to clayey sand, damp core (no water)			
25	2.5 / 2.5 Run 11	AAB 20-25 Bulk 25.7 FB	0 ppm 0 ppm	25 / 27.5	SAA, pale brown, moist, sand and silt, some gravel			AAB says = high rad bulk sample (zero on FB)
27.5	2.5 / 2.5 Run 12	AAB 25-30 FB 29.1-29.4	0 ppm 0 ppm	27.5 / 30	very soft, heterogeneous, light brown, sand and gravel, few pebbles of [illegible] pebbles and basalt and basalt rock debris			

Prepared by L Stevens Date 12/15/94 Checked By [signature] Date 1/19/95

- silt
- sand
- gravel
- consolidated (gravel)

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1248 TA/OU 10/16.15 Drill Depth From 30 To 50 Page 2 of 2

Driller Stewart Perkins Box #(s) 6-9 Start Date/Time 18JAN94 0745 End Date/Time 18JAN94 0940

Drilling Equip./Method Foster Rig/Hollow Stem Auger Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	1.0/2.5				SAA		ALLUVIUM	w/ EZ 1358 Background for PID = 0 ppm
32.5	1.2/2.5	AAB3042 EA 352-355	0 ppm 240 PE		SAA			
35	2.5/2.5	AAB 3043 Trip Blk 352-355	0 ppm 240 PE		35.0 - 37.5 Brown Sandy Silt, clay, heterogeneous, soft, moist, low, contains pebbles of clastic and tuff to 2" in diameter			AAB 3042 - Field Blk
37.5	5.0/5.0	AAB 3044 365-367 EA3	0 ppm 240 PE		37.5 - 38 SAA 38 - 38.5 Increasing pumice fragments, in matrix of clay - [illegible] TUFF interbed 38.5 - 42 Increased pumice fragments, starting off light		SAND/TUFF TRANSITION ZONE	
40	Core 16				42.5 - 45 Light gray, grading down to 43.5 light gray to white rhyolitic tuff (TCT) in matrix of pumice and glass shards and minor fragments of clastic		LOWER BANDELIER TUFF (Tshirley Member)	OVM not functioning properly
42.5	4.9/5.0	AAB3043 EA3 352-355	NA 240 PE		SAA			
45	Run 17							OVM working again
47.5	1.9/2.5	AAB3045 Field 352-355	0.1 ppm 240 PE		SAA Bottom of borehole @ 50'			Light red tuff with AAB 3045 259-265 PY = 280 cps in clay rich layer
50	Core 18							

Prepared by [illegible] Date 1/18/94 Checked By [illegible] Date 5/17/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 5 To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-6 Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2/2.5	none	[illegible]	[illegible]	very soft, brown, dry, silty clay with some organic material (grass and roots)			unit EZ 12/13/94
2.5	2.5/2.5	[illegible]	[illegible]	[illegible]	SAA			
5	2.5/2.5	[illegible]	[illegible]	[illegible]	SAA			
7.5	2.5/2.5	none	[illegible]	[illegible]	SAA core is damp			
10	2.5/2.5	[illegible]	[illegible]	[illegible]	SAA			Thunderstorm!
12.5	2.5/2.5	[illegible]	[illegible]	[illegible]	SAA			unit EZ 11:55
15	2.5/2.5	[illegible]	[illegible]	[illegible]	SAA core is damp			unit EZ 13:40 94
17.5	2.5/2.5	[illegible]	[illegible]	[illegible]	SAA			
20	1.7/2.5	[illegible]	[illegible]	[illegible]	SAA			
22.5	2.5/2.5	none	[illegible]	[illegible]	SAA			
25	1.7/2.5	none	[illegible]	[illegible]	SAA			
27.5	2.5/2.5	[illegible]	[illegible]	[illegible]	SAA silty, [illegible] clay silt, [illegible]			
30								

Prepared by [illegible] Date 12/13/94 Checked By [illegible] Date 7/14/00

- [E] Silt
- [ ] Sand
- [ ] Gravel
- [ ] [illegible]

Pat Suite
- gross αβ of most
- yes metals
- SVOA screen

Full Suite
- gross αβ of most
- TAL metals
- SVOA
- Total U Sr-90
- High Explosives

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	25/25 [illegible]	none	[illegible]	[illegible]	SAA [illegible]		[illegible]	
[illegible]	25/25 [illegible]	[illegible]	[illegible]	[illegible]	[illegible] SAA [illegible]		[illegible]	
[illegible]	50/50 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	AAB 30-B Fuel blank Break 1040 Return to [illegible]
[illegible]	50/50 [illegible]	[illegible]	[illegible]	[illegible]	SAA [illegible]		[illegible]	AAB 30-5 Rinsate Blank ~~Break 1040 [illegible]~~ US [illegible]
[illegible]	50/50 [illegible]	AAB 30-[illegible] [illegible]	[illegible]	[illegible]	SAA Bottom of [illegible]		[illegible]	RANDOM - AAB 30-17 taken in clay [illegible] 32 - 32.5 ft High RAD = AAB 30-[illegible] AAB 30-[illegible] taken at top of borehole 4.5 - 47 ft 3[illegible]0 BK [illegible] RANDOM AAB 30-18 12.5 - 13.1 in light brown clayey silt

Prepared by Laurel Shastri Date 13 Jul 94 Checked By [illegible] Date [illegible]

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SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From ____ To 56 Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 15 June 94, 1630

Drilling Equip./Method [illegible] Sampling Equip./Method Split Spoon Stainless Steel Split Barrel [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0		[illegible]	[illegible]		[illegible]		A	
1	25/25	[illegible]	[illegible]		[illegible] SILT			
2		[illegible]	[illegible]		[illegible] SILT			
3	25/25	[illegible]	[illegible]		[illegible] SILT			
4		[illegible]	[illegible]		dark yellowish brown 10YR 4/2 [illegible] SILT [illegible]			
5	25/25	[illegible]	[illegible]		[illegible]			
10	20/25	[illegible]	[illegible]		dark yellowish brown 10YR 4/2 [illegible] SAND [illegible]			
11		[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible]			
12	20/25	[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible] SAND [illegible]			
15	10/25	[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible] SAND [illegible]			
16	10/25	[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible] SAND [illegible]			
17	10/25	[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible] SAND [illegible]			Break taken 1015 Start drilling 1210
20	25/25	[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible] SILT [illegible]			
21		[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible] SILT [illegible]			
22	15/25	[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible] SILT [illegible]			
23		[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible]			
24	19/25	[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible]			
25		[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible]			
26	20/25	[illegible]	[illegible]		moderate yellowish brown 10YR 5/4 [illegible]			
27		[illegible]	[illegible]		[illegible]			
28		[illegible]	[illegible]		[illegible]			
29		[illegible]	[illegible]		[illegible]			
30		[illegible]	[illegible]		[illegible]			

Prepared by [illegible] Date 15 June 94 Checked By [illegible] Date 27 June 94

Non [illegible]

Sand

Silt

Gravel

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method Split Spoon

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 27 June 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 15-[illegible] TA/OU 1[illegible] Drill Depth From [illegible] To [illegible] Page 1 of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method Split Spoon

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2/5	[illegible]	[illegible]	Box 1 (0-5')	[illegible]		1	Auger drill due to [illegible]
2.5	2/5	[illegible]	[illegible]		SAA ~ 60% clay			Bore Drill 0720
5	2/5	[illegible]	[illegible]	Box 2 (5-10')	SAA ~ 50% clay			
7.5	2/5	[illegible]	[illegible]		SAA w/ some small rock fragments ~ 5% ~ 1/8 in dia			
10	2/5	[illegible]	[illegible]	Box 3 (10-15')	It brown fine to medium grained Sandy SILT low moisture low cohesion			
12.5	1.5/5	[illegible]	[illegible]		SAA			
15	2.5/5	[illegible]	[illegible]	Box 4 (15-20')	SAA			
17.5	2/5	[illegible]	[illegible]		It brown fine to medium grained SILTY SAND low moisture low cohesion			
20	2.5/5	[illegible]	[illegible]	Box 5 (20-25')	moderate brown [illegible] SAND medium grained [illegible] moderate moisture [illegible]			
22.5	2/5	[illegible]	[illegible]		moderate brown [illegible] to medium grained, clayey rich (30%) SAND with trace fine/pumice fragments (5-10%) [illegible]			
25	2/5	[illegible]	[illegible]	Box 6 (25-30')	moderate brown [illegible] to medium grained silty SAND			
27.5	2/5	[illegible]	[illegible]		It brown [illegible] medium-grained silty SAND with 15% fine/pumice fragments low moisture and cohesion			Bore 0935
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 7/94

[illegible] Silt

[illegible] Sand

[illegible] Gravel

[illegible] non welded tuff

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per inch / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
					SAND			
					SAA			
					SAA			
								TD 1125

Prepared by _____ Date _____ Checked By _____ Date 7/1/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-[illegible] TA/OU 10/[illegible] Drill Depth From [illegible] To 50 Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 21 June 94 0940

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0–5	2.5/2.5	[illegible]	0.0 ppm NDA 200 BY	Box 1 of 9	[illegible]			Entered [illegible] 0930 Drilling Began 0800
5–10	2.0/2.5	no sample	0.0 ppm NDA 200 BY		[illegible]			
10–15	2.5/2.5	[illegible]	0.0 ppm 240 BY NDA	Box 2 of 9	[illegible]			
15–20	2.5/2.5	no sample	0.0 ppm 240 BY NDA		[illegible]			
20–25	2.5/2.5	[illegible]	0.0 ppm 240 BY NDA	Box 3 of 9	[illegible]			
25–30	2.0/2.5	[illegible]	0.0 ppm 240 BY NDA	Box 4 of 9	[illegible]			
30–35	2.0/2.5	no sample	0.0 ppm 240 BY NDA		[illegible]			
35–40	2.0/2.5	[illegible]	0.0 ppm 240 BY NDA	Box 5 of 9	[illegible]			
40–45	2.0/2.5	no sample	0.0 ppm 240 BY NDA		[illegible]			Break due to weather 1132

Prepared by [illegible] Date 20 [illegible] Checked By [illegible] Date 1 July '94

[illegible] Sand

[illegible] Gravel

[illegible] Non-welded [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] FAILING [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Anaytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30 31 32	2/25	[illegible]	0 ppm 220 BY on N/A	Box 6 of 7	It brown medium to coarse grained silty SAND low moisture / coarse moderate yellowish brown 10YR 5/4			Entered [illegible] Drilling Began 0705 [illegible]
33 34	24/25	no sample	0 ppm 240 BY on N/A		It brown medium to coarse grained SAND moderate moisture / coarse moderate yellowish brown 10YR 5/4			
35 36 37	25/25	[illegible]	on N/A 0 ppm 240 BY 220	Box 7 of 7	SAA small amounts >.0% gravel - dacite/andesite SAND more coarse grained moderate yellowish brown 10YR 5/4			
38 39	14/25	no sample	on N/A 0 ppm 200 BY		SAA moderate yellowish brown 10YR 5/4			
40 41 42	16/25	AAB2980 [illegible]	on N/A 200 BY 0 ppm		SAA some pumice fragments [illegible] 10YR 5/2 dark yellowish brown			
43 44	25/25	no sample	on N/A 200 BY 0 ppm	Box 8 of 7	[illegible] brown coarse grained SAND with increasing pumice / tuff fragments moderate [illegible] 10YR 5/2 [illegible] bottom weathered tuff [illegible]			
45 46	25/25	AAB2981 [illegible]	0 ppm on N/A 300 BY		It brown / orange weathered tuff [illegible] pumice [illegible] 10YR 7/4 [illegible] 20-30% [illegible] dark gray dacite			
47 48	25/25	AAB2982 [illegible]	on N/A 300 BY 0 ppm	Box 9 of 7	It gray / orange weathered tuff [illegible] 10YR 5/2 [illegible]			TD 0940 [illegible]
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 1 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method Split Spoon

Depth (feet)	Recovery (feet per feet / %)	Field Anaytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2/2.5	[illegible]	0.8 ppm 260 BY or NDA	Box 1 of 10	[illegible] moderate brown, top soil [illegible] 10 [illegible] moderate [illegible] low cohesion			Entered [illegible] 0840 Begin drilling 0715
2.5	1.5/2.5	AAB 630 2.5-2.9 [illegible] AAB 629 [illegible]	0.0 ppm 700-700 BY or NDA		SAA			
5	2.5/2.5		0.0 ppm or NDA 280 BY	Box 2 of 10	[illegible] moderate brown [illegible] sandy SILT - high clay content 20% [illegible]			
7.5	2.3/2.5	AAB 633 [illegible] Field Screen	0.0 ppm or NDA 260 BY		[illegible] moderate brown - silty fine - grained SAND - no clay low moisture - low cohesion >5% organics			
10	2.5/2.5		0.0 ppm or NDA 280 BY	Box 3 of 10	SAA			
12.5	2.5/2.5	AAB 632 [illegible] Field Screen 12.5-12.9	0.0 ppm 280 BY or NDA		[illegible] moderate brown - silty medium - grained SAND - low moisture - low cohesion			Break 0845 Back in 0900
15	2.5/2.5		0.0 ppm 280 BY or NDA	Box 4 of 10	[illegible] moderate brown silty clay-rich medium - grained SAND low moisture / cohesion			
17.5	2.5/2.5	AAB 633 17.5-17.9 Field Screen	0.0 ppm 280 BY or NDA		[illegible] 5/4 lt brown, clay-rich - (20-30%) fine grained sand 3.0% SILT low moisture and cohesion			
20	2.5/2.5		0.0 ppm 260 BY or NDA	Box 5 of 10	SAA			
22.5	2.5/2.5	AAB 634 22.5-22.9 Field Screen	0.0 ppm 280 BY or NDA		[illegible] clay-rich (20-30%) SILT w/ 20% gravels - tuff fragments - dacite - low moisture and cohesion			
25	2.5/2.5		0.0 ppm 260 BY or NDA	Box 6 of 10	[illegible] lt brown, clay (10%) silty (30%) SAND w/ 20% gravel - tuff fragments low moisture and cohesion			
27.5	2.5/2.5	AAB 635 27.5-27.9 Field Screen AAB 643 [illegible] 29.4-30.0	0.0 ppm 280 BY or NDA		SAA			
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 1 July 94

[illegible] Silt

[illegible] Sand

[illegible] Gravel

[illegible] Non-Welded Jaramillo

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible] 1140

Drilling Equip./Method [illegible] Sampling Equip./Method Split Spoon

Run #	Depth (feet)	Recovery (feet per feet / %)	Field Anaytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
3	30 / 32.5	[illegible]	AAB[illegible]	0 ppm 280BY or NDA	Box 1 of 10	[illegible] SAND [illegible] 25% gravel of tuff, andesite-dacite fragments [illegible] no cohesion [illegible]			
14	35	[illegible]		0 ppm 240BY or NDA		SAA			
15	37.5	[illegible]	AAB[illegible]	0 ppm or NDA [illegible]	Box 8 of 10	SAA			
16	40	[illegible]		0 ppm 300BY or NDA		[illegible]			
17	42.5	[illegible]	AAB[illegible] AAB[illegible]	0 ppm 300BY 0 ppm	Box 9 of 10	[illegible]			
18	45 / 47.5	[illegible]	AAB[illegible]	0 ppm 300BY or NDA		[illegible] 60% pumice, 20% lithics, 20% clay [illegible]			
19	[illegible]	[illegible]		0 ppm 300BY or NDA	Box 10 of 10	[illegible]			
20	50	1.9/[illegible]	AAB[illegible]	0 ppm [illegible]		SAA			TD 1140

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 1 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(S) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0								
5								
10								
15					SAA			
20					SAA			
25								
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

SAND

GRAVEL

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU 10/1079 Drill Depth From 0 To 50 Page 2 of 2

Driller Stewart Rio Box #(s) 6789 Start Date/Time [illegible] End Date/Time 17 June 94 1025

Drilling Equip./Method Hollow Stem Auger Sampling Equip./Method Split Spoon

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30								Stored Site 0920
31	5/25	no sample	0 ppm 200BY N/A	Box 6 of 9	It brown fine grained sandy SILT low moisture no cohesion pale brown 5YR 5/2			Started Drilling 0945 Alpha probe not working
32								
33	20/25	AAB2959 [illegible] Radium [illegible]	0 ppm 200BY N/A		brown coarse-grained, silty SAND with 5% gravel moderate moisture / no cohesion dark [illegible]			
34								
35	20/25	no sample	0 ppm N/A 200BY	Box 7 of 9	SAA / more gravel [illegible] 10% cobbles [illegible] moderate [illegible] no recovery			
36								
37								
38	0/25							
39								
40	25/25	[illegible] AAB2958	200BY N/A 0 ppm		coarse grained SAND w/ gravel 1% dark clasts light brown 5YR 5/6 [illegible] SAND w/ tuff fragments moderate [illegible]			Break 0920 Return 0950
41								
42								
43	25/25	AAB2955 [illegible]	0 ppm 200BY N/A	Box 8 of 9	silty SAND with increasing tuff with depth tuff [illegible] weathered 10% gravel dark [illegible]			
44								
45	25/25	AAB2957 [illegible]	0 ppm N/A 200BY		It grey highly weathered tuff with coarse grained sandy [illegible] moderate / low cohesion low moisture very pale [illegible]			
46								
47								
48	25/25	AAB2956 [illegible]	0 ppm 200BY N/A	Box 9 of 9	It grey highly weathered tuff with coarse grained sand [illegible] moderate cohesion low moisture very pale [illegible] 10YR 5/2			TD 1025
49								
50								

Prepared by D. Foss Date 16-17 June 94 Checked By [illegible] Date 1 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Anaytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.5/2		[illegible]		[illegible]		Alluvium	[illegible]
2.5	2.5/2	[illegible]	[illegible]		[illegible]			
5	2.5/2	[illegible]	[illegible]		[illegible]			
7.5	1.7/2.5		[illegible]		[illegible]			
10	0/2		[illegible]		[illegible]			
12.5	2.5/2.5	[illegible]	[illegible]		[illegible]			
15	2.5/2		[illegible]		[illegible]			
17.5	2.5/2	[illegible]	[illegible]		[illegible]			
20	2.5/2		[illegible]		[illegible]			
22.5	2.5/2	[illegible]	[illegible]		[illegible]			Break 0910 Back ~ 1000 borrowed w/ probe
25	2.5/2	[illegible]	[illegible]		[illegible]			
27.5	2.5/2	[illegible]	[illegible]		[illegible]			
30								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 12 July 94

Silt

Sand

Gravel

Non-Welded Tannabrite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
13	5.0/5.0	[illegible]	[illegible]	[illegible]	[illegible]			
14	5.0/5.0	[illegible]	[illegible]	[illegible]	[illegible]			
15	5.0/5.0	[illegible]	[illegible]	[illegible]	SAA [illegible] at 41.0 [illegible] cast colored object			
16	5.0/5.0	[illegible]	[illegible]	[illegible]	SAA			TD [illegible]

Prepared by D [illegible] Date [illegible] Checked By [illegible] Date 12 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 0 To 50 Page 1 of 2

Driller [illegible] Box #(s) 1-5 Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Barrel

Run #	Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Patrology - Soil	Graphic Log	Lithologic Unit	Notes
1	0	2.5/2.5		160 BT [illegible] NDA 2.5 ppm	[illegible]	[illegible] SILT [illegible] 30% [illegible]		Alluvium	Extracted [illegible]
2	2.5	2.3/2.5	AAB6258 [illegible]	150 BT [illegible] NDA [illegible] ppm	[illegible]	[illegible] silty SAND [illegible]			
3	5	1.8/2.5	AAB6259 [illegible]	120 BT [illegible] NDA [illegible] ppm	[illegible]	SAA [illegible] SILT [illegible]			
4	7.5	2.5/2.5		200 BT [illegible] NDA [illegible] ppm	[illegible]	SAA [illegible] SAND [illegible]			
5	10	1.0/2.5	AAB6260 [illegible]	240 BT [illegible] NDA [illegible] ppm	[illegible]	SAA			
6	12.5	2.5/2.5		240 BT [illegible] NDA [illegible] ppm	[illegible]	SAA [illegible]			
7	15	2.2/2.5	AAB6261 [illegible]	160 BT [illegible] NDA [illegible] ppm	[illegible]	moderate [illegible] SAND (50%) [illegible]			
8	17.5	2.0/2.5		280 BT [illegible] NDA [illegible] ppm	[illegible]	SAA [illegible] SILT [illegible] moderate moisture and cohesion			
9	20	2.0/2.5	AAB6262 [illegible]	260 BT [illegible] NDA [illegible] ppm	[illegible]	[illegible] SAND [illegible]			
10	22.5	2.1/2.5		280 BT [illegible] NDA [illegible] ppm	[illegible]	SAA			
11	25	2.5/2.5	AAB6263 [illegible]	260 BT [illegible] NDA [illegible] ppm	[illegible]	[illegible] SILT [illegible] SAND [illegible]			
12	27.5	2.4/2.5	AAB6264 [illegible]	280 BT [illegible] NDA [illegible] ppm	[illegible]	SAA [illegible] SILT [illegible] moisture and cohesion			
	30								

Prepared by D. [illegible] Date [illegible] Checked By [illegible] Date 18 July 94

Silt

Sand

Gravel

Non-welded Ignimbrite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	2/3/25	AAB6265 [illegible]	220 BY or N/A 0 ppm	[illegible]	SAA		Alluvium	
25	2/3/25		220 BY or N/A 0 ppm	[illegible]	SAA			Breakdown [illegible]
35	2/3/25	AAB6266 [illegible]	220 BY or N/A 0 ppm	[illegible]	[illegible]		Tuff Alluvium Transition Zone	[illegible]
37.5	2/3/25		220 BY or N/A 0 ppm	[illegible]	SAA - [illegible]			
40	5/5/0	AAB6267 [illegible]	260 BY or N/A 0 ppm	[illegible]	SAA		Lower Bandelier Tuff	
45	5/5/0	AAB6268 [illegible]		[illegible]	350 BY at 44.5 ft			
47.5	5/5/0	AAB6269 [illegible]	260 BY or N/A 0 ppm	[illegible]	SAA - less silt and clay [illegible]			
50		AAB6270 [illegible]		[illegible]				TD 0735 Leave zone 0815

Prepared by [illegible] Date 14-Jul-94 Checked By [illegible] Date 18 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] Core Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Anaytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2/2		[illegible]		[illegible]			[illegible]
2.5	2/2.5	[illegible]	[illegible]		[illegible]			
5	2/2.5	[illegible]	[illegible]		[illegible]			
7.5	1/2.5		[illegible]		[illegible]			
10	2/2.5	[illegible]	[illegible]		[illegible]			
12.5	4/2.5		[illegible]		[illegible]			
15	2/2.5	[illegible]	[illegible]		[illegible]			
17.5	2/2.5		[illegible]		[illegible]			Bucket [illegible]
20	4/2.5	[illegible]	[illegible]		[illegible]			
22.5	1/2.5		[illegible]		[illegible]			
25	1/2.5	[illegible]	[illegible]		[illegible]			
27.5	2/2.5		[illegible]		[illegible]			Break due to QA [illegible]

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 12 July 94

Silt

Sand

Gravel

[illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes

Prepared by _____ Date _____ Checked By _____ Date _____

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To 30 Page _____ of 3

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time 13 Jul 94 1245

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

Prepared by _____ Date 13 Jul 94 Checked By Derek Foulk Date 18 July 94

S.M

Sand

Gravel

Non

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes

Prepared by _____ Date _____ Checked By _____ Date _____

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1324 TA/OU 10/1079 Drill Depth From 0 To 30 Page 1 of 2

Driller Environmental Drilling Co. Box #(s) 1-3 Start Date/Time 5/11/94 End Date/Time 5/11/94 1042

Drilling Equip./Method Explosive Earth Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2/2		0 N/A		Reddish brown - light - orange brown SILT with 10% organics, low moisture, dry consistency			Entered hole 1030 Drilling 1037 Water level encountered
1	2/2		0 N/A		SAA			
2	2/2		0 N/A		SAA SAND			
3	2/2		0 N/A					
4	2/2		0 N/A		SAA to 4.5' Reddish brown SAND with fine grained sandy SILT lenses, dry consistency, low plasticity, 10% gravels			
5	2/2		0 N/A		No recovery			
6	2/2		0 N/A		SAA to 6.5' Grey fine grained sandy SILT lens consistency and color			
7	2/2		0 N/A		SAA (grey) fine grained SAND to 7.5' some large rock SAND to 12' some large cobbles of dominantly reddish sandstone, low moisture, low plasticity, low consistency			
8	2/2		0 N/A		Reddish brown fine - medium grained SAND (30%) SILT (50%) with gravels (20%) low consistency, dry, low plasticity, contains angular gravel fragments consisting of dominantly reddish sandstone, trace clay			
9	2/2		0 N/A		SAA - Reddish brown - grained SAND increased moisture			
10	2/2		0 N/A		SAA to 10.5' grades to reddish brown clayey-rich SILT with 10% gravel, low plasticity, low consistency, moist			
11	2/2		0 N/A		SAA with increasing gravel content to 11.5'			Break 1220 Back on line
12	2/2		0 N/A					

Prepared by [illegible] Date 5/11/94 Checked By [illegible] Date [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 15 [illegible] 94, 1342

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30		[illegible]	[illegible] N/A [illegible]	[illegible]	30 [illegible] SAA [illegible]			
13 305	4.5/5.0	[illegible]		[illegible]	30 [illegible] at 32.1 ft [illegible]			
35		[illegible]	[illegible] N/A	[illegible]	[illegible]			
14 375	5.0/5.0							
40		[illegible]	[illegible]	[illegible]	SAA			
15 405	5.0/5.0							
45		[illegible]	[illegible] N/A	[illegible]	SAA			
16 475	5.0/5.0	[illegible]					Lower Bandelier Tuff	TD 1342
50								

Prepared by [illegible] Date 15 [illegible] 94 Checked By [illegible] Date 18 July 94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] 1305 End Date/Time [illegible] 0940

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0.0	Run 1 [illegible]		1.5 cm ≤250 cpm/PB	[illegible]	Pale brown (5YR 5/2) SANDY SILT [illegible]		ALLUVIUM	16 Aug 94 Began drilling 1305 hours.
2.5	Run 2 [illegible]	[illegible]	[illegible] ≤250 cpm/PB	[illegible]	Clusters of SILTY SAND [illegible]			
5.0	Run 3 [illegible]		[illegible] ≤250 cpm/PB	[illegible]	[illegible]			
7.5	Run 4 [illegible]	[illegible]	[illegible] ≤250 cpm/PB	[illegible]	[illegible]			Tore [illegible] 1450
10.0	Run 5 [illegible]		[illegible] ≤250 cpm/PB	[illegible]	[illegible]			
12.5	Run 6 [illegible]	[illegible] Rad 140-143	[illegible] ≤250 cpm/PB	[illegible]	[illegible]			
15.0	Run 7 [illegible]		[illegible] ≤250 cpm/PB	[illegible]	[illegible]			
17.5	Run 8 [illegible]	[illegible]	[illegible] ≤250 cpm/PB	[illegible]	SAA			dropped drilling for the day at 1540
20.0	Run 9 [illegible]	[illegible]	[illegible] ≤250 cpm/PB	[illegible]	SAA moist			17 Aug 94 began drilling [illegible]
22.5	Run 10 [illegible]	[illegible] Rad 233-242	[illegible] ≤250 cpm/PB	[illegible]	DAA			
25.0	Run 11 [illegible]		[illegible] ≤250 cpm/PB	[illegible]	DAA			
27.5	Run 12 [illegible]	[illegible]	[illegible] ≤250 cpm/PB	[illegible]	DAA 29.0-30.0 becomes CLAYEY SILT more consolidated			Full suite random sample collected in middle of borehole
30.0								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

SIC

SAN.

CLAY

Pumice Rhyolite Obsidian [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30								
35								
40	5.0 / 5.0							
45	5.0 / 5.0							Ended drilling at 0940 hrs. Stopping 50'
50								

Prepared by _____ Date _____ Checked By _____ Date _____

SILT
CLAY
ASH
TUFF
Pumice Rhyolite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (inet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	[illegible]	NONE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	NONE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	NONE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	NONE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	NONE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	NONE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

- Field Screening: Gross Alpha, Beta, Gamma Spec, Moisture, Strontium, Tritium, Semi Volatiles
- Field Screening: Gross alpha, beta, gamma spec, Moisture, semi-volatiles

SILT
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Pumice and

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] - TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible]	None	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

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Pumice Rhyolite Fragments

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SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 0' To 30' Page 1 of 2

Driller [illegible] Box #(s) 1 of [illegible] Start Date/Time [illegible] End Date/Time 24 August 1994

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5 2.5	None	0 ppm NDAI Pt	TOP 5.0	Moderate to coarse grained alluvial sediments Dusty Brown 5YR 3/3 to Moderate Brown 5YR 3/4, dominantly angular in a Silt matrix. Poorly sorted 20% Silt 10% Clay Semi-consolidated Dry		ALLUVIUM	24 Aug 94. Begin drilling at 0730 Hrs. Sample Recovered 1.5 feet Interval
2.5	Run 2 2.5 2.5	AA8U537 Full AA8U538 Suite	0 ppm NDAI Pt	5.0 Ret 10.0	SAA - becoming more CLAY rich at the 4 interval Changing to Light Brown 5YR 5/6 and is Moderately consolidated Moist			AA8U537 Rinsate 8-24-94
5	Run 3 2.2 2.5	None	2.5 ppm NDAI Pt	10.0 Ret 12.5	45% CLAY 25% SILT 10% SAND Moderately consolidated with Small white Pumice fragments 10mm Non-reactive Phenocrysts of Quartz phase Alkali feldspar. Dry to moist			
7.5	Run 4 2.5 2.5	AA8U539 RAD 21.6.5	0 ppm 3000 cpm Pt	12.5 Ret 15.0	Very fine grained Homogeneous SILT. Moderately consolidated well sorted. Dry			
10	Run 5 2.5 5.5	None	0 ppm 25 NDAI Pt	15.0 Ret 17.5	SAA - Pumice fragments containing small pumice phenocrysts. Moist			
12.5	Run 6 2.5 2.5	AA8U540 RAD AA8U541 AA8U542	0 ppm NDAI Pt	17.5 Ret 20.0	SAA, becoming lighter to Pale Yellowish Orange 10YR 8/6			3DD24ms [illegible] 11:5:850 Tuff Bed at 1400 hours Resumed drilling at 1045 hours
15	Run 7 2.5 2.5	None	0 ppm NDAI Pt	20.0 Ret 22.5	SAA			
17.5	Run 8 2.5 2.5	AA8U543 RAD 18.6 11.0	0 ppm NDAI Pt	22.5 Ret 25.0	SAA with Pumice fragments becoming more abundant comprising 8%. Fragments have small quartz phenocrysts and an non clayey phase Colour as			
20	Run 9 2.5 2.5	AA8U544 Full Suite 20.0.20.5	0 ppm NDAI Pt	25.0 Ret 27.5	SAA, with pumice & dropping about 8%			Took random Full Suite sample at transition zone between SILT and ASH
22.5	Run 10 2.5 2.5	AA8U545 RAD 23.6.23.5	0 ppm NDAI Pt	27.5 Ret 30.0	Fining to a very fine grained, Soft, homogenous ASH. Minor lithics present Colour with rhyolite and Pumice fragments		BOTTOM	
25	Run 11 2.5 2.5	None	0 ppm NDAI Pt	30.0 Ret 32.5	SAA, Dry to moist with phenocrysts and Crystals becoming more Consolidated Lapse 5' to 7-27.5 more consolidated with 10-15% Pumice fragments			
27.5	Run 12 2.5 2.5	AA8U546 Full Suite 25.4.25.1	0 ppm NDAI Pt	32.5 Ret 35.0	Fine to very fine ASH Pinkish white Pumice fragments 5-20mm with small Quartz phenocrysts. Moderately consolidated. Dry to moist			Random Sample Collected at Approx bottom of Fill area
30								

Prepared by [signature] Date 24 Aug 94 Checked By [signature] Date 9/6/94

- Full Suite: Description, Density, Gamma Spec, Moisture, Total Uranium, Strontium, TAL Metals, Semi-Volatiles
- Field Screening: Gross Alpha, Beta, Gamma Spec, Moisture, Semi-Volatiles, PCB Screen

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SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Runs 5 5 95	None	@ cm NDA/ Pb	[illegible]	AA. 95% ASH 5% Pumice and [illegible] lithics			
32.5	Runs 2.5 95	AA8U643 RAD 33.5-33.7	@ cm NDA/ Pb	[illegible]	32.5-33.0 AA 33.0-35.0 Light gray, [illegible] 90% pumice [illegible]			Entered drilling at 1200 Jan 1 on ch. 32.5-33.0 soil Tuff interface
35	Runs 5.0 50	AA8U644 243 [illegible]	@ cm NDA/ 3g	[illegible]	AA. Pumice Crystals increasing 5-7% glassy w/ dark Organic phase crystals Pumice fragments 20-50mm			Secondary zone at 1545 hours
40	Runs 5.0 50	AA8U649 RAD 439-443	@ cm NDA/ 3g	[illegible]	Becoming Lighter Colored w/ less consolidation 75% ASH 25% Pumice and Lithics Ash matrix [illegible] well sorted w/ minor lithics 44.0-[illegible] Dry crystalline TUFF consist of 95% Pumice 5% crystals and 10% ash			JDD 3:44 pm 45.0-50.0 Tuff Interface
45	Runs 5.0 50	AA8U650 Run 455-459	@ cm NDA/ 3g	[illegible]	Dry Crystal w TUFF. Composing 95% Pumice 5% Crystals and phenocrysts Moderately consolidated gray, heterogeneous pumice fragments are slightly welded 1-5 mm phenocrysts Dom. Pumice consistency mostly [illegible] white, obsidian, biotite, quartz, and feldspar			Drilling ended at 1430 hours at a total depth of 50 feet
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

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Pumice, Rhyolite, obsidian fragments

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SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 1458 (3003 +) TA/OU 10-1029 Drill Depth From 2' To 32' Page 1 of 2

Driller [illegible] Box #(s) 1-10 Start Date/Time 30 Aug 94 1353 End Date/Time 30 Aug 94 1500

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5 2.5	None	0 cpm ≤ 250 cpm Bz		Fine to medium grained, well sorted, well rounded pumice fragments (~80%) and silt matrix. Remainder consists of dark brown SILT (20%) to interbedded brown SILT (5%).		ALLUVIUM	30 Aug 94. Began drilling at 1430 hours
2.5	Run 2 2.5 2.5	4488×57 Full 4488×57 Bz	0 cpm ≤ 250 cpm Bz	0-2.5 Bag 1	Fine to medium consolidated dry SILT (80%) with 5-10% fine to medium pumice fragments (20%).			
5	Run 3 2.5 2.5	None	0 cpm ≤ 250 cpm Bz	2.5-5 Bag 2	SAA no pumice			
7.5	Run 4 2.5 2.5	4488×57 Bz 4488×57 Bz	0 cpm ≤ 250 cpm Bz	5-7.5 Bag 3	SAA with pumice. Consolidated dry SILT (80%) with 10-15% fine to medium pumice fragments (20%).			
10	Run 5 2.5 2.5	None	0 cpm ≤ 250 cpm Bz	7.5-10 Bag 4	Homogeneous fine grained to homogeneous clay size brown 5YR 5/6 SILT (80%) with 10-15% fine to medium pumice fragments (20%).			
12.5	Run 6 2.5 2.5	4488×57 Bz 4488×57 Bz	0 cpm ≤ 250 cpm Bz	10-12.5 Bag 5	12.5-13.0 SAA. 13.0-15.0 Consolidated Cohesive TUFF (80%) with 10-15% fine to medium pumice fragments (20%). 15.0 SAA			30 Aug 94 Drilling stopped at 1530 hours for geophysics. 30 Aug 94 Drilling began at 0715 hours
15	Run 7 2.5 2.5	None	0 cpm ≤ 250 cpm Bz	12.5-15 Bag 6	Fine grained, consolidated dense, homogeneous SILT (80%) with fine pumice fragments (20%).			
17.5	Run 8 2.5 2.5	4488×57 Bz 4488×57 Bz	0 cpm ≤ 250 cpm Bz	15-17.5 Bag 7	SAA			
20	Run 9 2.5 2.5	None	0 cpm ≤ 250 cpm Bz	17.5-20 Bag 8	SAA becoming moist and possibly Stained			
22.5	Run 10 2.5 2.5	4488×57 Bz 4488×57 Bz	0 cpm ≤ 250 cpm Bz	20-22.5 Bag 9	Consolidating slightly, no fine pumice fragments. Interbedded with a moderate yellowish brown 10YR 5/4			
25	Run 11 2.5 2.5	None	0 cpm ≤ 250 cpm Bz	22.5-25 Bag 10	SAA moist.			
27.5	Run 12 2.5 2.5	Moisture Full 4488×57 Bz	0 cpm ≤ 250 cpm Bz	25-27.5 Bag 11	Fine grained, Silty homogeneous clay to moist ASH Pale yellowish Orange 10YR 8/6 with scattered and small 2-10mm Pumice fragments			Remove full sample collection for Alluvium ASH interval
30								

Prepared by [signature] Date 30 Aug 94 Checked By Rebecca Brown Date 9/21/94

-Full Suite-
Gross alpha beta, gamma spec, moisture, total uranium, strontium, TAL metals, semi-volatiles.

Field Screening
Gross alpha beta, gamma spec, moisture, semi-volatiles, TOC, metals

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SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 13 2.3/2.5	NONE	[illegible]	[illegible]	Becoming more consolidated very pale orange 10YR 8/2 Tuff with quartz and feldspar phenocrysts. Fine-grained ash and pumice matrix with [illegible] 200 [illegible]		Otowi Member	
32.5	Run 14 2.5/2.5	[illegible] RAD [illegible]	[illegible]	[illegible]	Moderately consolidated unconsolidated, [illegible] ASH. Dry with 2.5 mm 300 [illegible]			
35	Run 15 5.0/5.0	[illegible] RAD [illegible]	[illegible]	[illegible]	DAA [illegible] 30% pumice		Bathtub Member	
40	Run 16 5.0/5.0	[illegible] RAD 440 445	[illegible]	[illegible]	DAA [illegible] Tuff [illegible] 45 feet [illegible] 80-90% [illegible]		Guaje Member	
45	Run 17 5.0/5.0	[illegible] Full 45 [illegible]	[illegible]	[illegible]	[illegible] Tuff [illegible] 300 [illegible]			Drilling ended at 0900 at a depth of 50 feet
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

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Rhyolite and Pumice Fragments

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LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 18 Aug 94 1200

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	[illegible] 2.5 / 2.5		0.0 cm ≤ 250 [illegible]	[illegible]	0.0-0.4 Topsoil Dark brown with vegetation [illegible] SILT/SAND [illegible]		ALLUVIUM	Began drilling 17 Aug 1994 at 1350 hours
2.5	[illegible] 2.5 / 2.5	[illegible]	[illegible] 5.0 cm [illegible]	[illegible]	2.5-3.2 [illegible] 3.7-5.0 Consolidated [illegible]			
5	[illegible] 2.5 / 2.5		0.0 cm ≤ 250 cpm/PD	[illegible]	[illegible] SILT, [illegible] from 7.4-7.5 feet			Drilling ended at 1440 hours due to rain
7.5	[illegible] 2.5 / 2.5	[illegible]	0.0 cm ≤ 250 cpm/PD	[illegible]	[illegible]			18 Aug 1994 [illegible]
10	[illegible] 2.5 / 2.5		0.30 cm ≤ 250 cpm/PD	[illegible]	[illegible]			
12.5	[illegible] 2.5 / 2.5	[illegible] RAD [illegible]	0.0 cm ≤ 250 cpm/PD	[illegible]	[illegible]			
15	[illegible] 2.5 / 2.5		0.0 cm ≤ 250 cpm/PD	[illegible]	[illegible]			
17	[illegible] 2.5 / 2.5	[illegible] RAD/[illegible]	7.0 cm ≤ 250 cpm/PD	[illegible]	[illegible]			High [illegible] sample with radium
20	[illegible] 2.5 / 2.5		0.0 cm ≤ 250 cpm/PD	[illegible]	[illegible] with pumice stretches from 22.0-22.5			
22.5	Run 10 2.5 / 2.5	[illegible] RAD [illegible]	1.0 cm ≤ 250 cpm/PD	[illegible]	Changing to ash with very fine quartz, [illegible] very little pumice			Took break at 0930 hours
25	[illegible] 2.5 / 2.5		0.0 cm ≤ 250 cpm/PD	[illegible]	25.0-26.6 [illegible] CLAY & SILT [illegible]			Resumed drilling at 1010 hours
27.5	Run 12 2.5 / 2.5	[illegible]	0.0 cm ≤ 250 cpm/PD	[illegible]	Very fine grayish orange 10YR 7/4, unconsolidated homogeneous ASH.			
30								

Prepared by [illegible] Date 15 Aug 94 Checked By [illegible] Date [illegible]

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Rhyolite Pumiceous Obsidian Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible]		[illegible]	[illegible]	Very Consolidated ASH Tuff [illegible]		OTAWI MEMBER of the BANDALIER TUFF	
32	[illegible]	[illegible]		[illegible]	32.5-33.7 [illegible] ASH [illegible]			
35	[illegible]	[illegible]	[illegible]	[illegible]	35.0-37.5 [illegible]			
40	[illegible]	[illegible]		[illegible]	SAA 44.7-45.0 Tuff [illegible]			Tooka blank at 1115 Returned at 1520 44.7 - soil Tuff Interface
45	[illegible]	[illegible]		[illegible]	[illegible]			Ended drilling at 1200 hours 18 Aug 1994 at a depth of 50'
50								

Prepared by [illegible] Date 18 Aug 94 Checked By [illegible] Date [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30' Page 1 of 2

Driller [illegible] Box #(s) 1 to 6 Start Date/Time 25 Aug 0950 End Date/Time 25 Aug 94 1445

Drilling Equip./Method Hollow Stem Auger Sampling Equip./Method Stainless Steel split Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5	NONE	Top 1.0 ppm Bot 1.0 ppm Background	0.0 / 5.0	Very moist med-coarse grained topsoil Sediment 0.0-2.0-3% SAND 50% SILT, Angular 2.0-2.5- 2% SILT 25% SAND 5% CLAY Rare Pumice fragments present Small Asphalt present 2.0'			25 Aug 94 Begin drilling at 0750 hours.
5	Run 2 3.1/5.0	AABuS52 Fine 2.0-3.0	0 ppm 22 ccm/min Pt	5.0 / 10.0	Moist fine to med grained SAND/SILT. Large asphalt cinder at 3.0 ft. Moderately consolidated, homogeneous			
7.5	Run 3 2.5/2.5	NONE	0 ppm 225 ccm/min Pt	10.0 / 12.5	Consolidated SILTY CLAY with 5-20mm size pink pumice with 2mm quartz phenocrysts Matrix is fine grained, moist, and dark Yellowish Brown 10YR 5/2			
10	Run 4 2.5/2.5	AABuS53 RAD 2.5-5.0	0 ppm 150 ccm/min Pt	12.5 / 15.0	7.5-8.5 - Very moist Consolidated CLAYEY SILT 8.5-10.0 - Consolidated, fine grained SILT with small angular fragments and moderately abundant 5-20mm pumice fragments		ATLSVS3	Tool advanced to 1025 hours Returned at 0945 hours
12.5	Run 5 2.5/2.5	NONE	0 ppm 200 ccm/min Pt	15.0 / 17.5	Very fine unconsolidated homogenous, moist sandy SILT. 20mm Pumice fragments present.			
15	Run 6 2.5/2.5	AABuS54 RAD AABuS55 Dup	0 ppm 150 ccm/min Pt	17.5 / 20.0	DAA - 13.0 13.0-15.0 Becomes moderately consolidated with an increase in clay to 30% homogenous CLAYEY SILT			
17.5	Run 7 2.5/2.5	AABuS56 Fine Random 15.0-15.5	0 ppm 180 ppm Pt	20.0 / 22.5	Similar but to SILT, unconsolidated to moderately consolidated. Pumice fragments			
20	Run 8 2.5/2.5	AABuS56 RAD 18.9-19.3	0 ppm 200 ccm/min Pt		DAA			
22.5	Run 9 2.2/2.5	NONE	0 ppm 300 ppm Pt	22.5 / 25.0	DAA to 330 21.8-22.5 - Coarse grained with numerous Chrystalline Pumice fragments. Pumice exhibits [illegible] alteration and slight welding			
25	Run 10 2.5/2.5	AABuS57 RAD 23.7-24.1	0 ppm 300 ppm Pt	25.0 / 27.5	22.5-24.0 Very fine grained homogenous SILT 24.0-25.0 Consolidated fine grained SILT to ASH matrix with small crystals and pumice fragments			
27.5	Run 11 2.2/2.5	AABuS58 Fine Random 25.6-26.2	0 ppm 150 ppm Pt	27.5 / 30.0	Fine unconsolidated, Grayish Orange 10YR 7/4 ASH. 2-5mm Pumice crystals present in homogenous dry ASH matrix			Random Sample collected at SILT-ASH interval
30	Run 12 2.2/2.5	NONE	0 ppm 225 ppm Pt		DAA, becoming more consolidated, less crystals, but Pumice (light grey) becomes present.			

Prepared by [illegible] Date 25 August 94 Checked By [illegible] Date 1/11/94

- Fine grained - Gross Alpha, Beta, gamma spec, moisture, total uranium, strontium TAL metals, and semi-volatiles
- Field Screening [illegible]

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SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30' To 50' Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 25 August 1994 End Date/Time 25 August 94 1445

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30'	Runs 20/25	AA86551 RAD 343-317	0 cpm background 21	30.0 35.0 Bot 2nd ID	30.5-32.0 SAA with less pumice, more homogenous ash 32.0-32.5 TUFF Dark moderately consolidated pumiceous, normal faulted, sanidine quartz phenocrysts			32.0' dark TUFF interval
35'	Runs 20/25	None	0 cpm 150 cpm P1		very fine unconsolidated pale yellowish Orange 10YR 8/6 ash, dark gray pumiceous and rare pumice fragments, trace heterolithics			Test of lower bench of Borehole
35'	Runs 25/25	AA86560 243	0 cpm 150 cpm P1	35.0 40.0 Bot 3rd ID	Moderate reddish brown, ash with trace pumice small pumice and feldspar phenocrysts present as fine grained ash matrix consolidated, large fragments (3.0-3.5 cm)			Returned on 1350 hours
40'	Runs 25/25	None	0 cpm 200 cpm P1	40.0 45.0 Bot 4th ID	SAA with pumice fragments increasing in size and abundance, white, slightly welded with pumice phenocrysts ash matrix strongly consolidated			
45'	Runs 44/50	AA86561 RAD 438-442	0 cpm background P1	45.0 50.0 Bot 5th ID	40.5-42.5 very fine Ash with very little Pumice or lithics 42.5-43.5 Dk Brown consolidated clay, heterogenous TUFF white slightly welded Pumice fragments, fine grained matrix with small quartz & feldspar crystal fragments			
50'	Runs 33/50	AA86562 Full 484-493	0 cpm background P2	45.0 50.0 Bot 5th ID	Coarse grained Crystalline Tuff 90-95% Pumice with small quartz phenocrysts unconsolidated sediment encrusted pumice rare ash matrix			Drilling ended at 1445 hours at depth of 50 feet

Prepared by [illegible] Date 25 August 94 Checked By [illegible] Date [illegible]

Ash

Devitrified Pumice fragments

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID IC 1343 TA/OU 1[illegible] Drill Depth From 0' To 30' Page 1 of 2

Driller [illegible] Box #(s) 1 - 5 Start Date/Time 30 Aug 94 1330 End Date/Time 31 Aug 94 1430

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.0/2.5	[illegible]	Tuff 30 [illegible]	0 - 2.5 Bot 2.5	Organic rich SILT, [illegible] 1.0 2.0 Consolidated SILT very fine grained [illegible] Moisture when fresh [illegible] Highdown Reading		ALLUVIUM	30 Aug 94 started drilling 1330 hours
2.5	Run 2 2.2/2.5	[illegible]	[illegible]		2.5 3.5 Fine grained, homogeneous clay [illegible] Consolidated SILT 3.5 5.0 Consolidated [illegible] SILTY CLAY [illegible]			
5	Run 3 1.9/2.5	[illegible]	50 cpm		[illegible] fine grained, homogeneous clay SILT. Dark yellow [illegible]			
7.5	Run 4 2.5/2.5	[illegible]	40 cpm	5.0 - 10.0 Bot 7.5	SAA			Drilling ceased 30 Aug 1430 hours and depth 10 feet
10	Run 5 2.5/2.5	None	100 cpm		very fine consolidated soil, homogeneous, SILT. Dark yellow [illegible] 10 YR 8/6 Consolidated pumice fragments 1 cm.			31 Aug 94 @ hours drilling ceased 0730
10.5	Run 6 1.7/2.5	[illegible]	150 cpm		SAA			Drilling ceased 0800 due to inclement weather
15	Run 7 2.5/2.5	13.5-15.5 [illegible]	0 cpm	10 - 15 Bot 12.5	SAA, - 5% pumice fragments medium very [illegible]			Collected 1 soil sample for [illegible]
17.5	Run 8 2.5/2.5	[illegible]	250 cpm	15 - 20 Bot 18.5	Silt to very fine SILT, some sand - Limited homogeneous clay, no lenses or [illegible] mostly [illegible]			
20	Run 9 2.5/2.5	None	300 cpm		Consolidated medium grain sand to SILTY SAND [illegible] clay content [illegible]			No core recovery in sand just 0 core
22.5	Run 10 2.5/2.5	[illegible]	400 cpm		Some pumice [illegible]			
25	Run 11 2.5/2.5	None	350 cpm	20 - 25 Bot 23.5	SILT, [illegible] - 4 cm diameter, [illegible]			
27.5	Run 12 2.5/2.5	[illegible]	400 cpm	25 - 30 Bot 28.5	SILT, increase lithics to some, many dark, - 2 cm diameter, no more tuff fragments, but still some pumice as discussion [illegible]			
30					SILT TD 30.0 ft, [illegible]			

Prepared by [signature] Date 08-31-94 Checked By [signature] Date 9/2/94

- Full Suite -

Grain size, bulk, gamma spec, moisture, [illegible], strontium, TAL metals, semi-volatiles.

- Reduced -

Grain size, bulk, gamma spec, moisture, semi-volatiles and

SILT
SAND
CLAY
Rhyolitic Pumice fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30' To 50' Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 30 Aug 94 1250 End Date/Time 31 Aug 94 1430

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless steel split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run #5 2.5 / 2.5		0 ppm 250 cpm BZ	30.0 - 32.5 Bot 27.5	Very fine light ASH Dry with non-welded vitric pumice fragments comprising 10% of lower portion of Core		OTOWI MEMBER OF THE BANDELIER TUFF	4 hr add drilling 1320 hours Stan and Sydney John Doyle has resumed logging duties
	Run #5 2.5 / 2.5	448503 RAD 330-335	0 ppm 300 cpm BZ		32.5 - 33.5 - ASH with some rocks 33.5 - 35' - SAA but more consolidated and pumice 2% increasing to 15% Pumice light pink to yellowish			
35	Run #5 4.3 / 5.0	448504 RAD 38.0 - 41.0	0 ppm 300 cpm BZ	35.0 - 40.0 Bot 39.3	SAA becoming 20% pumice			
40	Run #6 5.0 / 5.0	448505 RAD 43.5 - 44.1	0 ppm 200 cpm BZ	40.0 - 45.0 Bot 44.9	Becoming more consolidated non-cohesive dry, ASH w/ 15 20% pumice Fine grained ASH matrix with minor lithics. Pumice fragments 20-70mm white/pink vitreous, non-welded and vesicular			
45	Run #7 4.3 / 5.0	448506 Fall 47.3-48.3	0 ppm 250 cpm BZ	45.0 - 50.0 Bot 49.3	Non-welded tuff. Tuff 90-95% pumice along with abundant accessory (1 cognitions, and lithic fragments. Pumice 5-50mm vitreous white/pink alteration slight to no banding Pumice Rate Dive 0/4/0			31 Aug 94 Drilling ended at 1430 hrs at depth 49.5 feet
50								

Prepared by [illegible] Date 08-01-94 Checked By [illegible] Date 8/1/94

ASH

TUFF

Pumice, Lithic Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 16-[illegible] TA/OU 16-1025 Drill Depth From 0 To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-6 Start Date/Time 22Aug94 1120 End Date/Time 23Aug94 0900

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 0-5 / 3.5	None	0 ppm NDAI Pt	0 / 3.5 Bottom	[illegible] SILT/SAND [illegible] Dark Reddish Brown 10YR3/4			22Aug94 Begin drilling at 1120 hours
2.5	Run 2 2.5-5 / 2.5	SAB16331 SAB16332 Field Dup	0 ppm NDAI Pt	3.5 / 6.0 Bottom	2.5-5.5 SAA 5.0-5.5 Unconsolidated medium fine grained, homogenous CLAY & SILT to SAND, Small 1-2 mm pumice fragments			
5	Run 3 5-7.5 / 2.5	None	0 ppm NDAI Pt	10.0 / 12.5 Bottom	Brown/CLAYEY SILT moderately consolidated, homogenous, unconsolidated Silt more CLAY than sand 70% Silt 25% Clay 5% Sand			
7.5	Run 4 7.5-10 / 2.5	SAB16333 SAB16334	0 ppm NDAI Pt	15.0 / 17.5 Bottom	7.5-8.5 Fine grained Pale Yellowish Orange SILT, homogenous SILT, Moderately consolidated, Some Pumice fragments present 8.5-10.0 Very fine SILT, homogenous, very consolidated 10.0-12.5 Mixed Brown/Light Brown SILT, homogenous CLAY/SILT			
10	Run 5 10-12.5 / 2.5	None	0 ppm NDAI Pt	20.0 / 22.5 Bottom	Very fine SILT 12.5-14.0 14.0-15.0 Very fine grained SILT/CLAY with Pumice inclusions			
12.5	Run 6 12.5-15 / 2.5	SAB16335 SAB16336	0 ppm NDAI Pt	25.0 / 27.5 Bottom	SAA			Stopped drilling for lunch at 1245 hours started @ 15 feet
15	Run 7 15-17.5 / 2.5	SAB16337 Field Dup	0 ppm NDAI Pt	30.0 / 32.5 Bottom	SAA - Less Clay on bottom half section. 55% Clay 40% Silt 5% Sand.			Begin drilling after at lunch
17.5	Run 8 17.5-20 / 2.5	SAB16338 SAB16339	0 ppm NDAI Pt	35.0 / 37.5 Bottom	Very fine [illegible] with Quartz & Crystals, Small homogenous Pumice, Obsidian and other fragments small 5-10 mm with major of 5-10 mm More consolidated but friable large Pumice fragments			
20	Run 9 20-22.5 / 2.5	None	0 ppm NDAI Pt		12.5-24.9 SAA			
22.5	Run 10 22.5-25 / 2.5	SAB16340 SAB16341	0 ppm NDAI Pt		24.9-25.0 More Pumice fragments with Pumice fragments from all sizes with large 5mm Pumice fragments and other fine grained Ash matrix			
25	Run 11 25-27.5 / 2.5	None	0 ppm NDAI Pt		SAA- very fine consolidated Ash with large 25 mm pumice fragments			
27.5	Run 12 27.5-30 / 2.5	SAB16342 (Duplicate)	0 ppm NDAI Pt		SAA			Didn't recover all crushed Pumice from 25-30 feet during drilling and sampling
30		29 Aug 94						

ALLUVIUM

START

Prepared by [illegible] Date 23Aug94 Checked By [illegible] Date 8/31/94

SILT

SAND

CLAY

ASH

Pumice Deposit and Obsidian Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 43.2 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 22 Aug 94 1120 End Date/Time 23 Aug 94 0900

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 13 2.5/2.5	NONE	0 cm NDAL Pt	[illegible]	30 to 31.5 Very fine dark, homogeneous ash, [illegible] 31.5 to 32.5 [illegible]		MEMBER of the BANDALIER TUFF	22 Aug 94 Ended drilling at 1590 hours 23 Aug 94 Begin drilling at 0710 hours
32	Run 14 2.5/2.5	AAB6534 RAD 33.6 [illegible]	0 cm NDAL Pt	[illegible]	DAA [illegible] 10 to 12 %			
35	Run 15 2.5/2.5	NONE	0 cm NDAL Pt	[illegible]	DAA [illegible]			
	Run 16 2.5/2.5	AAB6534 RAD 35.7 [illegible]	0 cm NDAL Pt	[illegible]	DAA [illegible]			
40	Run 17 3.3/5.0	AAB6535 [illegible]	0 cm NDAL Pt	[illegible]	DAA			23 Aug 94 Drilling ended at 0900 at [illegible] depth of [illegible]
42	Run 18 5.0	[illegible]						
50								

Prepared by [illegible] Date 23 Aug 94 Checked By [illegible] Date 8/24/94

ASH

Rhyolite Pumice, and Obsidian fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-6004 TA/OU 10/6000 Drill Depth From 0 To 30 Page 1 of 2

Driller Stewart Brothers Box #(s) 1-5 Start Date/Time 21 Jun 94 0750 End Date/Time 22 Jun 94 1200

Drilling Equip./Method Rotary Air Hammer Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 0.4/5	none	0 ppm 22 cps NDA	Box 1 of 5 0 to 5 ft	light brown sandy silt 5YR6/4 and some gravel		A	Started drilling @ 0956 21 Jun 94 No moisture is available
2.5	Run 2 1.0/5	[illegible]	0 ppm 22 cps NDA		light brown 5YR6/4 some pebbles some organics 50% silt some sand			
5	Run 3 2/5	none	0 ppm 22 cps NDA		light brown 5YR6/4 SAA 5-9% SAND + SILT			
7.5	Run 4 2/5	[illegible]	0 ppm 22 cps NDA		SAM			0940 1 S 21 AAB 2905 1 full SUM
10	Run 5 1.5/5	none	0 ppm 22 cps NDA		first 2.5 ft are SAM next 1.3 ft are coarse grained sand and gravel light green pebbles rounded			Change from fine silt to coarse sand, segregated core with bands of to each of fines are in 1 bag - access for break 0940 begin drilling activities 21 Jun 94 - some trouble with the drilling - set core #B65
12.5	Run 6 1.5/5	[illegible]	NDA ppm 22 cps NDA	Box 2 of 5 5 to 10 ft	light brown sandy silt with 20% silt, contains 5YR 5/6 lithic and pebbles rounded			
15	Run 7 2.5/5	[illegible]	NDA ppm 22 cps NDA		This core is mostly core of material [illegible] Moderate yellow brown 10YR5/4 coarse - medium sand SAA except light silt			for 22 Jun 94 # RAD Suite = XRF metal SVOA screen gross α β/γ meas
17.5	Run 8 2.5/5	none	NDA ppm 22 cps NDA		Light brown, contains coarse grained sand core is not consolidated (micro) but appears to be mostly granular + min (SAA)			
20	Run 9 2.5/5	[illegible]	NDA ppm 22 cps NDA	Box 3 of 5 10 to 15 ft	SAA silt coarse sand + silt with fine to coarse (5YR) small pebbles Lithic fragments (5YR) USC [illegible]			core very crumbly
22.5	Run 10 1/5	none	NDA ppm 22 cps NDA		SAA no lithics, no fines. Core is unconsolidated / dry [illegible]			
25	Run 11 2.2/5	[illegible]	NDA ppm 22 cps NDA	Box 4 of 5 15 to 20 ft	moderate brown 5YR 4/4 coarse grained gravel from 20 - 20.2 ft and a few cobbles + clasts from 20.2 ft coarse SAND			0946 blank
27.5	Run 12 2.5/5	[illegible]	NDA ppm 22 cps NDA	Box 5 of 5 20 to 25 ft	SAA Coarse SAND + GRAVEL			
30								

Prepared by Laurel Shostak Date 1 Jul 94 Checked By Rebecca Brown Date 7/6/94

SILT

SAND

GRAVEL

NON WELDED IGNIMBRITE

RAD Suite: gross α β/γ, meas; XRF metal (21 Jun 94)

RAD Suite: gross α β/γ, meas; XRF metal; SVOA screen (22 Jun 94)

Full Suite: TAL metal; Total U, Sr-90; Semi Volatiles; gross α β/γ, meas

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1364 TA/OU 10/1079 Drill Depth From 30 To 50 Page 2 of 2

Driller Stewart Brothers Box #(s) 5-9 Start Date/Time 21 Jun 94 0956 End Date/Time 22 Jun 94 1200

Drilling Equip./Method Fairing Air/Hollow Stem Auger Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	0.5/5	none	NDAPH 240 BZ CM	30 Soft 31.5	30-31.5 Dry light brown fine grained sand (SAM) 31.5-32.5 red gravel + medium sand 32.5-35 pinkish white STREAK interface, looks like tuff but is fine sand to silt no gravel		Abiquiu	1030 began drilling STR TUFF INTERFACE
32.5	2.5/5	RAD at 32.5-34	NDAPH 240 BZ CM	31.5 32.5	32.5-34 SAM pink to brown fine grained sandstone and gravel in matrix 34+ tuff STR interface			
35	2.5/5	RAD at 35-37.5	NDAPH Smells hot 240 BZ CM	34 35	SAM fine to medium grained pink (rhyolite) sandstone some 30% of granular tuff matrix			RAD 2904 three sample interval showed highest rad screening levels collected full core
37.5	2.5/5	RAD at 37.5-39	NDAPH 240 BZ CM	37.5 38.5	SAM very fine grained light pink, tuff matrix 10% fine to medium fragments			
40	2.5/5	none	NDAPH 240 BZ CM	38.5 42.5	SAM			
42.5	2.5/5	RAD at 42.5-45	NDAPH 240 BZ CM	42.5 43.5	SAM			
45	5.0/5.0	RAD at 45-47	NDAPH 240 BZ CM RADAR CM	43.5 45.5 45.5 50	SAM very light pink very NE interbedded tuff 90% pumice 10% lithic fragments		Lower Bandelier Tuff	reach 50 ft stop drilling 1200 Alison Laurel sample full suites + move core to core trailer * highest rad reading is from below soil-tuff interface 30.7-31.2 ft. * Random Sample 7.5-10 ft on fine sand + silt above gravel contact
50								

Prepared by Laurel Stoehr Date 10/6 94 Checked By Robert Parsons Date 10/6/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30 Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 28 Jun 94 0855

Drilling Equip./Method [illegible] Sampling Equip./Method stainless steel split barrel [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	[illegible]	[illegible]	[illegible] 200 BX [illegible]	[illegible]	light brown [illegible] 2% organics (roots) [illegible]		ALLUVIUM	Down drilling activities 1058
2.5	[illegible]	AAB 2935 [illegible]	[illegible] 200 BX [illegible]	[illegible]	[illegible]			
5	[illegible]	[illegible]	0 ppm 200 BX [illegible]		SAA [illegible]			
7.5	[illegible]	AAB [illegible] RAD	[illegible]	[illegible]	[illegible]			AAB 2937 is duplicate of AAB 2936 RAD
10	[illegible]	[illegible]	0 ppm 240 BX [illegible]		[illegible]			
12.5	[illegible]	AAB [illegible] RAD	[illegible]	[illegible]	[illegible] SAA [illegible]			1225 break for lunch [illegible] EZ HOD [illegible] has low battery not working
15	[illegible]	[illegible]	0 ppm 220 BX NA		SAA [illegible] 5YR 5/2			
17.5	[illegible]	AAB [illegible]	[illegible]	[illegible]	[illegible] 10% light brown 5YR [illegible]			
20	[illegible]	NONE	[illegible] 240 BX NA	[illegible]	70% silt [illegible] sand [illegible] 5 [illegible] 5YR 4/4			
22.5	[illegible]	AAB 2940 RAD 23 [illegible]	0 ppm 200 BX NA	[illegible]	22.5 23.5 SAA 23.5 coarse sand and [illegible]			
25	[illegible]	NONE	NA		NO RECOVERY			
27.5	[illegible]	AAB 2941 RAD 25.2 [illegible]	0 ppm 220 BX	[illegible]	28 [illegible] coarse sand & [illegible] fragments & cobbles 28.1 - 30 50% clay 50% silt some TUFF fragments light brown 5YR 5/6			AAB 2947 full suite 28.6 - 28.9 random sample
30								

Prepared by [illegible] Date 28 Jun 94 Checked By [illegible] Date [illegible]

Silt

Sand

gravel

non welded ignimbrite

RAD SUITE
gross α β γ moisture
XRF metal
SVOA screen

FULL SUITE
gross α β γ moist
Sr-90, Total U
TAL metals
SVOA

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1265 TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 6-10 Start Date/Time 27 Jun 94 1056 End Date/Time 28 Jun 94 0855

Drilling Equip./Method Failing F-10 hollow stem auger Sampling Equip./Method ~~split spoon~~ US 7/1/94 stainless steel split barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	2.3 / 2.5	none	0ppm 200BK	Bot 6	30-30.5 SAM clay with pumice; 30.5-31.8 soil-tuff interface; 31.8 tuff			[illegible]
32.5	2.5 / 2.5	AAB 2942 33-33.3	0ppm 240BK 0a	Bot 7 of 10	SAA tuff nonwelded unconsolidated pumice (95%) and lithics (2%) fine-grey syn 6/1			cuff exclusion zone 1520 27 Jun 94; entered EZ 0715 28 Jun 94
35	5.0 / 5.0	34.5-37 AAB 2944 FULL; AAB 2943 35.5-37	0ppm 300BK 300BK 300BK 380BK 15		SAA 35-37.5 - tuff is more weathered, [illegible] almost grains in places; 37.5-40 tuff is white, unstained			AAB 2944 - [illegible] 34.5-37 ft 380 ft
40.5	5.0 / 5.0	AAB 2945 43.5-46 RAD	0ppm 280BK 0a	Bot 9 of 10	SAA		LOWER BANDELIER TUFF	
45	5.0 / 5.0	FULL 50-[illegible] AAB 2946 48.5-49	0ppm 280BK 0a	Bot 10 of 10	SAA			
50					Bottom of borehole 0855			RANDOM sample from clayey horizon above soil tuff interface 25.6 - 28.9 AAB 2947

Prepared by Laurel Shastri Date 28 Jun 94 Checked By Rebecca [illegible] Date 7/5/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From ____ To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 5 Jul 94 1215

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] steel split barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 5YR6/R		A	Began drilling 5 July 94 [illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	SAA [illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	SAA [illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	SAA			
	[illegible]	[illegible]	[illegible]	[illegible]	SAA			
	[illegible]	[illegible]	[illegible]	[illegible]	SAA [illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			Nature of contact [illegible] AAB 2962 random sounds in fine sand [illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 5YR6/R [illegible]		ALLUVIUM	
	[illegible]	[illegible]	[illegible]	[illegible]	SAA [illegible] 5YR6/R [illegible] downwards			[illegible]
	[illegible]	AAB2153 [illegible]	0ppm [illegible]	[illegible]	SAA light brown fine grained sand and silt			
	[illegible]	NA	NA	[illegible]	NO Recovery			
	[illegible]	AAB2[illegible] [illegible]	0ppm [illegible]	[illegible]	light brown coarse sand and gravel 5YR6/R [illegible] downwards slightly [illegible]			

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 7/8/94

silt
sand
gravel
nonwelded ignimbrite

RAD SUITE
gross α & β moisture
XRF metals
SVOA screen

FULL SUITE
gross α & β moisture
TAL metals
Total U [illegible]
SVOA

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To 50 Page _____ of _____

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time 5 Jul 94 1215

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
		None						1260 - 2 photo of soil-fill interface in area with rock
								1200 - 3 photo of soil-fill interface/ fill contact
					SAA			AAB 2958 - high rad full suite 350 RF 10.2 - 40 B/H
					SAA			AAB 2960 (field blank (full suite) AAB 2961 rinsate (full suite)
		AAB 2962			1215 end of section			AAB 2962 - random sample collected at 102 - ft below contact from coarse gravel to fine sand and silt

Prepared by _____ Date _____ Checked By _____ Date 7/8/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30 Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 8-J-194/0930

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Anaytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	[illegible]	None	0ppm 240 BY [illegible]		[illegible] clayey SAND [illegible]		ALLUVIUM	
	[illegible]	[illegible]	0ppm 280 BY non a		[illegible]			
5	[illegible]	None	0ppm 240 BY nda a		[illegible] SILT [illegible] 5YR 6/4			
	[illegible]	[illegible]	0ppm 260 BY nda a		[illegible] 5YR 6/4			
	[illegible]	[illegible]	[illegible]		[illegible]			
	[illegible]	[illegible]	0ppm 280 BY nda a		[illegible]			Break 10 [illegible]
	[illegible]	None	0ppm 240 BY nda a		[illegible]			
	[illegible]	[illegible]	0ppm 230 BY nda a		[illegible]			
9	[illegible]	AAB2790 Full Suite 20-20.5	240 BY a NDA 0 0ppm		[illegible] SILT with clay (20%) core is [illegible]			RANDOM AAB2790 Full Suite 20-20.5
10	[illegible]	AAB2[illegible] 23.5-23.[illegible] Field Seam	220 BY a NDA 0 0ppm		SAA [illegible]			
11	[illegible]	AAB2984 [illegible]	230 BY a NDA ppm N/A		[illegible] SILT with 20% clay 10% gravel - [illegible] - welded [illegible]			PID has malfunctioned
12	[illegible]	AAB2985 [illegible] Field Seam	260 BY a NDA ppm N/A		SAA			Stop 1420 due to PID

Prepared by [illegible] Date 7-11-94 Checked By [illegible] Date 7/14/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID R-1266 TA/OU 16/1077 Drill Depth From 30 To 50 Page 2 of 2

Driller Stewart Brothers Box #(s) 6-9 Start Date/Time 7-Jul-94/0930 End Date/Time 8 Jul 94/0930

Drilling Equip./Method Tooling Float/Hollow Stem Auger Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	2.3/2.5 Run 13	none	0 ppm 220 pz NDA		moderate brown coarse sand some granules fining downwards to poorly sorted medium - coarse grained sand soft moist, [illegible] ALLUVIUM		ALLUVIUM	8 Jul 94 arrived 0930
35	2.2/2.5 Run 14	AMB2766 Rad 34-34.5	0 ppm 180 pz NDA	Bot 5 of 5 Top 35 ft	SAA with pebbles of [illegible] and andesite (lithic) (QFT)			
37.5	2.4/2.5 Run 15	none	0 ppm 240 pz NDA		SAA [illegible]			
40	2.5/2.5 Run 16	AMB2980 Rad 39.5-40 (Lost)	0 ppm 340 pz NDA	Bot 5 of 5 Top 40 ft	[illegible]			Soil huff interface ? AMB 2980 / hump rad / 340 pz 39.5 - 40 ft
42.5	2.3/2.5 Run 17	none	0 ppm 200 pz NDA	Bot 5 of 5 Top 45 ft	SAA increasing amount of pumice fragments to 30 50%			
45	2.5/2.5 Run 18	AMB2957 Rad 44-44.5	0 ppm 280 pz NDA	Bot 5 of 5 Top 50 ft	non welded pinkish gray ignimbrite		LOWER BANDELIER TUFF	
47.5	5.0/5.0	AMB2051 Rad 47-47.5	0 ppm 240 pz NDA 0 ppm 260 pz NDA	Bot 5 of 5 Top 50 ft	SAA 0900 bottom			Random sample AMB 3990 20-20.5 Full 0 mix in clay clay
50								

Prepared by Laurel Stein Date 11 Jul 94 Checked By Rebecca Bon Date 7/18/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY | **CORE SAMPLE LOG**

Borehole ID 10 [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30 Page 1 of 2

Driller Stewart Bros Box #(s) [illegible] Start Date/Time 23 Jan 94 [illegible] End Date/Time 23 Jan 94 1810

Drilling Equip./Method [illegible] Sampling Equip./Method stainless steel split barrel [illegible] LLS 7/1/94

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.4 / 2.5 Run 1	NO Sample	[illegible] 240BY	[illegible]	0-0.4 ft root/organic matter [illegible] 0.4-1.0 light brown coarse sand [illegible] 1.4-2.4 light brown sand & silt 5YR [illegible]			entered exclusion [illegible] 0940. Began drilling at 0945 K meter not working properly [illegible]
2.5	2.2 / 2.5 Run 2	AAB 2902 [illegible]	0 ppm 240BY	[illegible]	Light brown sand and silt (75%) [illegible] some organic root matter SAA			full suite = Total U, Sr-90 TAL metal SVOA gross α β γ meist
5	2.5 / 2.5 Run 3	NO Sample	1.9 ppm 240BY	[illegible]	SAA 75% silt [illegible] sand [illegible] brown [illegible] coarse sand [illegible]			RAD suite = XRF metal SVOA screen gross α β γ meist
7.5	0.9 / 2.5 Run 4	AAB 2907 [illegible]	[illegible] 260BY	[illegible]	SAA			
[illegible]	2.0 / 2.5 Run 5	NO Sample	[illegible] 220BY	[illegible]	SAA more coarse sand (40%) silt (50%) some [illegible] (3.5%) [illegible]			
[illegible]	2.5 / 2.5 Run 6	AAB 2900 [illegible]	[illegible] 260BY 320 [illegible]	[illegible]	SAA more silt (70%)			* AAB 2910 [illegible] FULL SUITE
15	2.5 / 2.5 Run 7	NO Sample	1.9 ppm 240BY	[illegible]	SAA [illegible] coarse gravel		ALLUVIUM	
17.5	2.5 / 2.5 Run 8	AAB 2901 [illegible]	[illegible] 260BY	[illegible]	SAA 70% silt 30% sand [illegible]			[illegible] 0940 entered EZ 10 38
20	2.5 / 2.5 Run 9	NO Sample	0 ppm 220BY	[illegible]	20-21 coarse gravel 21-22.5 fine gravel 70% silt sand few pumice fragments			
22.5	2.3 / 2.5 Run 10	AAB 2910 [illegible]	0 ppm 260BY	Box 5 [illegible]	SAA increasing amount of pumice clast 23.0 coarse, poorly sorted gravel, pumice + tuff fragments			
25	2.5 / 2.5 Run 11	NONE	0 ppm 260BY	[illegible]	25-26.8 SAA with [illegible] of pebble (25%) 26.8 [illegible] soil horizon, soil/tuff interface [illegible] gravel silty			* AAB 2917 26.5-27 random full suite sample
27.5	2.0 / 2.5 Run 12	AAB 2911 [illegible] 28-28.6	0 ppm 220BY	[illegible]	27.5-28.5 [illegible] SAA tuff detritus [illegible] 5YR 5/4 [illegible] sand [illegible] with some gravel		Soil tuff interface	
30								

Background for PID readings 1.0

Prepared by [illegible] Date 23 Jan 94 Checked By [illegible] Date 2/5/94

silt
sand
gravel
nonsolidated pyrimbrite

RAD SUITE
gross α β γ moisture
SVOA screen
XRF metal

FULL SUITE
gross α β γ moisture
Sr-90, Total U
SVOA
TAL metals

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 23 Jun 94 1310

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel split barrel split spoon US 7/1/94

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	23/25	NONE	[illegible] 240BY		SAA [illegible] and [illegible]		Lower Bandelier Tuff	31 ft ~ top of tuff
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	SAA [illegible]			
[illegible]	50/50	[illegible] AAB 2913 [illegible]	[illegible]	Box [illegible]	SAA [illegible]			
[illegible]	50/50	AAB 2914 [illegible]	[illegible]	Box [illegible]	SAA			
[illegible]	50/50	[illegible] AAB 2915 [illegible]	[illegible] 230	Box [illegible]	SAA			[illegible] EE 1310
[illegible]								AAB 2916 rad 320 BY full suite w/ highest rad
								AAB 2917 random sample full suite from soil-tuff interface in soil - look 26.5 - 27

Prepared by [illegible] Shashi Date 23 Jun 94 Checked By [illegible] Date 7/5/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 0 To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-6 Start Date/Time 6 Jul 94 0720 End Date/Time 6 Jul 94 1150

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless steel split barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.3 / 2.5 Run 1	none	12 ppm 280 βγ Ox	Box 1 of 6	very soft, pale brown (5YR 5/2) heterogeneous silty sand, some organic material, trace plastic, trace gravel soil is dry ALLUVIUM		ALLUVIUM	enter EZ 0720 begin drilling
2.5	2.4 / 2.5 Run 2	[illegible]	0 ppm 280 βγ Ox		SAA except soft, decreasing grain size to silt, trace clay, soil is dry			
5	2.5 / 2.5 Run 3	none	0 ppm 280 βγ Ox	Box 2 of 6	SAA			
7.5	2.3 / 2.5 Run 4	[illegible]	0 ppm 280 βγ Ox		SAA			
10	1.3 / 2.5 Run 5	none	0 ppm 280 βγ Ox	Box 3 of 6	SAA			
12.5	2.3 / 2.5 Run 6	[illegible]	0 ppm 280 βγ Ox		SAA, moist core 14.2 increasing amount of clay to clayey silt, trace sand			
15	2.3 / 2.5 Run 7	none	0 ppm 280 βγ Ox	Box 4 of 6	very soft, heterogeneous, light brown (5YR 6/4) silt, some sand, trace clay, contains trace pumice fragments core is moist ALLUVIUM			
17.5	2.3 / 2.5 Run 8	[illegible]	0 ppm 240 βγ Ox		SAA			Break 0914 return to EZ 1000
20	2.2 / 2.5 Run 9	none	0 ppm 240 βγ Ox	Box 5 of 6	SAA			
22.5	2.0 / 2.5 Run 10	[illegible]	0 ppm 280 βγ Ox		22.5-23 SAA 23-25 very soft, pale brown (5YR 5/2) coarse sand, some gravel, heterogeneous, damp core ALLUVIUM			
25	2.1 / 2.5 Run 11	none	0 ppm 280 βγ Ox	Box 6 of 6	SAA pale brown coarse sand, some gravel (composed of 80% granite, 10% feldspar, trace dacite pebbles, trace silt)			
27.5	2.4 / 2.5 Run 12	[illegible]	0 ppm 220 βγ Ox		SAA			
30								

Prepared by Laurel Shastri Date 12 Jul 94 Checked By [illegible] Date 7/14/94

silt
sand
gravel
nonwelded [illegible]

RAD Suite
gross αβγ moisture
SVOA screen
XRF metals

Full Suite
gross αβγ moist
TAL metal
SVOA
Tot U Sr-90

* NOTE
Background for PID on 6 Jul 94 was 0.2 ppm

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY | **CORE SAMPLE LOG**

Borehole ID 10-1270 TA/OU 10/1079 Drill Depth From 30 To 50 Page 2 of 2

Driller Stewart Brothers Box #(s) 7-9 Start Date/Time 6 Jul 94 0720 End Date/Time 6 Jul 94 1150

Drilling Equip./Method Failing F4W/Hollow Stem Auger Sampling Equip./Method stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	2.1 / 70% Rec	none	0 ppm 2400 ft Ox	Box 7 of 9 30'-35'6"	very soft, light brown (5YR6/4) heterogeneous mixture - coarse sand composed of quartz and feldspar, trace pumice and dacite grains		ALLUVIUM	
32.5	2.3 / 5.5 Rec	AAB 2971 34.0-34.6 Rec	0.2 ppm 2400 ft Ox		32.5 - 33.5 SAA, reduction in matrix (5YR5/4) increasing gravel 33.5 soil-tuff interface, moderate orange pink (5YR8/4) clay + pumice, cobbles of andesite			
35	1.6 / 5.0 Rec	AAB 2972 35.1-35.5 Rec	0 ppm 2400 ft Ox		Silt, heterogeneous clay and pumice, light brown (5YR5/6) (SAA) trace dusky brown (5YR2/2) dacite grains damp core SOIL-TUFF INTERFACE			rock caught in sheet chute caused core loss
37.5	1.5 / 5.0 Rec	AAB 2973 37.5-38.5 Full	0.4 ppm 2400 ft Ox	Box 8 of 9 35'6" - 40'6"	pinkish gray (5YR8/1) tuff, devitrified, porous, interstitial glass shards, pebble-sized pumice fragments, little dacite grains, little quartz, trace silt SOIL-TUFF INTERFACE		SOIL - TUFF TRANSITION ZONE	AAB 2974 - field blk AAB 2975 rinsate blk analyzed for rad suite
40	5.0 / 5.0 Full	AAB 2976 40.5-46.0 Full AAB 2976 40.5-46.0 Rec	0.4 ppm 2400 ft Ox 40.5-46.0 2400 ft Ox 40.5-46.0 2400 ft Ox Duplicate	Box 9 of 9 40'6" - 45'6"	40.5 potential staining of the core, grayish moderate olive pink (5YR4/4) zone 20cm wide, corresponds to high rad. 3400 cpm below 40.5 pinkish gray (5YR8/1) nonwelded ignimbrite, 4% pumice, 2% sanidine and lithic fragments pumice contains abund. vapor phase alteration, phenocrysts of quartz and feldspar; groundmass consists of glass shards, dusty brown dacite fragments, and pale yellowish brown (10YR6/2) pumice fragments NONWELDED IGNIMBRITE		Lower Bandelier Tuff	AAB 2977 full suite from interval showing highest rad 3400 ft 40.5-46.0 Bottom of hole 1150 Random sample AAB 2978 collected from top of soil-tuff interface (pumice in clay matrix) 34.6-34.8
45	5.0 / 5.0 Full							
50	5.0 / 5.0 Full							

Prepared by Laurel Sheets Date 12 Jul 94 Checked By Rebecca Bix Date 7/26/94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 18-1274 TA/OU TA-16/OU 178 Drill Depth From 0 To 30 Page 1 of 3

Driller Stewart Brothers Box #(s) 1-6 Start Date/Time 24Jun94 0851 End Date/Time 27Jun94 0930

Drilling Equip./Method Hollow stem auger Sampling Equip./Method split spoon ws 7/1/94 stainless steel split barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.5/2.5 Run 1	no sample	0 ppm 360 ppm 360 to 0	0 / 2.5	light brown sand and fine to coarse organic matter (1352) SVRGW		A	cuttings EZ to Chm began drilling 0851
2.5	2.3/2.5 Run 2	MB 2920 Full Suite 15 min	0 ppm 290 ppm 0 ppm	2.5 / 5	SAA change to dominant silt size (1359) silty sand (1404)			Full Suite TAL metals SVOA, total U Sr-90, gross α/β moist
5	2.5/2.5 Run 3	none	0 ppm 2600 ppm 0 ppm	5 / 7.5	SAA again w/ high clay content			Rad Suite gross α/β moist XRF metals SVOA screen
7.5	2.5/2.5 Run 4	MB 2921 MB 2922 MB 2923	0 ppm 240 ppm 0 ppm	7.5 / 10	SAA 1509 silt 1510 sand			
10	2.5/2.5 Run 5	none	0 ppm 220 ppm 0 ppm	10 / 12.5	SAA			
12.5	2.5/2.5 Run 6	MB 2924 MB 2925 MB 2926	0 ppm 300 ppm 0 ppm	12.5 / 15	SAA			MB 2919 - field blank MB 2923
15	2.5/2.5 Run 7	NONE	0 ppm 260 ppm 0 ppm	15 / 17.5	SPP		ALLUVIUM	see EZ 1100 filtered 1105 Tim Gunn is sample 1100
17.5	2.5/2.5 Run 8	MB 2927	0 ppm 250 ppm 0 ppm	17.5 / 20	SMS SAA pale brown (1510) some clay (1511)			MB 2918 - rinsate
20	2.5/2.5 Run 9	MB 2928	0 ppm 300 ppm 0 ppm	20 / 22.5	increasing amount of pumice fragments (1515) in matrix of light brown SILT and sand (1519)			MB 2928 MB 2929 (dup) Full Suite inclusive of rad (gross α/β)
22.5	2.4/2.5 Run 10	MB 2930	0 ppm 290 ppm 0 ppm	22.5 / 25	SAA except no pumice fragments SILT (1525) sand (1529)			Archived for for Full Suite + ISOTH + Gamma Spec
25	2.5/2.5 Run 11	none	0 ppm 280 ppm 0 ppm	25 / 27.5	SAA			
27.5	2.5/2.5 Run 12	MB 2931	0 ppm 260 ppm 0 ppm	27.5 / 30	SAA with gravel (1530) increasing amount of clay (1532)			
30								

Prepared by Laurel Shaffer Date 1Jul94 Checked By [signature] Date 7/6/94

- SILT
- SAND
- GRAVEL
- BR - non-welded ignimbrite

Field blank MB 2919
Rinsate MB 2918
Background for PID = 0

Rad Suite: gross α/β moist, XRF metals, SVOA screen

Full Suite: gross α/β moist, Sr-90, Total U, SVOA TAL metals

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 27 Jun 94 0930

Drilling Equip./Method [illegible] Sampling Equip./Method ~~split spoon~~ [illegible] Stainless Steel split barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible]	none	[illegible]	[illegible]	Poorly sorted gravel & coarse sand 13.5% clasts [illegible] (Dark brown) [illegible]		ALLUVIUM	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
35	[illegible]	none	[illegible]	[illegible]	[illegible]			[illegible] drilling activities for 24 Jun 94 [illegible] back and collected full suite / dup from interval with the highest rad (420 cm [illegible]) from 21.8 - 22.3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			AAB 2928 AAB 2929 (dup)
40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		LOWER BANDELIER TUFF	[illegible] 27 Jun 94 [illegible] 39.5 ft
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			- AAB 2930 [illegible]
45	1.5	[illegible]	[illegible]	[illegible]	[illegible]			- AAB 2931 [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible] 40-44.6
50					[illegible]			- AAB 2934 RANDOM full suite sample from the soil tuffy interface 38.3 - 39

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 7/5/94

* NOTE Box #8 is to full was put in core [illegible] over the weekend Bring back down to site to continue filling [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1372 TA/OU 10/1072 Drill Depth From 0 To 30 Page 1 of 2

Driller [illegible] Box #(s) 1-5 Start Date/Time 22 Sept 94/1450 End Date/Time 23 Sept 94/1030

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Spoon Core Barrel 9-23-94

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number AA# s	Field Screening Results OVM, HNu, CGI (ppm)	Top/Bottom of Core in Box	Lithology · Petrology · Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5		0 OVM <250 BT	Run 1 0-2.5 Ft	0.0-10 Organics, yellow brown (10YR 5/4) sandy loam (fill) underlain by 1.5' of silty sand, gravel, clay; 10-35 lt. brown (5YR 6/4), fine sand, trace gravel		Alluvium	22 Sept 94 Initial 1425 Drilling 1450
5	Run 2 2.5/2.5	AA# pend 3.5-5.0 RAD AA# pend 0-p	0 OVM <250 BT		3.5-5 med to coarse gr sand, trace clay, moist			
	Run 3 0/2.5			Run 1 0.5-5 Ft	5-7.5 Core loss, fell out of core barrel while pulling out.	Core loss		5-7.5 Core loss, pulling on sample catcher
10	Run 4 2.5/2.5	AA# pend 9.5-10 RAD AA# pend 0-p	0 OVM <250 BT		7.5-24 mod to coarse gr sand, pale brown (10YR 6/3) 5-10% gravel 1-3cm (rhyolite), moist soft			
	Run 5 2.5/2.5		0 OVM <250 BT	Run 2 5-15 Ft	SAA			
15	Run 6 2.5/2.5	AA# pend 14.5-15 RAD	0 OVM <250 BT		SAA			Stop drilling 1545
	Run 7 2.5/2.5		0 OVM <250 BT	Run 3 15-20 Ft	SAA			23 Sept 94 Initial 0715 Drilling 0730
20	Run 8 2.5/2.5	AA# pend 19.5-20 RAD	0 OVM <250 BT		SAA 10-15% gravel 1-3cm			
	Run 9 2.5/2.5		0 OVM <250 BT	Run 4 20-26.5 Ft	SAA 5% s.lt/clay			
25	Run 10 2.0/2.5	AA# pend 23.7-24.5 Fill	0 OVM <250 BT		SAA 24- fine grained s.lt, moderate yellowish brown (10YR 5/4) dry 24.5-25 Core loss			
	Run 11 2.5/2.5		0 OVM <250 BT		25-26.9 SAA 26.9-fine-med gr sand w/ 60% rock 1-7cm (10YR 7/4), moist			
30	Run 12 2.5/2.5	AA# pend 29.5-30 RAD	0 OVM <250 BT	Run 5 26.5-32.5 Ft	27.8-36 fine grained s. lt. olive yellow brown (10YR 5/4) compacted to 1, roots, dry, <5% gravel			

Prepared by J Waltersheid Date 23 Sept 94 Checked By [illegible] Date 9-27-94

Sand

s.lt/clay

gravel

Rhyolite

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible]72 TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 5-8 Start Date/Time 23Sept94/1450 End Date/Time 23Sept94/1650

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number AA#'s	Field Screening Results (unit ID ppm)	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 1 25/25		0 DVM <250 AT	0-5	Fine grain s. ll, mod. yellow brown (10YR 5/4), <5% ASH Fragments of pumice, soft		Alluvium	
	Run 2 25/25	AA# 7950 30.5-35 RAD	0 DVM <250 AT	5-10	Fine grain s. ll, mod. yellow brown (10YR 5/4), some gravel, mix of lithologies (rhyolite, basalt, pumice clasts)			
35	Run 3 25/25	AA# 7951 35-37 Fill	0 DVM <250 AT	Gravelly 32.5-38.5	and gravel at contact			
					36.6 Contact Bandelier Tuff, Strongly welded pumice, pale orange to dk yellowish orange (10YR 6/2 to 10YR 4/2) strong pumice clasts			
	Run 4 25/25	AA# 7952 38-40 RAD	0 DVM <250 AT		From 36.6-38 cm ash-size, matrix			
40	Run 5 25/25		0 DVM 650 AT	10-15 32.5-45	SAA			
	Run 6 0/25	AA# 7953 42.5-45 Fill	0 DVM AT		SAA			
					42.5-45 Sample fell out	Core loss		Back: 0926 In zone: 0955 Out zone: 1000
45	Run 7 25/25		0 DVM 650 AT	15-20 45-50	SAA 2-10% open space between pumice clasts, some fracture surfaces in fine grained matrix		Gauje Pumice	
	Run 8 25/25	AA# 7954 45.2-50 Fill	0 DVM <250 AT		SAA			Completed Hole: 1030
50					50' TD			

Prepared by J. Waltenbaugh Date 23Sept94 Checked By Mark Famick Date 9-27-94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1273 TA/OU 10/1079 Drill Depth From 0 To 30 Page 1 of 2

Driller Stewart Bro Box #(s) 1-5 Start Date/Time 23 Sept 94/1350 End Date/Time 26 Sept 94/1030

Drilling Equip./Method Failing F-10/Hollow Stem Auger Sampling Equip./Method Stainless Steel ~~Hollow Stem Auger~~ Split Spoon Core Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number AAB	Field Screening Results OVM, BY CPM	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 1.5/2.5		∅ OVM ≤250 BY	Box 1 of 8 0-7 Feet	0.0-2.0 Fine grain silt, dk yellowish orange (10YR 6/6) organics (roots, needles, etc) trace gravel, upper soil horizon dry		Alluvium	23 Sept 94 In zone: 1310 Drilling: 1350
	Run 2 2.5/2.5	AAB9455 2.5-3.3 Full	∅ OVM ≤250 BY		2-19 Med - Coarse grain silt sand, mod yellowish brown (10YR 5/4) dry, trace gravel, trace organics			
5	Run 3 2.5/2.5		∅ OVM ≤250 BY		Coarse gr sand, pale brown (5YR 5/2) dry tuff black at 7' trace gravel			
	Run 4 2.5/2.5	AAB9458 9.5-10.3 RAD	∅ OVM ≤250 BY	Box 2 of 8 7-12.5 Feet	SAA, moist, 5% gravel			
10	Run 5 2.5/2.5		∅ OVM ≤250 BY		SAA			
	Run 6 2.5/2.5	AAB9456 14.5-15 RAD	∅ OVM ≤250 BY	Box 3 of 8 12.5-17.5 Feet	SAA			
15	Run 7 2.5/2.5		∅ OVM ≤250 BY		SAA 17' increase in clay by tuff black			Break: 1500 Drilling: 1515 ~~AAB9458~~ Jan 9/28/94 ~~AAB9459~~ Stop Drilling: 1530
	Run 8 1.5/2.5	AAB9457 17.5-19 RAD ~~AAB9458~~ ~~AAB9459~~	∅ OVM ≤250 BY		SAA 19-20' Core loss	loss		
20	Run 9 2.5/2.5	[illegible]	∅ OVM ≤250 BY	Box 4 of 8 17.5-26 Feet	20-22 SAA damp 10% gravel at S.H. contact 22-22.5 S.H. Grayish orange (10YR 7/4) trace gravel dry			26 Sept 94 In zone: 0735 Drilling: 0800
	Run 10 0.5/2.5	AAB9460 RAD 22.5-23 AAB9458 Rinsate	∅ OVM ≤250 BY		23-25 Core loss	Core loss		Run 10 AAB9458 Rinsate AAB9459 Fld Blk
25	Run 11 2.5/2.5	AAB9459 Fld Blk	∅ OVM ≤250 BY		~~22.5 SAA 25-26~~ Fine grain silty SAND, etc (10YR 7/4) dry, trace organics (roots)			
	Run 12 2.5/2.5	AAB3761 27.5-28.3 Full	∅ OVM ≤250 BY	Box 5 of 8 26-34.5 Feet	Fine grain silt, moderate yellowish brown (10YR 5/4) damp, tuff fragments up to 3cm.			
30								

Prepared by J. Waltersched Date 26 Sept 94 Checked By Derek Faulk Date 9/27/94

Sand
gravel
silt/clay
tuff
pumice

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1372 TA/OU D/1079 Drill Depth From 30 To 50 Page 2 of 2

Driller Steve Box Box #(s) 5-8 Start Date/Time 23 Sept 94/1350 End Date/Time 26 Sept 94/1030

Drilling Equip./Method Fe Lg ED Hollow Stem Auger Sampling Equip./Method Stainless Steel Split spoon Core Barrel 9.27.94

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number Addl	Field Screening Results (V=M, U=Ci, CPM)	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 13 05/05		0 OVM 5250 BV	Run 13 26-30.5 Ft	SAA 30.5-32.5 Core loss	Core loss	← Alluvium	
35	Run 14 25/25	AAB9V62 33-33.5 RAD	0 OVM 5250 BV		Fine grain sand S.M. dry, pale yellow brown (10YR 6/2) ≤10% gravel upto 2cm. Increasing sand w/ depth			
	Run 15 25/25	AAB9V63 36-36.5 Ft	0 OVM 5250	Run 15 30.5-35.5 Ft	SAND fine grain mod ↓T 34.5 Rimrock Rock. yellow to light (5Y 8/2) w/ strong FeOx staining, clasts, friable, pumice crystals range 1cm - 3 Sem. clay alteration is evident			
40	Run 16 25/25		0 OVM 5250 BV	Run 16 35.5-41 Ft				
	Run 17 25/25	AAB9V63 42-42.5 RAD	0 OVM 5250 BV		SAA slightly less FeOx staining, dry at water & competent core			
	Run 18 25/25		0 OVM 5250 BV	Run 18 41-47.5 Ft	SAA		Guaje Pumice	Break: 0920 Backfill: 1005 Drilling: 1007
45	Run 19 25/25		0 OVM 5250 BV		SAA			
	Run 20 25/25	AAB9V65 Tuff 48.5-50 Ft	0 OVM BV	Run 20 47.5-50 Ft	SAA less FeOx, crystals larger, dry			TD. 1030
50					50 T.D.			

Prepared by J Wolkerstorfer Date 26 Sept 94 Checked By Mark Finch Date 9.27.94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY | **CORE SAMPLE LOG**

Borehole ID 10-1274 TA/OU 10/1079 Drill Depth From 0 To 30ft Page 1 of 2

Driller Stewart Bros Box #(s) 1-4 Start Date/Time 29Sept94/1115 End Date/Time 29Sept94/1620

Drilling Equip./Method Failing F10 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5		Ø OVM ≤250 BT	Box 1 of 7 0-7.0 ft	0-2.5 ft Sandy SILT, moderate yellowish brown (10YR 5/4) fine to medium grain sand, trace fine gravel, humus layer at surface (grass, roots, burrows etc), damp.			29 Sept 94 In zone: 1110 Drilling: 1115
5	Run 2 2.5/2.5	AAB9477 2.5-3.4' Full	Ø OVM ≤250 BT		2.5-5 ft SAND fine to medium grain, trace coarse gravel (tuff, rhyolite, volcanics), moist, unconsolidated			2.5-5.0': photo
	Run 3 2.5/2.5		Ø OVM ≤250 BT		SAA Coarse with depth			
10	Run 4 2.5/2.5	AAB9478 5.5-10' RAD	Ø OVM ≤250 BT	Box 2 of 7 7-15.0 ft	7.5-10 ft SAND, medium to coarse grain, moderate yellowish brown (10YR 5/4), trace fine volcanic gravels, unconsolidated, damp, trace silt/clay.			7.5-10': photo Lunch: 1200 In zone: 1300 Drilling: 1310
	Run 5 1.5/2.5		Ø OVM ≤250 BT		10-11 ft SAA 11-11.5 ft Silty SAND, coarse grain, 10% clay, moist. 11.5-12.5 ft (No Recovery)		Loss	
15	Run 6 2.5/2.5	AAB9479 14.5-15' RAD	Ø OVM ≤250 BT		12.5-15 ft Coarse grain SAND, little coarse volcanic gravel clasts, damp, unconsolidated			12.5-15': photo
	Run 7 2.5/2.5		Ø OVM ≤250 BT	Box 3 of 7 15-22.5 ft	SAA			
20	Run 8 2.5/2.5	AAB9480 18.5-20' Full AAB9481 Dup	Ø OVM ≤250 BT		17.5-18.5 ft SAND, fine-med. grain trace gravel, damp 18.5-20 ft SAND, medium to coarse grain pale brown (5YR 5/2), 15-20% pea size gravel, unconsolidated, dry, but with depth.			
	Run 9 2.5/2.5		Ø OVM ≤250 BT		SAA (trace silt/clay)			
25	Run 10 2.0/2.5	AAB9482 23-23.5' RAD	Ø OVM ≤250 BT	Box 4 of 7 22.5-30 ft	22.5-23.5 ft SAA 23.5-24.5 ft SILT, grayish orange (10YR 7/4), trace organics (roots) trace gravel, dry. 24.5-25 ft (No Recovery)		Loss	22.5-25': photo
	Run 11 2.5/2.5		Ø OVM ≤250 BT		25-27.5 ft SAA			
30	Run 12 2.0/2.5	AAB9484 27.5-28.5' Full	Ø OVM ≤250 BT		SAA 29.5-30 ft (No Recovery)		Loss	

Prepared by J Walterscheid Date 29 Sept 94 Checked By Derek Fauck Date 12 Oct 94

SAND

SILT/CLAY

Gravel

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1874 TA/OU 10/1079 Drill Depth From 30 ft To 50 ft Page 2 of 2

Driller Stewart Bro Box #(s) 5-7 Start Date/Time 29 Sept 94/1115 End Date/Time 29 Sept 94/1620

Drilling Equip./Method Fuelling F-10 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 13 2.5/2.5		Ø OVM ≤250 BY		30-32.5 ft SILT, fine grain, consolidated, firm, dry.		Alluvium	
	Run 14 2.0/2.5	AAB9483 33.5-34' RAD	Ø OVM ≤250 BY	Box 5 of 7 30-36.5 ft	32.5-33 ft SAND fine grain moderate yellowish brown (10YR 5/4) 33-34.5 ft med-coarse grain SAND, 10-20% volcanic gravel, 5% clay 34.5-35 ft (no recovery)			Break: 1500 In zone: 1530
35	Run 15 2.5/2.5		Ø OVM ≤250 BY		35-37.5 ft PUMICE pale orange to off white in color, strong FeOx staining decreasing with depth, pumice are 1-3cm in size, weakly competent, damp drying with depth		Gauge Pumice	
	Run 16 2.5/2.5	AAB9485 37.5-40'	Ø OVM ≤250 BY		SAA			37.5-40' photo
40	Run 17 2.5/2.5		Ø OVM ≤250 BY	Box 6 of 7 36.5-45 ft	SAA			
	Run 18 0/2.5		Ø OVM ≤250 BY		42.5-45 ft (no recovery)	Core Loss		
45	Run 19 2.5/2.5		Ø OVM ≤250 BY		45-47.5 ft PUMICE competent, gray to off white in color dry.			45-47.5': photo
	Run 20 2.5/2.5	AAB9487 49-50' Full	Ø OVM ≤250 BY	Box 7 of 7 45-50 ft	SAA			TD: 1620
50					50 ft Total depth			

Prepared by J. Walterscheid Date 29 Sept 94 Checked By Derek Faulk Date 12 Oct '94

SAND

SILT/CLAY

gravel

PUMICE

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 13-1375 TA/OU 13/1271 Drill Depth From 0 To 305ft Page 1 of 2

Driller Stewart Bros Box #(s) 1-4 Start Date/Time 28 Sept 94/0735 End Date/Time 28 Sept 94/1130

Drilling Equip./Method Ford F10 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 1.5/2.5		ø DVM BZ	Box 1 of 7 0.0-80.5ft	0-2.5ft Sandy SILT, dk yellowish brown (10YR4/2), moist, soft, fine to medium grained sand, trace fine gravel, trace clay, non-plastic, dilatant, slow dry strength, slight reaction to HCl, diamicton			28 Sept 94 Time: 0735 Drilling: 0735 2.5-5ft: rinse hole, sample fell out hole, retrieved split spoon
					2.5-5.0ft (No Recovery)	Core Loss		
5	Run 2 2.5/5				5-7.5ft SAA (with minor fine sand), dk yellowish brown (10YR4/2), moist, soft, fine to medium grained sand, trace fine gravel, trace clay, non-plastic, dilatant, slow dry strength, slight reaction to HCl, diamicton			
	Run 3 2.5/5	AA89469 5-5.5' RAD	ø DVM BZ		7.5-10ft SAA			
	Run 4 2.5/5		ø DVM BZ					
10	Run 5 2.0/2.5	AA89470 10-10.5' RAD Dup AA89470 10-10.5' RAD	ø DVM BZ		10-10.5ft (No Recovery)	Core Loss		
	Run 6 2.5/5	AA89471 13-15' RAD	ø DVM BZ	Box 2 of 7 80.5-115ft	10.5-13.5ft SAA 13-15ft Gravelly SAND, coarse grained, dark yellowish brown (10YR4/2), moist, well graded, fine to coarse gravel, subangular to subrounded, diamicton			
15	Run 7 0.5/2.5		ø DVM BZ		15-15.7ft SAA 15.7-17.5ft (No Recovery)	Core Loss		
	Run 8 2.5/5	AA89472 15-18' RAD	ø DVM BZ		17.5-18.7ft SAA 18.7-19ft SILT, fine grained, pale yellowish brown (10YR6/2), dry 19-20.5ft (No Recovery)	Core Loss		
20	Run 9 2.5/5		ø DVM BZ		20-20.5ft Gravelly SAND, coarse to fine grained, moderate yellowish brown (10YR5/4), granite, quartzite & tuff, subrounded fragments, trace silt, unconsolidated, dry, diamicton 20.5-22.5ft SAA			
	Run 10 2.5/5	AA89473 24.5-25' RAD	ø DVM BZ	Box 3 of 7 115-125ft				
25	Run 11 2.5/5		ø DVM BZ		25-26.5ft SAA, with increase in gravel at sand/silt contact 26.5-27.5ft SILT, fine grained, pale yellowish brown (10YR6/2), trace fine grained, weakly consolidated, dry			
	Run 12 2.5/5	AA89474 28.7-29' RAD	ø DVM BZ	Box 4 of 7 125-135ft	27.5-28.5ft SAA 28.5-30.5ft (No Recovery)	Core Loss		Break: 0.9% at 30.5ft
30								

Prepared by [illegible] Date 28 Sept 94 Checked By [illegible] Date 12 Oct '94

SAND

SILT

Gravel

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 23Sept94/0930 End Date/Time 23Sept94/1130

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results OVM, RF/PM	Top/Bottom of Core in Box	Lithology Petrology · Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible]		0 OVM [illegible] RF		30-32.5ft SAA			In zone: 1013
	[illegible]	AAG5414 32.5-35' FeO, MS	0 OVM [illegible] RF		32.5-34.5ft Sand, SiZ, moderate yellowish brown (10YR 5/4), [illegible]		Alluvium	Drilling: 1017
35	[illegible]		0 OVM [illegible] RF	Bot: 35' 32.5-40ft	34.5-35ft SAND, SiLT, [illegible]			
	[illegible]	AAG5413 35'-40' FeO	0 OVM [illegible] RF		35-35.5ft SAA			
	[illegible]		0 OVM [illegible] RF		35.5-37.5ft PUMICE, pale orange (10YR 8/4), [illegible]		Gauje Pumice	
40	[illegible]		0 OVM [illegible] RF		37.5-40ft SAA			
	[illegible]		0 OVM [illegible] RF	Bot: 40.5ft 40-45.5ft	40-42.5ft SAA Note: Fe2O3 decreasing with depth			
	[illegible]	AAG5415 42.5-45' FeO	0 OVM [illegible] RF		42.5-45.5ft SAA			
45	[illegible]			Bot: 45.5ft 45.5-50ft	45-47.5ft (No Recovery)	Core Loss		
	[illegible]	AAG5416 47.5-50' FeO, MS	0 OVM [illegible] RF		47.5-50ft SAA (trace FeOx, dr-)			TD 1130
50					50ft TD / Depth			out of zone: 1150

Prepared by [illegible] Date 25Sept94 Checked By [illegible] Date 20Oct94

SAND
SILT
Gravel
PUMICE

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 13-1276 TA/OU 13-1279 Drill Depth From 2 To 30ft Page 1 of 2

Driller Stewart Bros Box #(s) 1-5 Start Date/Time 30 Sept 94/0845 End Date/Time 3 Oct 94/0930

Drilling Equip./Method Ford F-10 Hollow Stem auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per inst / %)	Field Analytical Sample Number AAR #	Field Screening Results D/M ppm	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5		0 DVM 5250 BV	Run 1: 0-5	0-1.5' Sandy SILT, dk yellow brown (10YR 4/2), moist 1.5-5' SAND, 5-10% gravel, trace organics weakly cemented, moist		Alluvium	30 Sept on 94 In zone: 0730 Rigging down and moving to 13-1276. Dr. Hug - 0845
5	Run 2 2.5/2.5	AAR 9491 5.5-8.5 RAD	0 DVM 5250 BV		5-7.5' SAND, med. to coarse grained, dk yellow brown (10YR 4/2), 5-10% gravel (1-2 cm), moist trace silt/clay			
	Run 3 2.5/2.5	Duplicate	0 DVM 5250 BV		SAA			
10	Run 4 2.5/2.5	AAR 9492 7.5-10 RAD	0 DVM 5250 BV	Run 2: 5.0-10.0	SAA 7.5-10' 5-10% clay, 10-20% gravel			
	Run 5 2.5/2.5		0 DVM 5250 BV		SAA (10-13' 20% gravel, 45% silt/clay)			
15	Run 6 2.5/2.5	AAR 9493 12.5-15 RAD	0 DVM 5250 BV	Run 3: 10.0-21.0 ft	12.5-13' SAA 13-15' SAND, coarse grained, 40% gravel (1-5 cm in size, clasts rounded to sub-rounded), NSF Expansion clamp, trace clay			
	Run 7 2.5/2.5		0 DVM 5250 BV		15-17.5' SAND, med - coarse grained, mod yellow brown (10YR 5/4), ± 10% gravel, trace clay clamp			
20	Run 8 2.5/2.5	AAR 9494 17.5-20 AAR 9495 RAD	0 DVM 5250 BV		SAA interfingered with 5 cm zones of			Break: 1000 In zone: 1045 Dr. Hug - 1047
	Run 9 2.5/2.5		0 DVM 5250 BV	Run 4: 21.0-27.5 ft	SAA 5-10% clay, trace silt			
25	Run 10 2.5/2.5	AAR 9496 22.5-25 RAD	0 DVM 5250 BV		SAA 10-20% gravel (1-5 cm, absent on clay-rich) 5-10% clay/silt			
	Run 11 2.5/2.5		0 DVM 5250 BV		SAA ± 10% gravel, more silt/clay			
30	Run 12 0.5/2.5	AAR 9497 27.5-28 RAD	0 DVM 5250 BV		27.5-28 SILT, fine sand, grayish orange (10YR 7/4) clump 28-30 No Recovery	Caliche		Break: 1140 High winds

Prepared by J. W. Hersch Jr. Date 3 Oct 94 Checked By _____ Date _____

sand
silty clay
gravel

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 13-4376 TA/OU 13/1077 Drill Depth From 325' To 503' Page 2 of 2

Driller Stewart Rig Box #(s) 5-7 Start Date/Time 30 Sept 94/0845 End Date/Time 30 Oct 94/0932.

Drilling Equip./Method Fe Lg Ford Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Sac Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 13 2.5/2.5		0 ppm S.S.D. M.S.	Box 5 of 7 325-375 ft	SAA		Alluvium	3 Oct 94 Enter: 0805 Drilling: 0810
	Run 14 2.5/2.5	AAR 3479 327.5-330 KAC	0 ppm S.S.D. M.S.		325.5-327.5 Sandy SILT: fine grain mod. yellowish brown 10YR 5/4 consolidated, clay + sand grains			
35	Run 15 2.5/2.5		0 ppm S.S.D. M.S.		SAA			
	Run 16 2.5/2.5	AAR 3480 332.5-335 KAC	0 ppm S.S.D. M.S.	Box 6 of 7 375-425 ft	327.5-328' Sand fine to medium, 20-30% gravel, clasts			
					328-330 PUMICE, light brown (5YR 6/4) strong HCl reaction, angular cuttings at contact (sand/gravel pumice alteration). 1" 3cm in size			
40	Run 17 2.5/2.5		0 ppm S.S.D. M.S.		SAA less HCl reaction with depth weak competent core			
	Run 18 2.5/2.5	AAR 3481 337.5-340 KAC	0 ppm S.S.D. M.S.		SAA		Cerro Rimoso	
45	Run 19 2.5/2.5		0 ppm S.S.D. M.S.	Box 7 of 7 425-503 ft	SAA, competent			
	Run 20 2.5/2.5	AAR 3482 342.5-345 KAC	0 ppm S.S.D. M.S.		SAA			0930 T.D.
50					503 T.D.			

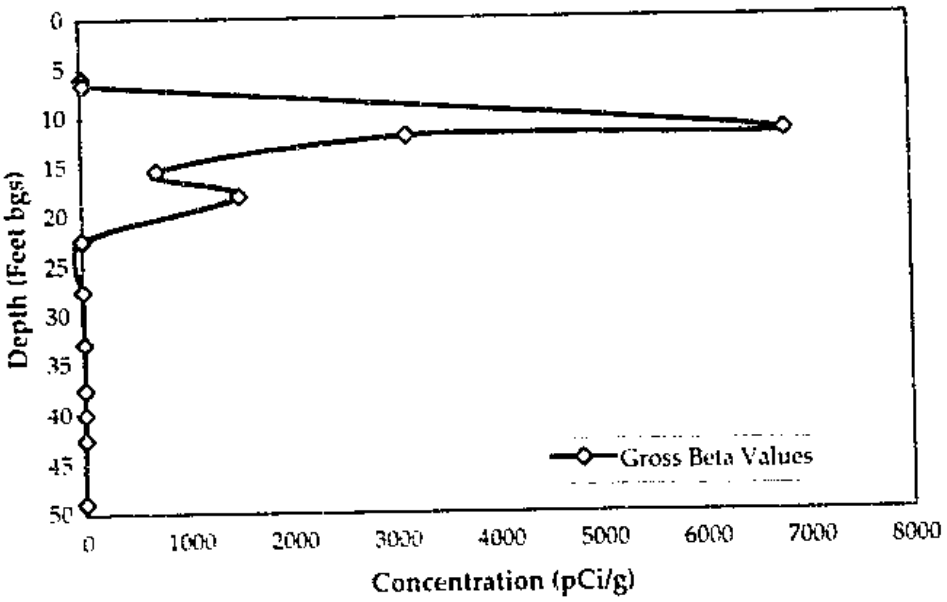
Prepared by J. Walterscheid Date 3 Oct 94 Checked By Mark Faulk Date 12 Oct 94

Sand
S. H
gravel
Pumice

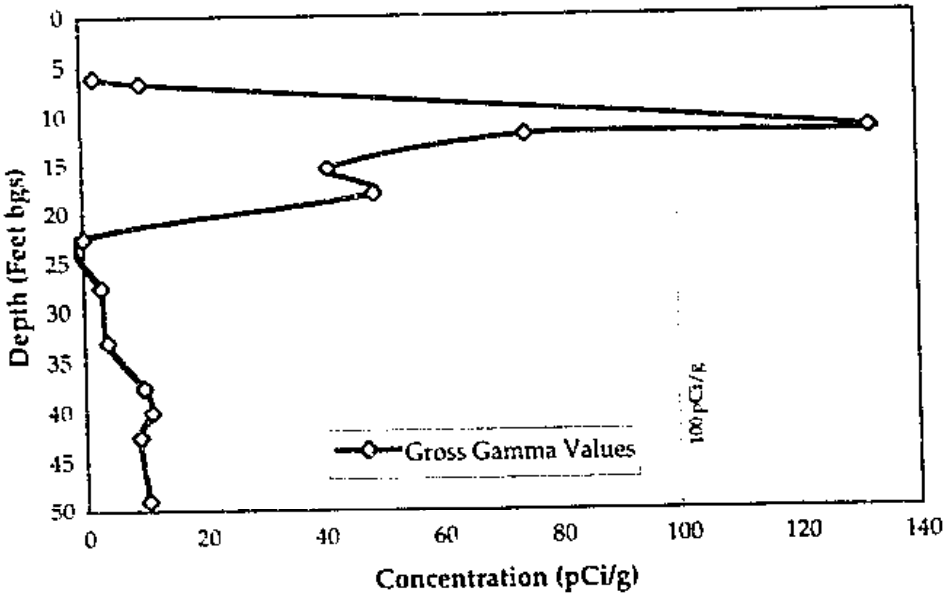
APPENDIX B

GRAPHICAL PRESENTATION OF CONTAMINATED BOREHOLES

Borehole 10-2210
Gross Beta Concentrations

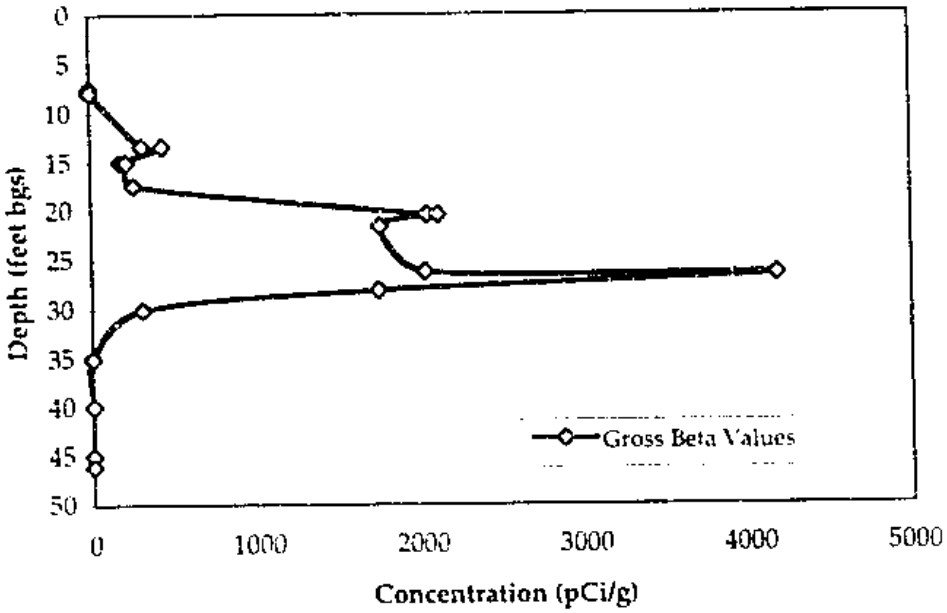


Borehole 10-2210
Gross Gamma Concentrations

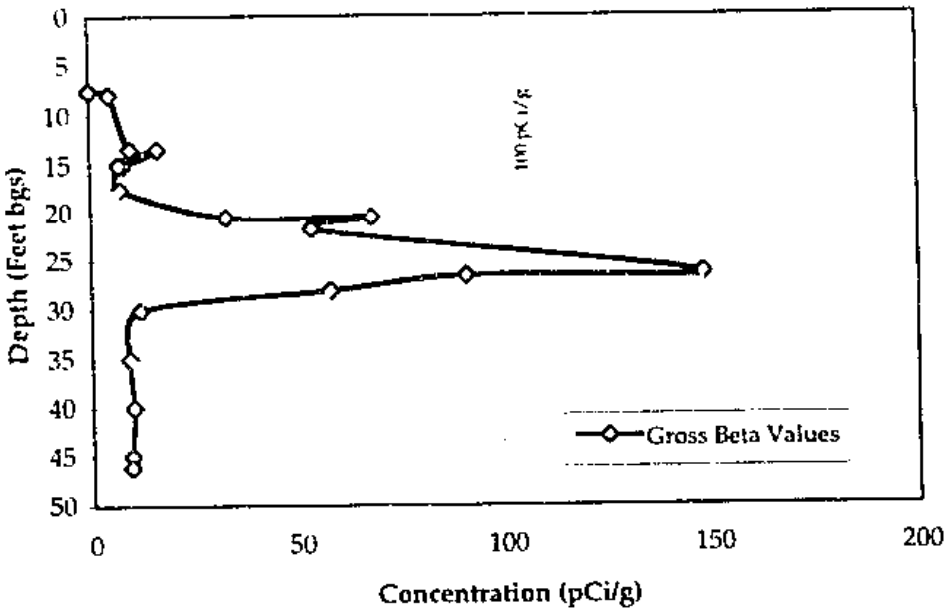


bgs - below ground surface

Borehole 10-1215
Gross Beta Concentrations

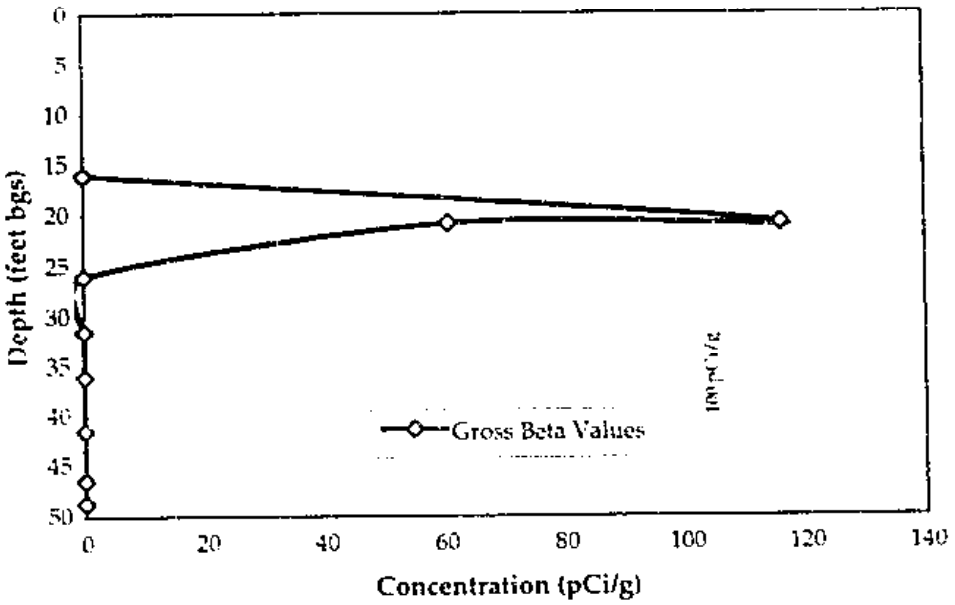


Borehole 10-1215
Gross Gamma Concentrations

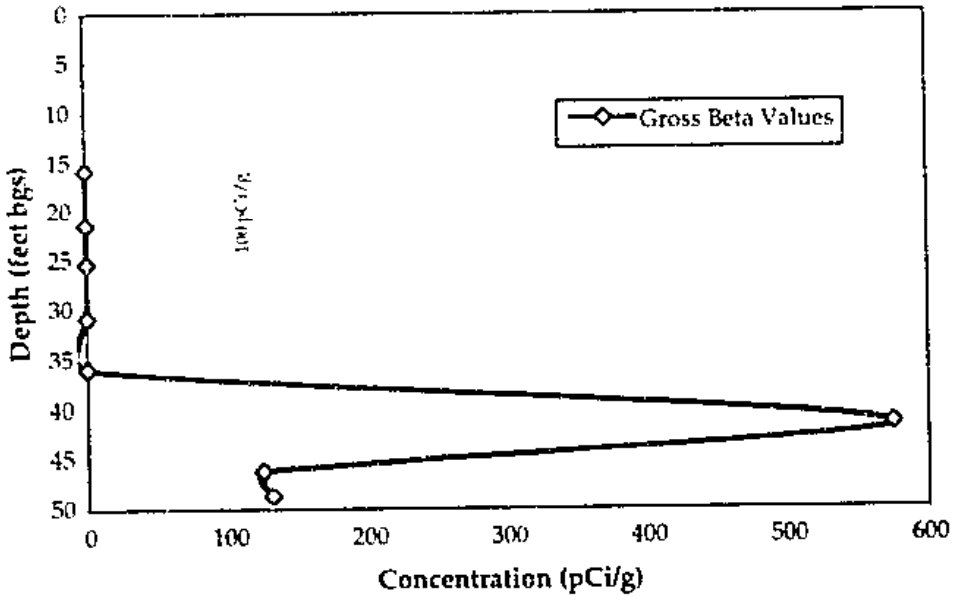


bgs - below ground surface

Borehole 10-1200
Gross Beta Concentrations

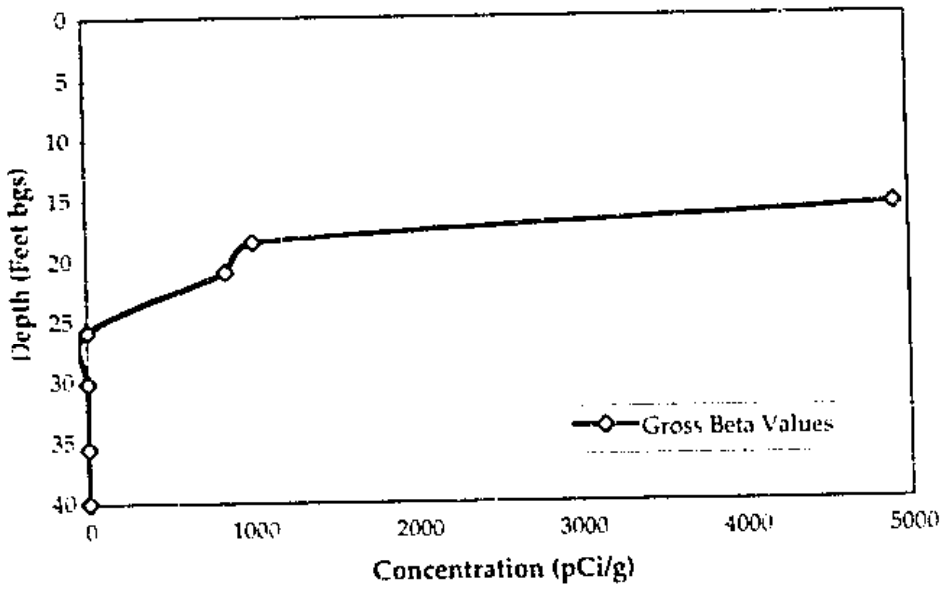


Borehole 10-1202
Gross Beta Concentrations

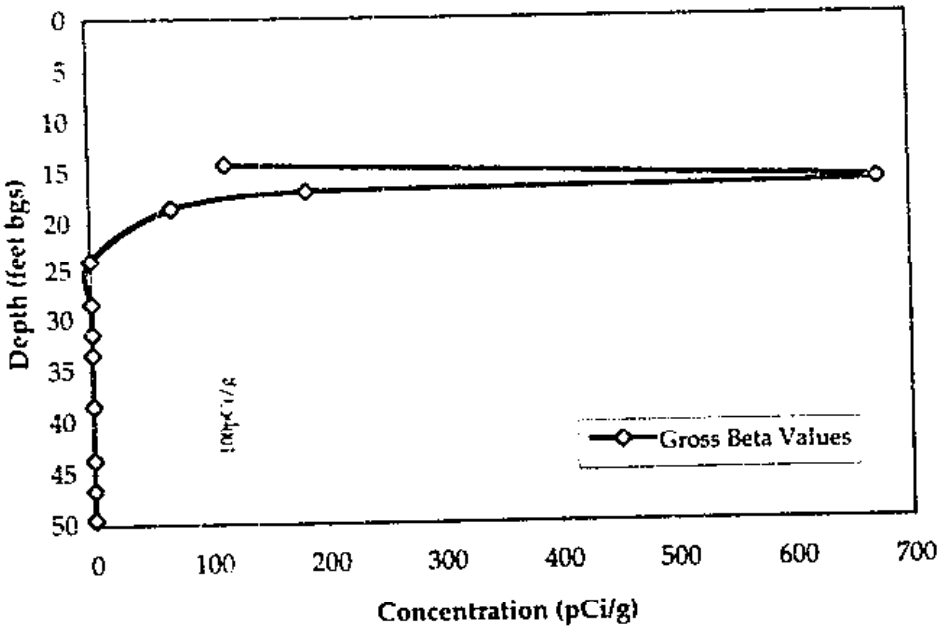


bgs - below ground surface

Borehole 10-1204
Gross Beta Values

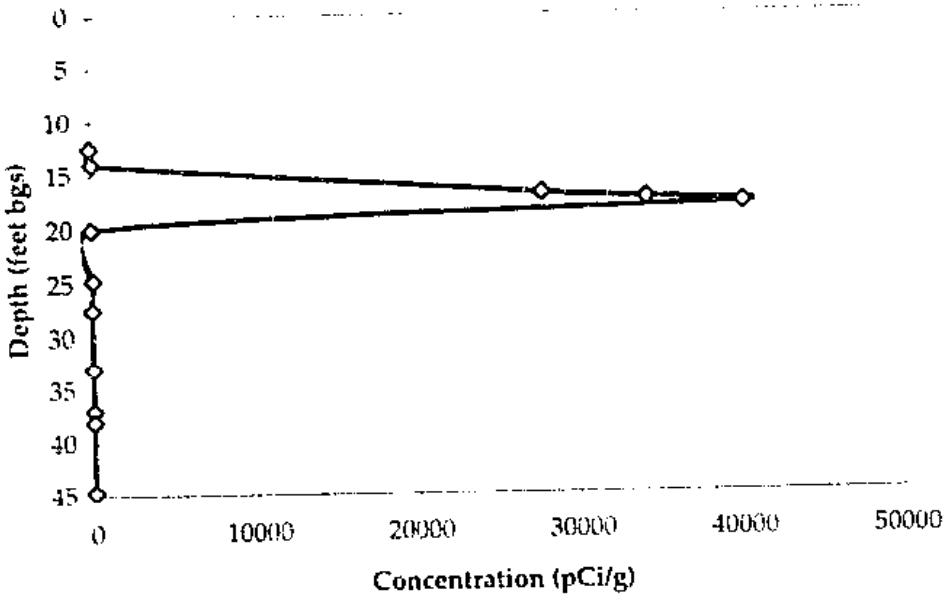


Borehole 10-2211
Gross Beta Concentrations

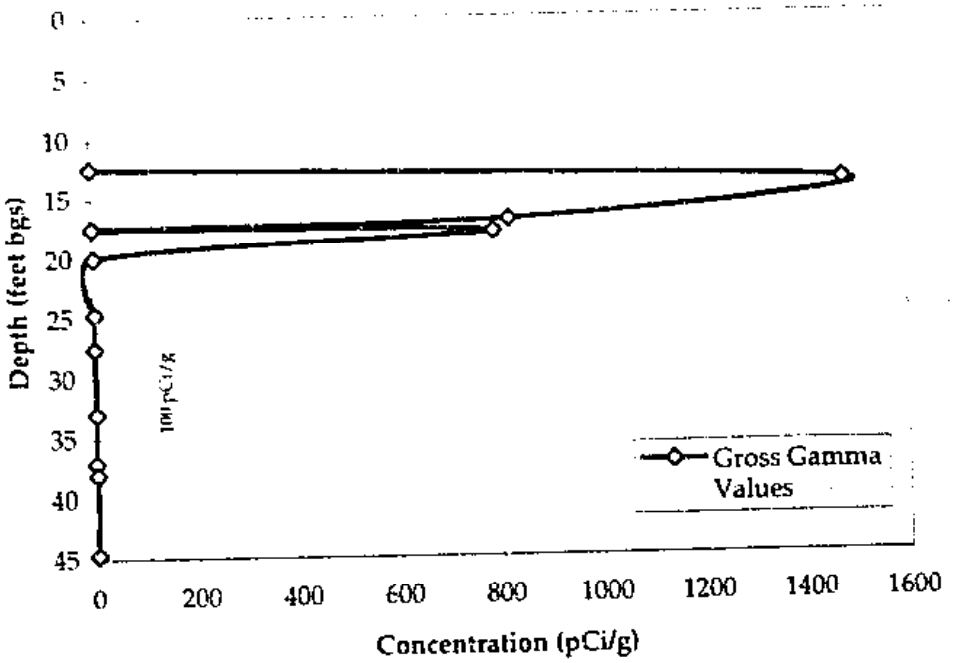


bgs - below ground surface

Borehole 10-2220
Gross Beta Values

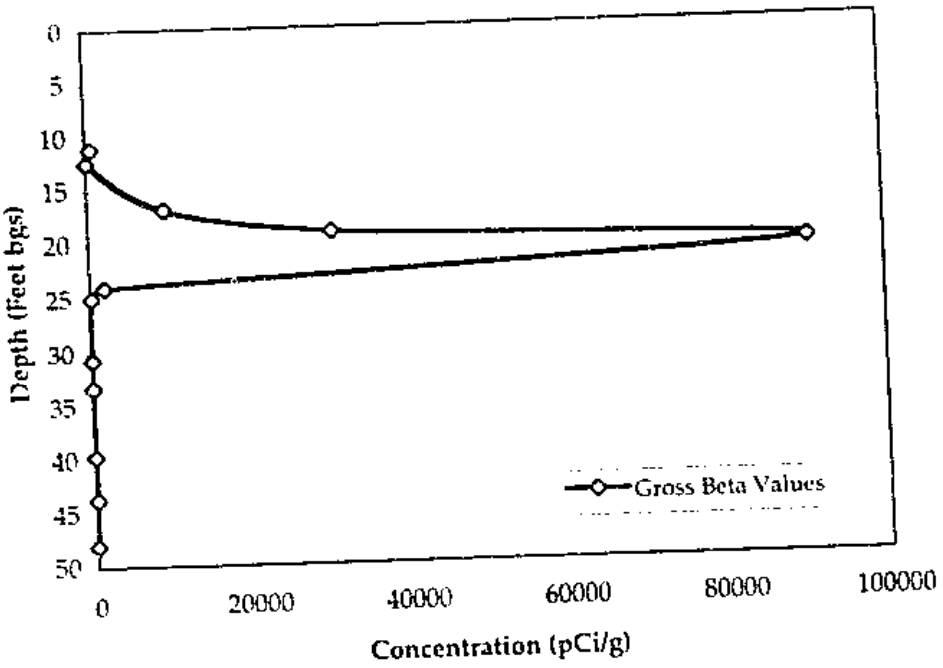


Borehole 10-2220
Gross Gamma Concentrations

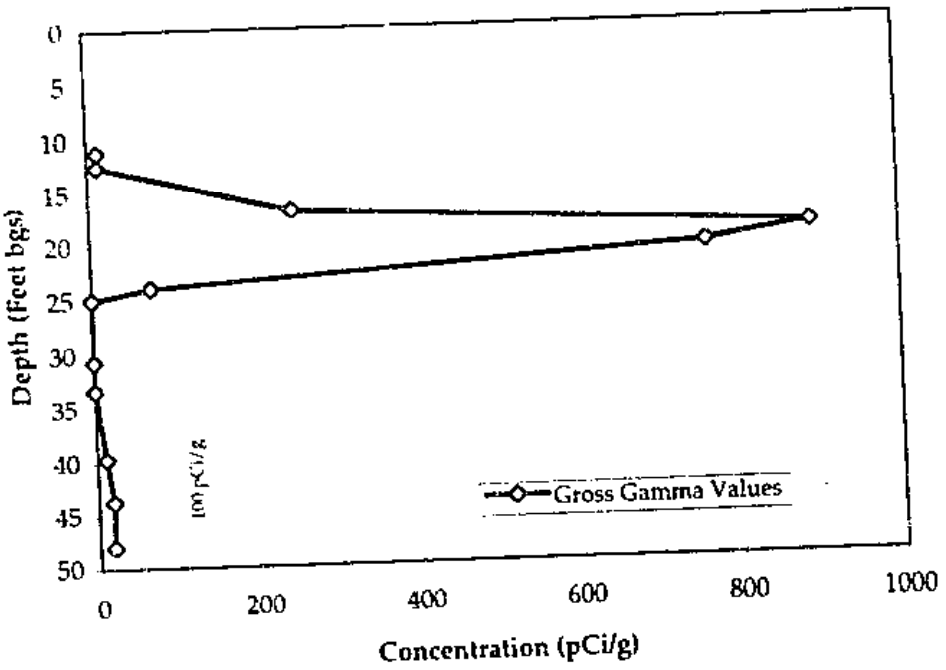


bgs - below ground surface

Borehole 10-1201
Gross Beta Concentrations

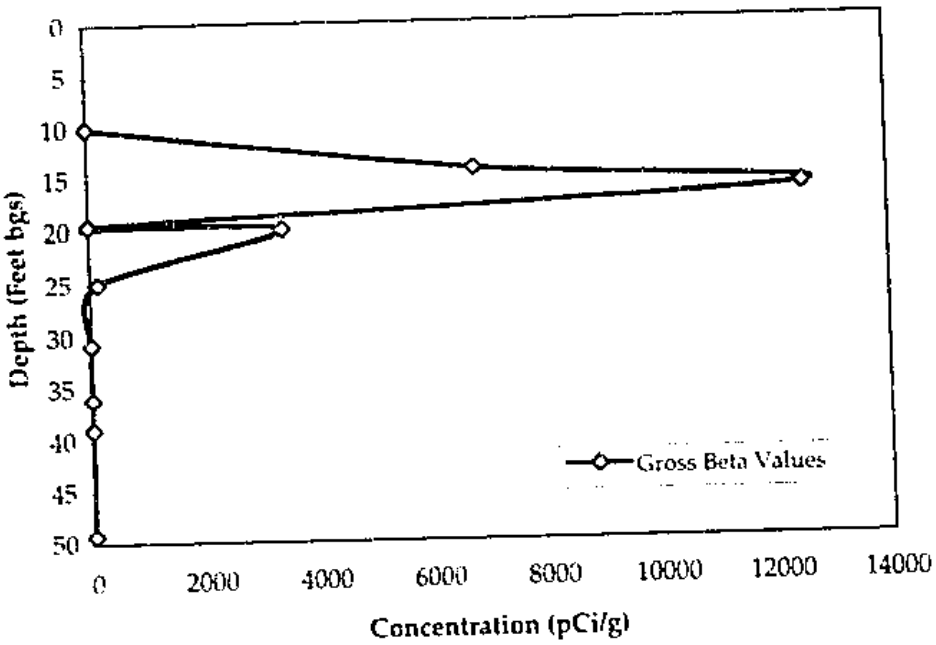


Borehole 10-1201
Gross Gamma Concentrations

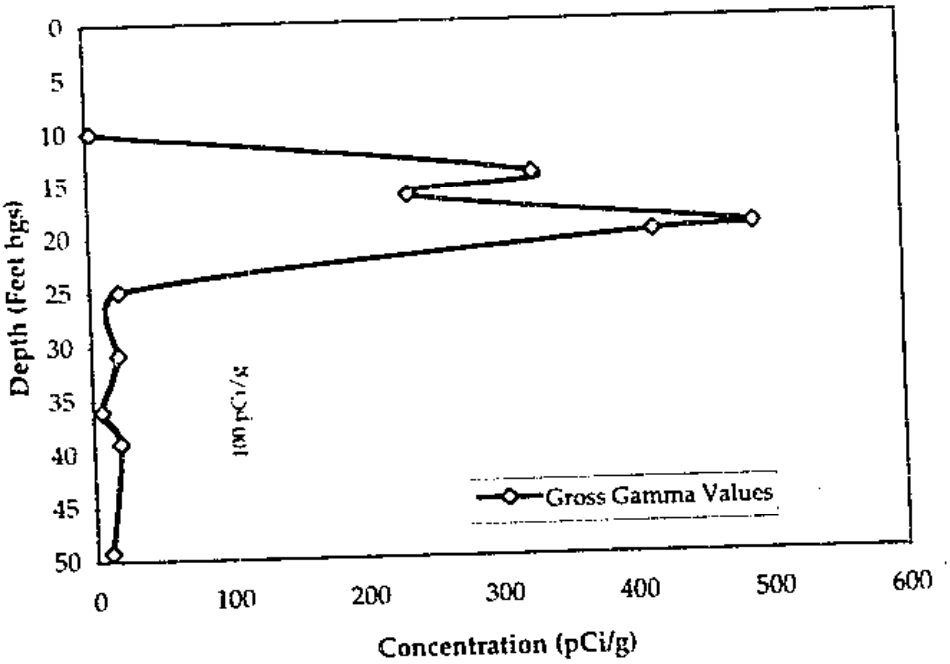


bgs - below ground surface

Borehole 10-1205
Gross Beta Concentration

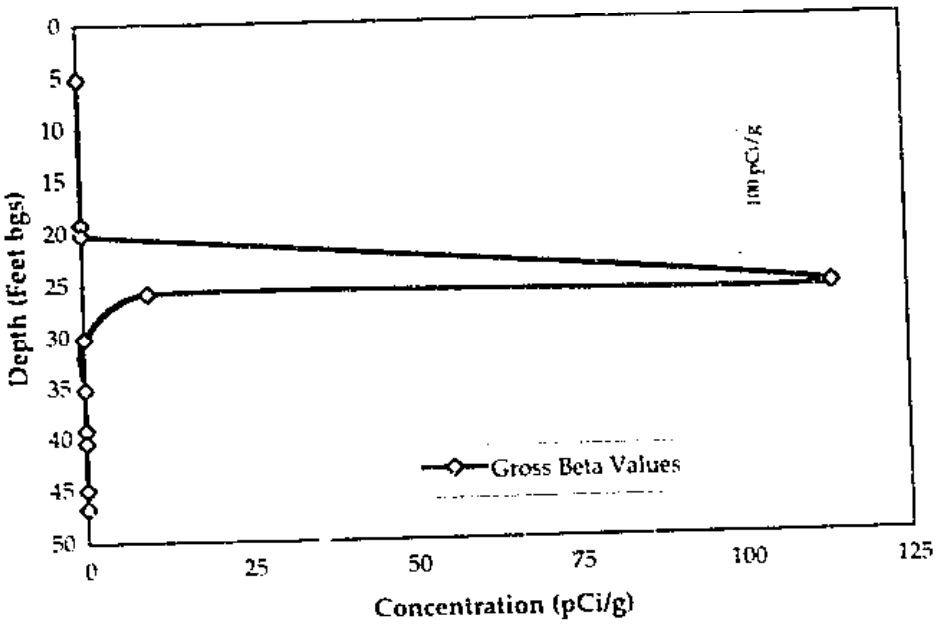


Borehole 10-1205
Gross Gamma Concentrations

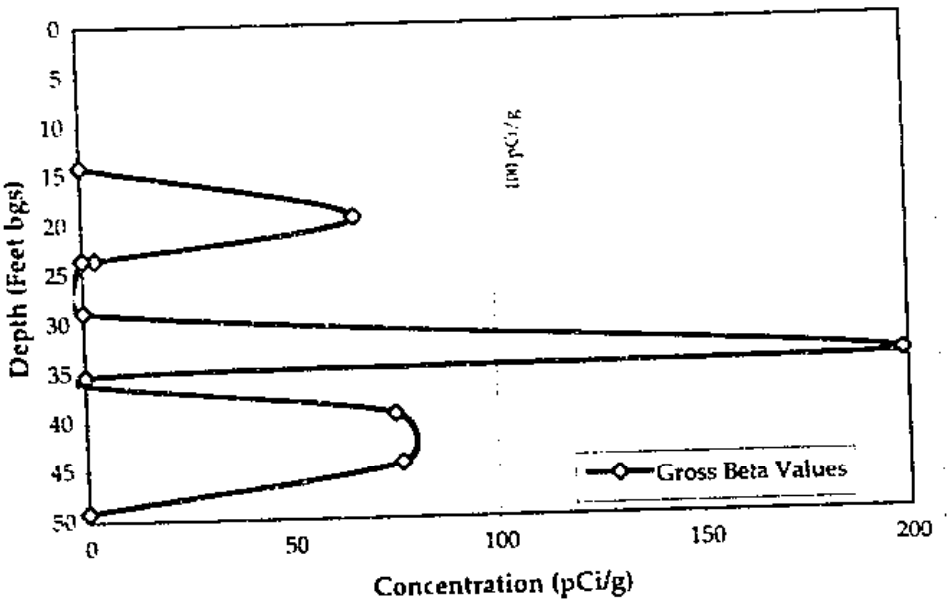


bgs - below ground surface

Borehole 10-1213
Gross Beta Concentrations

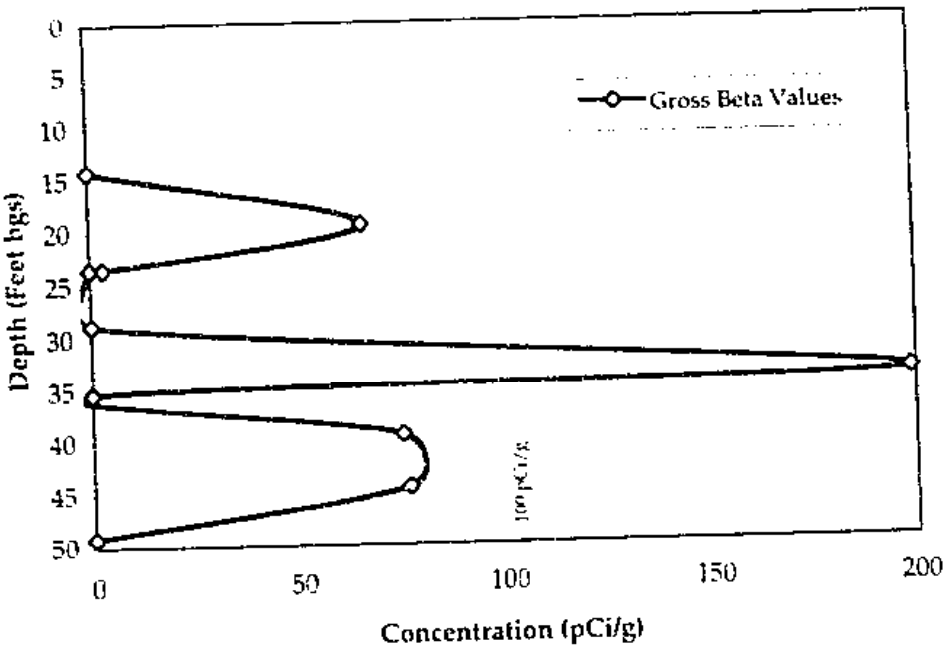


Borehole 10-2221
Gross Beta Concentrations

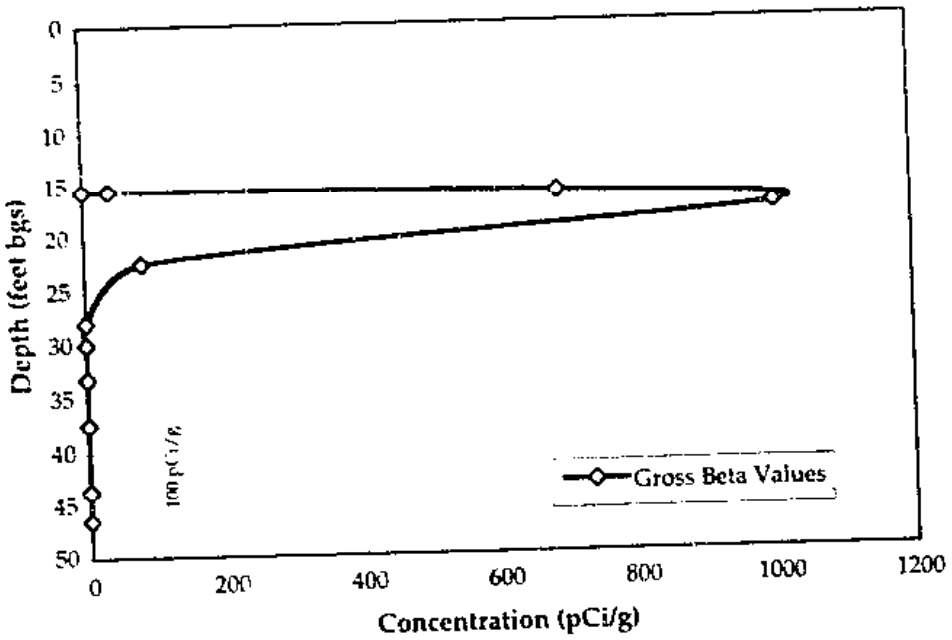


bgs - below ground surface

Borehole 10-2222
Gross Beta Concentrations



Borehole 10-1223
Gross Beta Values



bgs - below ground surface

APPENDIX C

MONITORING WELL CONSTRUCTION DIAGRAM

MONITORING WELL CONSTRUCTION FIELD DATA LOG

FIELD DIAGRAM OF NEUTRON ACCESS TUBE COMPLETION

Los Alamos National Laboratory Environmental Restoration
Well Completion Information Form

Site Work Plan: LA-UR-92-550

Technical Area: 16
Operable Unit: 1079
Signature: Kenneth G Foulk, P.G.

Inclusive Sample Identifier:
AAG 9495, 9501 to 9511
Date: 9 Dec 94

Owner: LANL
Installer: Eron/Geller & Stewart Drg
Installation Date: 22 Nov 94

Filter Pack Length (ft): 12.9
Formation of Completion (US/RC): Puye Formation
Casing Elevation (ft MSL): Not yet Surveyed
Casing Depth (ft): 57 below ground surface
Casing Diameter (in.): 4
Seal End Depth (FTFD): 55 below ground surface
Screen Material: #20 slot, Sch 40 PVC
Riser Material: PVC

Well Type Classification: M
Well Completion Method: F & S
Zone of Completion: N/A (Dry Hole)
Open/Screen Depth (FTFD)*: 57 5 below top of casing
Open/Screen Length (ft): 10
Open/Screen Area (in²/ft): 1.26
Flow Relationship: N
Cap Material: PVC
Cap Type: LC

WELL TYPE CLASSIFICATIONS

M - Monitor Well
P - Production Well
T - Test Well
O - Other (specify) _____

FLOW RELATIONSHIP

U - Upgradient
D - Downgradient
C - Cross Gradient
O - Onsite
N - Not known
B - Background

CAP TYPE

LC - Locking
SL - Slip-on
TR - Threaded
NO - None
SC - Screw-on
OT - Other (specify) _____

WELL COMPLETION METHODS

C- Porous Concrete
F - Gravel Pack
H - Horizontal Galley
O - Open End
P - Perforated/Slotted
S - Screen
T - Sand Front
W - Walled
X - Open
O - Other (specify) _____

CAP MATERIALS

CT - Concrete
CR - Copper
FI - Fiberglass
GI - Galvanized Iron
WI - Wrought Iron
SS - Stainless Steel
OM - Other Material
TE - Teflon
PV - PVC
RK - Rock or Stone
ST - Steel
TI - Tile
CS - Costed Steel
WD - Wood
NO - None
OT - Other (specify) _____

ZONES OF CONCERN

A - Artesian
C - Confined
H - Acquitard
G - Aquiclude
M - Multisystem
S - Semi-confined
U - Unconsolidated

* FTFD = feet from datum.

Los Alamos National Laboratory Environmental Restoration
Well Completion Information Form (continued)

Site Work Plan LA-UR-92-850

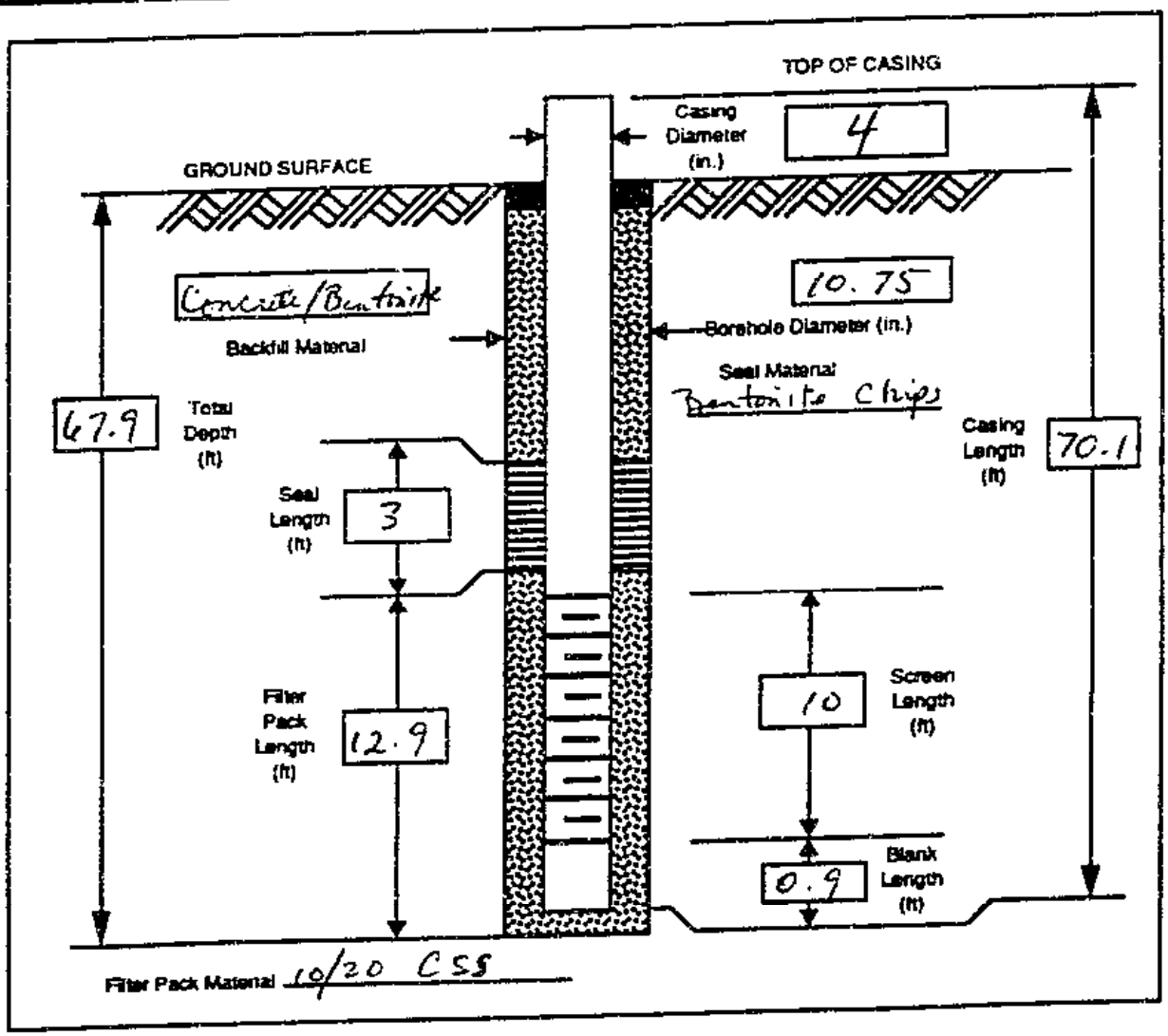
Technical Area 10

Inclusive Sample Identifiers AAS 9498, 9501 to 9511

Operable Unit 1079

Signature Derek Faulk, RG

Date 9 Dec 94



Comments

Los Alamos National Laboratory Environmental Restoration
Monitor Well Construction Field Data Log Sheet 1 of 1

Site Work Plan LA-UR-92-850
Technical Area 16
Inclusive Sample Identifiers AAB 9498, 9501 to 9511
Operable Unit 1079
Signature Derek Faulk, EG Date 9 Dec 94

BOREHOLE SUMMARY

BIT TYPE	HOLE DIAMETER (in.)	END[1] DEPTH (ft)	FLUID TYPE
Flat	10.25	67.9	N/A

CASING SUMMARY

CASING TYPE	DESCRIPTION	DIAM. (in.)	END[2] DEPTH (ft)
P	Sch 40 PVC	4	59.5
S	Sch 40 PVC	4	69.5

P - Protective S - Screen O - Open N - None

[1] Depth from Ground Surface [2] Depth from Toe of Casing

WELL CONSTRUCTION

TYPE[1] CODE	DESCRIPTION	END[1] DEPTH (ft)
F	10/20 CSS	67.9
S	Bentonite Chips	55.0
G	Concrete/Bentonite Slurry	52.0

B - Backfill S - Seal F - Filter Pack [1] Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10/4/94	0555	1430
	10/5/94	0510	0915
CASING	11/22/94	1515	1527
FILTER PACK	11/22/94	1527	1617
SEAL	11/22/94	1617	1634
BACKFILL	4/23/94	0850	1100
DEVELOPMENT	N/A		
OTHER Surface Completion	11/28/94	0940	1150

WELL DEVELOPMENT

N/A - Dry Hole

COMMENTS: Borehole FIMAD ID #10-1277

SOP 5.01, R0 9-95

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-[illegible] TA/OU 10[illegible] Drill Depth From 0 To 30ft Page 1 of 3

Driller Stewart Bros Box #(s) 1-5 Start Date/Time 4 Oct 94/0745 End Date/Time 5 Oct 94/0915

Drilling Equip./Method [illegible] F-10 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results OVM / BZ / CAM	Top/Bottom of Core in Box	Lithology · Petrology · Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5'/2.5'		@ OVM 5250 BZ	Run 1 0-5 ft	0-2.5ft Sandy SILT fine grain, moderate yellow brown (10YR5/6), humus layer at surface (wooden grass roots) 10-15% coarse clast + gravel (1-7.5cm dia. ch). damp		Alluvium	4 Oct 94 Tuff zone: 0745 Drilling: 0855
5	Run 2 2.5'/2.5'	AAB9496 2.5-3.5' Rad Ac Rad Ba Rad Cs Rad Co Rad Eu Rad Sr Rad Ra	@ OVM 5250 BZ		2.5-3.5ft SAA 3.5-5ft SAND med-coarse grain, trace of sandstone (rock), 10-30% gravel, uncons. to unconsolidated, trace silt/clay, damp			AAB9498: Fill Surface ~~AAB 9499 Fuel Tank~~ DUP ~~AAB 9500 Fuel Tank~~
	Run 3 2.5'/2.5'		@ OVM 5250 BZ		SAA			
10	Run 4 2.5'/2.5'	AAB9501 9.5-10' RAD	@ OVM 5250 BZ	Run 4 5-7.5 ft Run 5 7.5-12.5 ft	SAA			
	Run 5 2.5'/2.5'		@ OVM 5250 BZ		SAA w/ increasing silt/clay, trace roots			
15	Run 6 2.5'/2.5'	AAB9502 14.5-15' RAD AAB9503 Field Blk AAB9504 Rinsate	@ OVM 5250 BZ		SAA w/ decrease in gravel			AAB9502: RAD AAB9503: Field Blk AAB9504: Rinsate
	Run 7 2.0'/2.5'		@ OVM 5250 BZ		15-17ft SAA 17-17.5ft (No Recovery)			
20	Run 8 2.5'/2.5'	AAB9505 19.5-20' RAD	@ OVM 5250 BZ	Run 6 17.5-21 ft Run 7 21-25 ft	17.5-20ft SAND med-coarse grain moderate yellow brown 5-10% clay, trace coarse grain, moist, unconsolidated			
	Run 9 2.5'/2.5'		@ OVM 5250 BZ		SAA			
25	Run 10 2.5'/2.5'	AAB9506 23.5-23.7' Rad, Hc	@ OVM 5250 BZ		23.5-23ft SAA 23-25ft Coarse grain SAND, moderate yellow brown (10YR5/4) trace clay 20-30% fg gravel clasts (1-3.5cm) damp			
	Run 11 2.5'/2.5'		@ OVM 5250 BZ		SAA (clay/silt increasing with depth)			
30	Run 12 2.5'/2.5'	AAB9507 28.5-29' RAD	@ OVM 5250 BZ	Run 8 25-30 ft	27.5-28.7ft SAA 28.7-30ft SILT fine grain, consolidated (firm), moderate yellowish brown (10YR5/4), damp.			

Prepared by [illegible] Date 5 Oct 94 Checked By Kirk Foulk Date 12 Oct 94

SAND
SILT/CLAY
Gravel

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU 10/[illegible] Drill Depth From 30ft To 60ft Page 2 of 3

Driller [illegible] Box #(s) 5-7 Start Date/Time 5 Oct 94/0745 End Date/Time 5 Oct 94/0915

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results OVA/BH/CAM	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 15 2.5/2.5		0 OVM 0 250 BH	Box 5 Top 30ft Bottom 35.4ft	SAA		Alluvium	
	Run 16 2.5/2.5	AA96508 30-35' FAC	2 OVM 0 250 BH		30.0-35.4ft Sandy SILT, fine to coarse detrital mod reddish brown (5YR4/4) trace gravel, dump			
35	Run 17 2.5/2.5		0 OVM 0 250 BH		SAA			
	Run 18 2.5/2.5	AA96509 35-39' Fau me	0 OVM 0 250 BH		35.4-38.5ft Sandy SILT, 20% fg gravel slight damp 38.5-40ft PUMICE in Fe stained matrix weathered w/ minor amount of silt/clay (5YR6/1) to off white, moist, slight detrital clay, loose/unconsol		Orange Pumice	
40	Run 19 2.5/2.5		0 OVM 0 250 BH		Fe stained, decrease with depth			
	Run 20 2.5/2.5	AA96510 40-45' FAC	0 OVM 0 250 BH		SAA			
45	Run 21 0/2.5				45-47.5ft (no Recovery)	Core Loss		
	Run 22 0/2.5				47.5-50ft (no Recovery)	Core Loss		Break: 1242 (High Winds) In zone: 1400 Drilling: 1405
50	Run 23 0/5.0			Box 7 Top 50ft Bottom 63.5ft	50-55ft (no Recovery)	Core Loss		
55	Run 24 0/5.0				55-60ft (no Recovery)	Core Loss		End of day: 1430 (High Winds)
60								

Prepared by J. Vaterstead Date 5 Oct 94 Checked By Nicole Faulk Date 12 Oct '94

SAND
SILT/CLAY
Gravel
PUMICE

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 3 of 3

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 5 Oct 94/0915

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results OVM [illegible]	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
60	[illegible]	AA[illegible]	[illegible]	[illegible]	60-62 ft PUMICE, Strong FeOx staining, damp 62-63.5 ft [illegible] CLAY, fine grain light brown [illegible] pumice crystals [illegible], damp	[illegible]	[illegible]	5 Oct 94 Indent: 0800 Drilling: 0810
65	[illegible]		[illegible]	[illegible]	SAA	[illegible]	[illegible]	
67.5	[illegible]		[illegible]	[illegible]	65-66 ft SAA 66-67.5 ft [illegible]	[illegible]	[illegible]	Auger refused in dense clay TD: 0915
					67.5 ft Total depth			

Prepared by [illegible] Date 5 Oct 94 Checked By [illegible] Date 12 Oct 94

[illegible] PUMICE

[illegible] CLAY

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30ft Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 6 Oct 94/1200

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1			Top Box 1 Depth 0 ft	0-12ft Sandy SILT, fine grained, moderate yellowish brown (10YR 5/4), normal surface, uncon-solidated, dry;			6 Oct 94
					0-2.5ft (no recovery)			Zone: 0715
5					2.5-3.5ft SAA			Grid-g: 0505
					3.5-5.0ft (no recovery)			AAB9516: Fld. Blk
					5-7.5ft SAND, medium to coarse grained, 5-10% pebble gravel, trace cobbles, uncon-solidated, trace clay, trace organic material, clumps			AAB9517: Field Blk
								AAB9518: Rinsate
					SAA			
10								
					SAA			
					SAA			
15				Run 2 Depth 15 ft to 25 ft				
					15-16.5ft SAA, trace pebble gravel, trace cobbles, trace organic material, dry			
					16.5-17.5ft SAND, fine grained, 5-10% pebble gravel, trace cobbles, trace organic material, dry			
					17-17.5ft (no recovery)			
					17.5-20.0ft SILT, fine grained, 5-10% pebble gravel, trace cobbles, trace organic material, uncon-solidated, moderate yellowish brown			
20					SAA			
					SAA			
25				Run 3 Depth 25 ft to 30 ft				
					25-26.5ft SAA			
					26.5-27.0ft SILT, fine grained, strong orange (10YR 7/6), trace organic material, consolidated, clumps			
					27-27.5ft (no recovery)			
					27.5-30.0ft SAA			
30								Alluvium
								Bmsl: 1000

Prepared by [illegible] Date 6 Oct 94 Checked By [illegible] Date 12 Oct '94

SAND

SILT/CLAY

Gravel

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 ft Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 6 Oct 94 0800 End Date/Time 6 Oct 94/1200

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible] Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible] 13 2.5/2.5		∅ OVM 5250 [illegible]		SAA. 55% gravel		Alluvium	In zone: 1045
35	[illegible] 14 1.2/2.5	AAB9520 33-33.7 Fill, Hc	∅ OVM 5250 [illegible]	[illegible]	SAA 33.7-35 ft (no) Recovery			
	[illegible] 15 2.5/2.5		∅ OVM 5250 [illegible]		35-37.5 ft SAND [illegible] (10YR 5/4) [illegible] H, trace gravel, consolidated, damp.			
40	[illegible] 16 2.5/2.5	AAB9521 38.3-38.4 RAD	∅ OVM 5250 [illegible]		37.5-38.3 ft SAA 1g gravel clasts at contact 38.3-40 ft Pumice. High FeOx staining [illegible]			
	[illegible] 17 2.5/2.5		∅ OVM 5250 [illegible]	[illegible]	[illegible]		Gauge Pumice	
45	[illegible] 18 2.5/2.5	AAB9522 44.5-45 RAD	∅ OVM 5250 [illegible]		SAA			
	[illegible] 19 2.5/2.5		∅ OVM 5250 [illegible]	[illegible]	SAA decreasing FeOx			
50	[illegible] 20 2.5/2.5	AAB9523 47-53 Fill, Hc	∅ OVM 5250 [illegible]		SAA			TD: 1200
					50 TD			

Prepared by [illegible] Date 6 Oct 94 Checked By [illegible] Date 12 Oct 94

SAND

SILT/CLAY

Gravel

PUMICE

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 13-1672 TA/OU 13/1222 Drill Depth From 0 To 32.5' Page 1 of 2

Driller [illegible] Box #(s) 1-5 Start Date/Time 10/7/94 End Date/Time 10/12/94

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	R-1 2.5/2.5		0 DUM 5250 BZ	Top of Core in Box	0-2.5' Sandy SILT, fine grain, moist, yellowish brown (10YR5/4), loose, fine grained sand		A	Initial: 0750 D. Beg: 0756 Cloudy, overcast, 14 deg 45'
5	R-2 2.5/2.5	[illegible]	0 DUM 5250 BZ		2.5-5' SAA			
	R-3 5/5		0 DUM 5250 BZ		5-7.5' No recovery			
	R-4 2.5/2.5	[illegible]	0 DUM 5250 BZ		7.5-10' SAA, slightly moist, no visible contamination			
10	R-5 2.5/2.5		0 DUM 5250 BZ		SAA			
	R-6 2.5/2.5	[illegible]	0 DUM 5250 BZ		SAA			
15	R-7 2.5/2.5		0 DUM 5250 BZ		SAA (10-12), grades to light yellowish brown (10YR6/4)			
	R-8 2.5/2.5	[illegible]	0 DUM 5250 BZ		18.5-20' SILT, fine grain, moist, brown (10YR5/3), consolidated, clumps			
20	R-9 2.5/2.5		0 DUM 5250 BZ		20-21.5' SAND, fine grain, well graded, moist, 21.5-22.5' Sandy SILT, fine grain, moist, yellowish brown, moist, 5% small gravel			
	R-10 2.5/2.5	[illegible]	0 DUM 5250 BZ		22.5-25' SILT, fine grain, moist, yellowish brown, consolidated, clumps			Bank: 0930
25	R-11 2.5/2.5		0 DUM 5250 BZ		25 SAA			
30	R-12 2.5/2.5	[illegible]	0 DUM 5250 BZ		SAA			

Prepared by [illegible] Date 10Oct94 Checked By Mark Hanlk Date 12 Oct 94

SAND

SILT/CLAY

Gravel

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 7 Oct 94/[illegible] End Date/Time 7 Oct 94/1200

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	R-13 25/25		Ø OVM 5250 BY	[illegible]	[illegible]		Alluvium	Drilling
	14 15/25	[illegible] 335-34 RAD	Ø OVM 5250 BY		[illegible]			
35	15 25/25		Ø OVM 5250 BY	[illegible]	35-35.5 SAA 35.5-37.5 SAND, fine grain, mod yellow-brown (10YR 5/6), consolidated, [illegible]			
	16 25/25	[illegible] 335-[illegible] [illegible]	Ø OVM 5250 BY		[illegible]			
40	17 25/25		Ø OVM 5250 BY		SAA [illegible]		Gage Pumice	
	18 25/25	[illegible] 435-45 RAD	Ø OVM 5250 BY	[illegible]	SAA			
45	19 25/25		Ø 5250		SAA [illegible]			
	20 25/25	[illegible]	Ø 5250		SAA			
50					[illegible]			T.D. 1200

Prepared by [illegible] Date 7 Oct 94 Checked By [illegible] Date 12 Oct 94

SAND

SILT/CLAY

Gravel

PUMICE

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-16.32 TA/OU 10/1072 Drill Depth From 0 To 39? Page 1 of 2

Driller Stewart Bros Box #(s) 1-4 Start Date/Time 7 Nov 94/1440 End Date/Time 8 Nov 94/1530

Drilling Equip./Method Fairchild F10 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.0 / 2.5		0 OVM 10.0 BH	Run 1 0-7 0-7	0-0.8 SILT, SAND, fine grain, dk yellow brown (10YR 4/4) trace gravel (1-2cm), clayey 0.8-2 Sandy SILT, fine grain, trace gravel, dry, pinkish gray (7.5YR 6/2), loose, no fines		Alluvium	8 Nov 94 Dr. Hogg 1440
5	Run 2 2.5 / 2.5	AAB 2566 2.3-5.0 ft	0 OVM 12.0 BH		2.5-5 SILT, fine grain, moderate yellow brown (10YR 5/4) trace gravel (1-2cm), clayey, dry, pinkish gray (7.5YR 6/2) mottling, soft consistency			
	Run 3 2.5 / 2.5		0 OVM 12.0 BH		5-7.5 SAA			
10	Run 4 2.5 / 2.5	AAB 2567 7.5-10.0 ft	0 OVM 12.0 BH		7.5-10 SAA			
	Run 5 2.5 / 2.5		0 OVM 12.0 BH	Run 2 7.5-12.5	10-12.5 SAA			
15	Run 6 2.5 / 2.5	AAB 2568 12.5-15.0 ft	0 OVM 12.0 BH		12.5-15 SILTY SAND, fine grain, fine sand, moderate yellow brown (10YR 5/4), trace gravel (1-2cm), clayey, dry, pinkish gray (7.5YR 6/2) mottling, soft consistency			Break 0930 9 Nov 94 Dr. Hogg 0835 AAB 2571: Field Blank AAB 2572: Rinsate AAB 2573: Rinsate
	Run 7 2.5 / 2.5		0 OVM 12.0 BH		15-17.5 SAA			
20	Run 8 1.3 / 2.5	AAB 2569 17.5-20.0 ft	0 OVM 12.0 BH	Run 3 12.5-22.5	17.5-18.3 SILTY SAND, fine grain, fine gravel (2-3cm), clayey, trace mod. reddish yellow brown (10YR 6/6) 18.3-20 No Recovery		Tesuque Formation	
	Run 9 2.5 / 2.5		0 OVM 12.0 BH		20-22.5 SAA w/ a slight increase in sand and clay w/ depth			
25	Run 10 2.5 / 2.5	AAB 2570 22.7-23.2 ft Rinsate Blank	0 OVM 12.0 BH	Run 4 of 7 22.5-29.5 ft	22.5-23 SILT, fine grain, pale orange (10YR 8/2) 23-25 TUFF, strong clay alteration throughout, mod. brown matrix w/ bio small cavities, soft, fractures is evident, 10YR 6/6, trace volcanic glass			
	Run 11 1.5 / 2.5		0 OVM 12.0 BH		25-26 SAA 26-26.5 TUFF very pale orange (10YR 8/2) weakly competent, very weak clay alteration		Core Loss	
	Run 12 2.5 / 2.5	AAB 2574 27.5-28.3 ft Kinetic	0 OVM 12.0 BH		26.5-27.5 No Recovery 27.5-30 TUFF, very pale orange (10YR 8/2), non welded (soft), argillic matrix w/ pumice fragments, glass and glass shards 65% pumice crystals		Obsidian	
30								

Prepared by [illegible] Date 7 Nov 94 Checked By Derek Faulk Date 16 Nov 94

SILT
SAND
Gravel
CLAY
TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30 ft To 50 ft Page 2 of 2

Driller [illegible] Box #(s) 5-7 Start Date/Time 8 Nov 94/1440 End Date/Time 8 Nov 94/1500

Drilling Equip /Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 13 [illegible]		[illegible]	Box [illegible]	30-[illegible] TUFF very pale orange (10YR 8/2) non-welded very soft, ash matrix, 10% qtz, ≤5% pumice crystals		Otowi (Tuff)	
35	Run 14 [illegible]	AAA [illegible]	[illegible]		[illegible] SAA			
	Run 15 [illegible]		[illegible]		35-37.5 TUFF very pale orange (10YR 8/2), non-welded weakly competent increase in pumice 10% qtz clay			
40	Run 16 [illegible]	[illegible]	[illegible]	Box [illegible]	37.5-38 SAA 38-[illegible] ASH very fine [illegible] (10YR 8/2) [illegible] fragments (2-3cm) 38.5-40 TUFF SAA competence increase [illegible]			Brown 1210 Drilling 1350
	Run 17 [illegible]		[illegible]		40-42.5 ~~[illegible]~~ TUFF very pale orange (10YR 8/2), weakly competent (increase in weldpt.) non-welded 10% qtz, 10-20% pumice, ash matrix			
45	Run 18 [illegible]	[illegible]	[illegible]	Box [illegible]	42.5-45 SAA			
	Run 19 [illegible]		[illegible]		45-47.5 SAA			
50	Run 20 [illegible]	AAA [illegible]	[illegible]		47.5-48.5 SAA 48.5-50 PUMICE small pumice crystals, clamp, [illegible] surge deposit			Gray (Pumice) TD 1500
					50' Total Depth			

Prepared by [illegible] Date 8 Nov 94 Checked By Derek Faulk Date 16 Nov 94

TUFF

ASH

PUMICE

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 12-1351 TA/OU 12/1352 Drill Depth From 0 To 307 Page 1 of 2

Driller Stewart Bros. Box #(s) 1-4 Start Date/Time 7 Nov 94/0833 End Date/Time 7 Nov 94/1611

Drilling Equip./Method Fluid Ejection Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number AAIT #	Field Screening Results OVM, BTEX/MS	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5		0 OVM 5250 BV	Box 1 of 7 0 - 7.5 FT	0-12' HUMUS layer, contains abundant roots, grasses, rock fragments, yellowish brown (10YR5/4), damp 12-25' SILT, trace sand, 1 pebble gravel (1-2cm), trace mica, clayey, unconsolidated, moist, yellowish brown (10YR5/4)		Alluvium	7 Nov 94 Time: 0833 Drilling: 0855
5	Run 2 2.5/2.5	AAB 9558 25-27.5' RAD	0 OVM 5250 BV		25-5 SAA (change in color)			
	Run 3 2.5/2.5		0 OVM 5250 BV		7.0 DUE TO HOLE CAVING 5'-7.5' SAA 7-7.5' No Recovery			
10	Run 4 2.5/2.5	AAB 9559 25-30 RAD	0 OVM 5250 BV	Box 2 of 7 7.5 - 15 FT	7.5-8.5' SAA 8.5-10' SILT, fine grained (10% very coarse), (1-2cm) clay, burnt pumice fragment 0.5" (copper or metal shrapnel?) 10-10.5' SAA w/ 1g TUFF fragments 10.5-12.5' SILT, fine grained, trace fine sand, trace small TUFF fragments, moderate yellowish brown (10YR5/4), dry			pumice fragment burnt in fire
15	Run 5 2.5/2.5	AAB 9560 12.5-13.3 RAD	0 OVM 5250 BV		12.5-14.1' SAA 14.1-15' Sandy SILT, fine grained, med yellowish brown (10YR5/4), trace small TUFF fragments, dry			Break 1320 Drilling 1115
	Run 6 2.5/2.5		0 OVM 5250 BV	Box 3 of 7 15 - 22.5 FT	15-15.7' SAA 15.7-17' SAND, coarse grained, 20% volcanic gravel, pale yellowish brown (10YR6/2), trace silt/clay, dry 17-17.5' Silty SAND, fine-med grained, trace gravel, clayey, slightly moist			
20	Run 7 2.5/2.5	AAB 9561 19.5-20 RAD	0 OVM 5250 BV		17.5-20 SAA			
	Run 8 1.7/2.5		0 OVM 5250 BV		20-20.4' SAA 20.4-21.7' Clayey SAND, fine-med grained, light brown (5YR6/4) 21.7-22.5' From Next Recovery		Colluvium	
25	Run 10 2.5/2.5	AAB 9562 23.5-23.7' RAD AAB 9563 25.5-25.7' RAD AAB 9564 27.5-27.7' RAD	0 OVM 5250 BV	Box 4 of 7 22.5 - 30 FT	22.5-23.7' SAA 23.7-25' TUFF, lg TUFF fragment, ash matrix, 10% pumice, very pale orange (10YR8/4) 25 25-27.5' SAND, fine-med grained, grayish orange (10YR7/4), 10% small TUFF fragments, 10% silt, dry			AAB 9560: RAD AAB 9561: Field Blk AAB 9562: Rinsate
	Run 11 2.5/2.5	Rinsate	0 OVM 5250 BV		27.5-33 TUFF, non welded, non competent, very pale orange (10YR8/4), ash matrix (quartz, glass shards) 10% lithics, 10% pumice cryslals, dry		Otowi	Break 1330
30	Run 12 2.5/2.5	AAB 9565 27.5-28.5 RAD	0 OVM 5250 BV					

Prepared by [signature] Date 7 Nov 94 Checked By Derek Fulk Date 11/16/94

SILT

SAND

Gravel

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50ft Page 2 of 2

Driller [illegible] Box #(s) 5-7 Start Date/Time 7Nov94/0830 End Date/Time 7Nov94/1611

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible]		[illegible]	Box 5 of 7 30-37.5ft	30-32.5 TUFF, non-welded, very weakly competent (50ft), very pale orange (10YR 8/2), ash matrix (pumice/glass shards) trace 1 [illegible] in pumice crystals, [illegible]		Otsu. (TUFF)	Drilling 1450
	[illegible]	[illegible] RAC	[illegible]		32.5-35 SAA			
35	[illegible]		[illegible]		35-37.5 SAA			
	[illegible]	[illegible] RAC	[illegible]	Box 6 of 7 37.5-45ft	37.5-40 TUFF, non-welded, weakly competent, very pale orange (10YR 8/2) ash matrix 10-20%, pumice lab 11 10% qtz trace lithics			
40	[illegible]		[illegible]		40-42.5 SAA			
	[illegible]	[illegible] RAC	[illegible]		42.5-45 SAA			
45	[illegible]		[illegible]	Box 7 of 7 45-50ft	45-47.5 SAA competent with depth			
					47-47.5 No [illegible]			
	[illegible]	[illegible]	[illegible]		47.5-50 TUFF, non-welded competent, very pale orange (10YR 8/2), ash matrix, 6-10% pumice, 8-10% qtz, dry			TD 1611
50					50ft Total Depth			

Prepared by [illegible] Date 7Nov94 Checked By Derek Faulk Date 11/16/94

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1052 TA/OU 10/1072 Drill Depth From 0 To 30ft Page 1 of 2

Driller Steve Box Box #(s) 1-4 Start Date/Time 2 Nov 94/0845 End Date/Time 4 Nov 94/1045

Drilling Equip./Method Failing F-10 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology/Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5		0 DUM 5250 BV	Run 1: 0-7.5 ft	0-1.4' HUMUS & rt, moderate brown (5YR 3/4), high organic content, contains rootlets, grass, decomposed wood 1.4-2.5 SILT, sandy, dk yellowish brown (10YR 4/2), clumpy, 15% coarse, fine to medium grained, 5-10% clay		Alluvium	2 Nov 94 In Zone 1050 Dr Hrs 0845
5	Run 2 2.5/2.5	AAA35144 2.5-3.5' Full Mn	0 DUM 5250 BV		2.5-5.0 Clayey SILT, clumpy, 5% coarse, 5-10% small gravel (rock fragments).			
	Run 3 2.5/2.5		0 DUM 5250 BV		5-5.6 SAA 5.6-7.5 SILT, grayish brown (10YR 5/2) clay, 5-10% small gravel, <5% tuff fragments, fine grain.			
10	Run 4 2.5/2.5	AAA35145 Rad 7-10 Dup of 144	0 DUM 5250 BV	Run 2: 7.5-17.5 ft	7.5-10 SAA			Back: 0910 (wash) In Zone: 1155 Dr Hrs: 1200
	Run 5 2.5/2.5		0 DUM 5250 BV		10-11.8' SAA 11.8-12.5 Sandy SILT, fine-med grained sand, trace tuff clasts (2-4mm), clay.			
15	Run 6 1.5/2.5	AAA35146 12.5-13.5' Full Mn	0 DUM 5250 BV		12.5-13 SAA 13-14' SAND, fine-med grain, fair yellowish brown (10YR 4/2), 5% silt/clay, trace gravel, clay		Core Run	
	Run 7 2.5/2.5		0 DUM 5250 BV		14-15 No Recovery 15-16.2 SAND, fine-med grain, trace gravel, clay 16.2-17.5 SAND, fine grain, 5-10% clay, clumpy			
20	Run 8 2.5/2.5	AAA35147 17.5-18' RAD	0 DUM 5250 BV	Run 3: 17.5-27.5 ft	17.5-18' SAA 18-20 SAND, med-coarse grained, 15-20% tuff clasts (2-6cm), 10-15% clay, clumpy			
	Run 9 2.5/2.5		0 DUM 5250 BV		20-22.5' SAA 22.5-22.5 Sandy SILT, fine grain, grayish brown (10YR 5/2), trace tuff fragments, decreased in moisture content			
25	Run 10 2.5/2.5	AAA35148 24.5-25 RAD	0 DUM 5250 BV	Run 4: 27.5-32.5 ft	22.5-25' SAA			
	Run 11 1.7/2.5		0 DUM 5250 BV		25-26.7' SAND, fine grain, trace tuff fragments, 5-10% silt, slight clump 26.7-27.5' No Recovery			
30	Run 12 2.5/2.5	AAA35149 28-30' Full Mn	0 DUM 5250 BV		27.5-28.7' SAND, fine grain, trace tuff fragments, decreasing with depth 28.7-30' SAA w/ large tuff fragments			Back: 1320

Prepared by [signature] Date 2 Nov 94 Checked By Derek Faulk Date 15 Nov 94

SILT
SAND
Gravel
Sandy SILT

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 52-1258 TA/OU 52-1057 Drill Depth From 3-4 To 5351 Page 2 of 3

Driller Statewide Box #(s) 4-7 Start Date/Time 2 Nov 94/0916 End Date/Time 4 Nov 94/0915

Drilling Equip./Method Rotary Fluid Hollow-Stem Auger Sampling Equip./Method Stainless Steel Split-Spoon Sampler

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30					30-32.5' SANDY mud to sandy gravel, light brown (5YR6/4), 20% range to 5cm fragments (rare to 2cm), 5-10% clay, damp		Alluvium	4 Nov 94 Begun: 0715 Completed: 0730 Note: sample taken in clay fraction 5-11
35		AA93553 AA93554 327-332.5		327.5-337.5	32.5-35' TUFF, pink to yellow to brown (10YR 6/4), 5-10% fine to coarse pumice, 30% lithic fragments (15% felsic lavas, 5% pumice, fractured, fine sand, trace fossils, DRY, porous		Otowi (Tuff)	
					35-37.5' TUFF, incompetent, very soft, fine to clay fraction 5-11, rock matrix 5-10% pumice matrix content increasing			
					37-37.5' No Recovery			
40		AA93555 337-342 RAD		337.5-347.5	37.5-42.5' TUFF, very pale orange (10YR8/2), pumice in the 5-10% fines, 5-10% grit, weakly competent, rare voids			
					42.5-43' ASH, very pale orange (10YR8/2), incompetent, very soft, fine / fine silt 43-43.5' TUFF, as above & 5-10% fine to coarse lithics, weakly competent, rare voids, increased clast size			
45		AA93556 342-347 RAD		347.5-357.5	43.5-45' SAA			
					45-47.5' SAA			
50		AA93557 AA93558 347-352 RAD, Geo		357.5-367.5	47.5-52' SAA			TD 0915
					Total Depth 52'			

Prepared by [illegible] Date 7 Nov 94 Checked By Derek Foulk Date 15 Nov 94

SAND

TUFF

ASH

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 13-1551 TA/OU 13/1332 Drill Depth From 0 To 305 Page 1 of 5

Driller Stewart Bros. Box #(s) 1-5 Start Date/Time 31 Oct 94/1030 End Date/Time 1 Nov 94/1200

Drilling Equip./Method Rotary Sonic Sampling Equip./Method Stainless Steel Split Core Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	R-1 25 100				0-5 ft Alluvial silt, gravel, sand, cobbles, poorly sorted, angular to subangular, (10YR 7/4) dry, 5-10 ft SAA, first sand in tuff fragments, contact at 5 ft is gradational			31 Oct 94 Tri-Zone 1332 Dr. Hoag 1330
5	R-2 25 100	AAA3DE8 25-30 RAD	0 0 0 0 0		SAA			
	R-3 25 100		0 0 0 0 0		SAA			
10	R-4 25 100	AAA3DF0 35-40 RAD	0 0 0 0 0		35-40 SAA 40-45 SAA, Sand is mostly pumice fragments (RAD Sample collected from this interval)			Geol. NOT Dr. Hoag 1333
	R-5 25 100		0 0 0 0 0		45-50 SAA 50-55 Sand is SAA, Silt is tuff matrix, clay is clay, Gravel is tuff fragments, contact at 55 ft is gradational			
15	R-6 25 100	AAA3DF8 45-50 RAD	0 0 0 0 0		55-60 SAA 60-65 Sand is SAA, Silt is tuff matrix, clay is clay, Gravel is tuff fragments, contact at 65 ft is gradational			
	R-7 25 100		0 0 0 0 0		65-70 Sand is SAA, Silt is tuff matrix, clay is clay, Gravel is tuff fragments, contact at 70 ft is gradational			
20	R-8 25 100	AAA3DG7 65-70 RAD	0 0 0 0 0		70-75 SAA			
	R-9 25 100		0 0 0 0 0		75-80 Sand is SAA, Silt is tuff matrix, clay is clay, Gravel is tuff fragments, contact at 80 ft is gradational			
25	R-10 25 100	AAA3DG8 80-85 RAD	0 0 0 0 0		80-85 Sand is SAA, Silt is tuff matrix, clay is clay, Gravel is tuff fragments, contact at 85 ft is gradational 85-90 TUFF, unconsolidated, clay, gravel, orange (10YR 7/6), unconsolidated			
	R-11 25 100		0 0 0 0 0		90-95 TUFF, unconsolidated, clay, gravel, orange (10YR 7/6), unconsolidated, mostly tuff			
30	R-12 25 100	AAA3DH7 270-275 RAD	0 0 0 0 0		95-100 SAA			End of Hole 1515

Prepared by _____ Date _____ Checked By Kenneth Foulk Date 15 Nov-94

SILT

SAND

Gravel

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 15 Nov 94

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1284 TA/OU 10/1079 Drill Depth From 0 To 309' Page 1 of 2

Driller Stewart Bros Box #(s) 1-4 Start Date/Time 12 Oct 94/1240 End Date/Time 14 Oct 94/0937

Drilling Equip./Method Rotary Mud Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	2.5/2.5		2' OVM 5250 BH	Box 1 of 4 0 - 17.5'	0-2.5' SILT, fine grain, trace tuff fragments, grey to orange (10YR 7/4) organic (roots) throughout interval, dry		Alluvium	12 Oct 94 In zone 1240 In hole 1245
	2.5/2.5	AAB9369 2.5-3.4' FOIL He	2' OVM 5250 BH		SAA			
5	2.5/2.5		2' OVM 5250 BH		SAA with slight increase in moisture and trace organics (roots)			
	2.5/2.5	AAB9370 7.5-10' RAD	3' OVM 5250 BH	Box 2 of 4 17.5 - 32.5'	7.5-10.5' SILT fine grain, grey to orange, weakly competent, slightly damp			Break: 1330 (Sat Rounds) In zone 1430
10	2.5/2.5	AAB9371 11-12' FOIL He	3' OVM 5250 BH		10.5-11.5' SAA 11.5-13.5' Sandy SILT fine grain, dark yellowish orange (10YR 6/6) trace fine sand, damp			
	1.7/2.5	AAB9372 12.8-13.3' RAC	2' OVM 5250 BH		13.5-14.5' SAA 13.5-14.5' S 1% SAND, fine-medium grain, trace Tuff fragments, moist damp 14.5-15' (No Recovery)			
15	1.8/2.5		0' OVM 5250 BH		15-16.8' SAA 16.8-17.5' (No Recovery)			
	2.5/2.5	AAB9373 (Sandwich) 18.5-20' RAD	2' OVM 5250 BH	Box 3 of 4 17.5 - 32.5'	17.5-18.5' SAA 18.5-20' Clay SILT fine grain, dark yellowish brown (10YR 4/2), 5-10% Tuff fragments, damp to moist			AAB9372 RAD AAB9373 Field Blk AAB9374 Sandwich Ended day 1530
20	2.5/2.5		0' OVM 5250 BH		20-23.5' Sandy SILT fine-medium grain, 15-20% Clay 5-10% Tuff fragments moist dense core			13 Oct 94 In zone 0750 In hole 0805
	2.5/2.5	AAB9375 23.5-23.5' FOIL He	0' OVM 5250 BH		23.5-25.5' SAA 23.5-25.5' TUFF, fine-medium grained, grayish orange pink (5YR 7/2), 30% pink matrix, trace lg (1cm) pumice cuttail, trace lithics (crystals) 10% qtz		Tuff (TUFF)	
25	2.5/2.5		0' OVM 5250 BH	Box 4 of 4 32.5 - 39.5'	SAA			
	2.5/2.5	AAB9376 28.5-30' RAC	0' OVM 5250 BH		SAA			
30								

Prepared by [signature] Date 13 Oct 94 Checked By [signature] Date 15 Nov-94

SILT

SAND

Gravel

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 13-1338 TA/OU 13/1002 Drill Depth From 30' To 50' Page 2 of 2

Driller Stewart Bros Box #(s) 5 - 9 Start Date/Time 12 Oct 94/1242 End Date/Time 14 Oct 94/0937

Drilling Equip./Method Ft Loy F-10 Hollow Stem Auger Sampling Equip./Method Std Split Spoon Core Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	C-13 2'/2.5'		0 ppm SVOC ~	Top 30'	30-32' TUFF, pale orange (5YR 8/2), ash matrix w/ 10-20% pumice (1mm-3cm), 5-10% qtz, trace ferromagnesian, trace matrix		Otuo (TUFF)	
	C-14 2'/2.5'	AAC9333 32.5-33' KAC	0 ppm SVOC ~	Bot 32' 2' rec	SAA			
35	C-15 2'/2.5'		0 ppm SVOC ~	Top 35'	SAA			Break 1310 Drilling 1315 Break 1330 (4 pc + wt)
	C-16 2'/2.5'	AAC9334 38.5-40' KAC	0 ppm SVOC ~	Bot 37' 2' rec	SAA			14 Oct 94 Inst 0840 Drilling 0845
40	C-17 1.3'/2.5'		0 ppm SVOC ~	Top 40'	40-41.3' ASH, fine grained, well sorted, non-cemented, clumpy, pale orange (5YR 8/2) 41.3-42' No Recovery			
	C-18 2'/2.5'	AAC9335 42.5-43' KAC	0 ppm SVOC ~	Bot 42' 2' rec	42-43' TUFF, pale orange (5YR 7/2) ash matrix w/ 10-20% pumice & lithics, clumpy, weakly compacted			
45	C-19 2'/2.5'		0 ppm SVOC ~	Top 45' Bot 47' 2' rec	SAA			
	C-20 2'/2.5'	AAC9336 49-50' KAC, HE	0 ppm SVOC ~	Top 47' Bot 49' 2' rec	SAA			TD 0937
50					Total Depth 50'			

Prepared by [signature] Date 14 Oct 94 Checked By Derek Faulk Date 15 Nov 94

Otuo TUFF

Ash

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 15-1288 TA/OU 15-1099 Drill Depth From 0 To 32 Page 1 of 2

Driller Boart Longyear Box #(s) 1-5 Start Date/Time 26 Sept 94 0845 End Date/Time 27 Sept 94 0915

Drilling Equip./Method Hollow Stem Auger Sampling Equip./Method Shelby tube, split spoon

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 1.5 / 2.5	None	0 ppm 250 cpm Bz	0.0 - 5.5	Moist, organic rich topsoil, unconsolidated, poorly sorted noncohesive SILTY SAND.			0 depth 9/27. Skies clear, winds calm. Started drilling at 0840 hours.
2.5	Run 2 2.5 / 2.5	15B1288 0.0 to 2.5 Fluid Blank	0 ppm 250 cpm Bz		2.5-4.0- Angular, unconsolidated moist SAND with 10% SILT. Moist Light Brown 5 YR 5/6			
5	Run 3 2.5 / 2.5	15B1271 porosity 38% blue	0 ppm 250 cpm Bz	5.5 - 10.0	4.0-5.0 Dry, homogeneous, moderately consolidated, noncohesive SILT. Slightly fine grained, pinkish white 5 YR 8/1			
7.5	Run 4 2.5 / 2.5	15B1288 0.0 to 5.5 RAD 9-6-94	0 ppm 250 cpm Bz		DAA. 4.0-5.0 as above			
10	Run 5 2.5 / 2.5	None	0 ppm 250 cpm Bz	10.0 - 15.0	DAA continuing to fine downwards			Tool change at 0940 hours
12.5	Run 6 2.5 / 2.5	15B1288 0.0 to 15.0 RAD 9-6-94	0 ppm 250 cpm Bz		DAA - Tuff present at 12.2 feet. Tuff consolidated, cohesive, white with quartz and feldspar phenocrysts			Returned to core and started drilling at 1245 hours
15	Run 7 2.5 / 2.5	None	0 ppm 250 cpm Bz	15.0 - 20.0	DAA with pumice comprising 5% with 5mm to 20mm fragments			
17.5	Run 8 2.5 / 2.5	15B1284 0.0 to 15.0 RAD 9-6-94	0 ppm 250 cpm Bz		DAA - lightening to grayish Orange 10YR 7/4 Tuff, cohesive, unbanded, 0.1% fine lithic fragments, traces of amphibole phenocrysts, 0.5mm			
20	Run 9 2.5 / 2.5	None	0 ppm 250 cpm Bz	20.0 - 25.0	DAA			
22.5	Run 10 1.5 / 2.5	15B1288 0.0 to 20.0 RAD 9-6-94	0 ppm 250 cpm Bz		DAA, to 22.0 feet. 22.0-23.5 Lighter, moist, becoming denser, possibly Ash, 5% lithics & Clinoptilolite mineral phenocrysts			Full: 0003545 (4F) Dup: 0003546 F.B: 0003547 Rinsate: 0003548 22.5 - 23.5 ft
25	Run 11 2.5 / 2.5	None	0 ppm 250 cpm Bz	25.0 - 30.0	Very fine unconsolidated noncohesive Ash. Exhibits glassy texture and homogenous 2mm quartz crystals. Lithics still present along with random 5-10 mm pumice fragments			
27.5	Run 12 2.5 / 3.0	15B1289 0.0 to 30.0 Acid 9-6-94	0 ppm 250 cpm Bz		Fine to medium grained, unconsolidated SANDY ASH. Quartz crystals, angular and abundant. Little to no pumice or lithics.			Tool change Break at 1215 hours
30					27.5-29.0 - DAA, fine grained with pumice comprising approximately 10%. 29.0-30.0 - moderately consolidated, noncohesive TUFF. Fine to medium grained pumice phenocrysts			
					TUFF 30-40 mm light grey			

Prepared by [signature] Date 27 Sept 94 Checked By Rebecca Bacon Date 9/6/94

- Full Suite:
Gross alpha, beta, gamma spec, moisture, grain density, uranium, strontium, TA 55 metals, semi-volatiles, and high explosives
- Rad Scan
gross alpha, beta, gamma spec, moisture, semi-volatiles,

SILT
SAND
TUFF
ASH
Rhyolite, Pumice and other fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 6 to 10 Start Date/Time 6 Sept 94 0740 End Date/Time 7 Sept 94 0915

Drilling Equip /Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Runs 1 2.5 / 2.5	AAB7282 Full 300 ±1	0 ppm background 32	30 / 32.5	Unconsolidated, non-cemented, clay ASH, with abundant dark lithics including hornblende and clinopyroxenes. Matrix supported with angular pumice		QTAnt MEMBER OF THE BANDELIER TUFF	7 Sept 94 Started drilling at 0745 hours
32.5	Runs 2 3.5 / 3.5	AAB8287 RAD 32-32.5	0 ppm background 32	32.5 / 34.5	Moderately consolidated, mildly cemented, ASH containing abundant small 2-5 mm dark lithics matrix supported in clay fine grained ash. Orange 10YR 7/4			
35	Runs 3 5.0 / 5.0	AAB8293 RAD 34.5-35	0 ppm background 32	34.5 / 39.5	ditto with occasional lightgreen clast from altered with fragment glassy tubular pumice fragments			
40	Runs 4 5.0 / 5.0	AAB8299 RAD 39.5-40	0 ppm background 32	39.5 / 44.5	ditto			
45	Runs 5 3.0 / 5.0	AAB8305 RAD 44.5-45	0 ppm background 32	44.5 / 50.0	Non-consolidated, unconsolidated "popcorn" TUFF Matrix supported 5-50 mm Pumice fragments that exhibit devitrification alteration and contain 2 mm fiesty phenocrysts Matrix also contains abundant dark lithic fragments of volcanic, pyroxene, and hornblende		Bursum Member	Drilling ended at 0915 at depth of 50 feet.
50								
55								

Prepared by [illegible] Date 7 Sept 94 Checked By [illegible] Date 9/9/94

ASH

TUFF

Rhyolite Pumice fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-[illegible] TA/OU 10-[illegible] Drill Depth From 5' To 30' Page 1 of 2

Driller [illegible] Box #(s) 1-6 Start Date/Time 2 Sept 94 1130 End Date/Time 5 Sept 94 0850

Drilling Equip./Method Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
20	Run 1 2.5/2.5	NONE	20 Dpm 150 cpm Pit	15.0 / 17.5	Dry & well sorted sediment. Moist unconsolidated with abundant roots			Begin drilling at 1130 hours. Advance clean, no soil core
25	Run 2 2.5/2.5	94BS093 Rad 94BS093 Volatiles	1.3 Dpm 180 cpm Pit	17.5 / 20.0	Unconsolidated, non-plastic, moist sandy Medium Reddish Orange (7.5YR 6/6) SILT, Roots still present. Sample as medium grained sand fraction.			
30	Run 3 2.5/2.5	NONE	20 Dpm 150 cpm Pit	20.0 / 22.5	Fining downwards to unconsolidated brown/grey SILT least one foot remains approximately 10% Clay 10% SAND and 80% SILT			
35	Run 4 2.5/2.5	94BS094 RAD 94BS094 Volatiles	0 Dpm 150 cpm Pit	22.5 / 25.0	Very fine grained, homogeneous SILT. Dry, unconsolidated. Reddish Orange (7.5YR 6/6) Roots still present			
40	Run 5 2.5/2.5	NONE	0 Dpm 150 cpm Pit	25.0 / 27.5	As A, becoming slightly coarser down from two to five			
45	Run 6 2.5/2.5	94BS095 RAD 94BS095 Volatiles	0 Dpm 150 cpm Pit	27.5 / 30.0	As A, with tuff pebbles abundant 2-5cm at 134 feet			Tools break at 1050 hours for lunch
50	Run 7 2.5/2.5	94BS096 Tuff 94BS096 Volatiles	0 Dpm 150 cpm Pit	15.0 / 17.5	As A, no tuff encountered			Returned to borehole 1410 hours
55	Run 8 2.3/2.5	94BS097 RAD 94BS097 Volatiles	0 Dpm 150 cpm Pit	17.5 / 20.0	As A, roots abundant throughout Pink			
60	Run 9 2.5/2.5	NONE	0 Dpm 150 cpm Pit	20.0 / 22.5	As A, becoming more consolidated from 21.5' to 22.5 feet. Also appears a lighter brown, possible caliche nodules			
65	Run 10 2.5/2.5	94BS098 Tuff 94BS098 Volatiles 94BS098 Metals	0 Dpm 150 cpm Pit	22.5 / 25.0	Continuing to fine downwards becoming a SILT/ASH by 23.5 feet. Very fine grained with a buttery texture.			Drill Ash Zone
70	Run 11 2.5/2.5	NONE	0 Dpm 150 cpm Pit	25.0 / 27.5	Unconsolidated, very fine, moist with 5% pumice fragments from 27.0-27.5' pumice small 5-15mm small pronounced grey/yellow flecks			
75	Run 12 2.2/2.5	94BS099 RAD 94BS099 Volatiles	0 Dpm 150 cpm Pit	27.5 / 30.0	As A, with less white and basalt chunks at 29 feet			

Prepared by [illegible] Date 6 Sept 94 Checked By [illegible] Date 9/6/94

Full suite:
Gross alpha, beta, gamma
spec, uranium, total uranium
Strontium, semi-volatiles
and high explosives, Tritium

- Rad scan -
Gross alpha, beta, gamma spec

SILT
SAND
CLAY
ASH
TUFF
PUMICE

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 13 2.5 / 2.5		0 cm 200 cpm/ Bg	[illegible]	30.0-31.0 SAA 31.0-32.5 - Consolidated moist [illegible] TUFF [illegible] ASH [illegible] Pumice fragments 10-20mm [illegible]		[illegible]	
32.5	Run 14 2.5 / 2.5	AAB [illegible] RAD [illegible]	0 cm 200 cpm/ Bg	[illegible]	Cleaning back in very fine grained ASH [illegible]			
35	Run 15 4.2 / 5.0	AAB [illegible] RAD [illegible]	0 cm 200 cpm/ Bg	[illegible]	35.0-36.7 SAA 36.7-40.0 - Consolidated, unconsolidated, very fine grained ASH, [illegible]			Drilling ended at 1600 hours at a depth of 40 feet Sample Interval 35.5-38.5
40	Run 16 5.0 / 5.0	AAB 9723 RAD AAB 9724 [illegible] AAB 9725 [illegible]	0 cm 200 cpm/ Bg	[illegible]	40.0-42.5 Very fine unconsolidated homogeneous ASH with 10-60mm pumice fragments. Pumice [illegible] alteration and [illegible] 42.5-45.2 Consolidated nonconcave ASH with [illegible] pumice and lithic fragments. Matrix fine grained			8 Sep 94 Begin drilling at 0740 hours Skys Clear, windstorm, 45°
45	Run 17 2.5 / 2.5		0 cm 200 cpm/ Bg	[illegible]	unconsolidated, nonconcave, TUFF Pale whitish gray composed of 90% pumice fragments [illegible] excessively abundant 2-4mm and dark.		[illegible]	
47.5	Run 18 2.5 / 2.5	[illegible] AAB 9727 [illegible]	0 cm 200 cpm/ Bg	[illegible]	SAA			RAD Interval 47.7-48.1 Drilling ended 8 Sep 94 at 0850 hours [illegible] at 50 feet
50	SID 5.0							

Prepared by [illegible] Date [illegible] Checked By [illegible] Date [illegible]

ASH

TUFF

Rhyolite, pumice and lithic fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 5 To 30 Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method Direct Rotary Sonic Coring Sampling Equip./Method Dynamic Hard Spot Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5	[illegible]	0 ppm [illegible] BZ	0.0-5.0	Very moist, unconsolidated, brown gravelly SILT (ML) [illegible]		ALLUVIUM	12 Sept 94, Drilling begun @ 0735 hours. 21 x 5 clear windscreen
5	Run 2 2.5/2.5	AAB9205 Full 3.5-5.0	0 ppm 150 ppm BZ		Damp to dry, moderately consolidated, non cohesive SILT containing abundant pumice crystals along with a little rhyolite.			
	Run 3 2.5/2.5	[illegible]	0 ppm 150 ppm BZ		Emergent, unconsolidated SILT with pumice crystals.			
10	Run 4 2.3/2.5	AAB9206 RAD 8.5-10.0	0 ppm 250 ppm BZ	5.0-15.0	Very fine unconsolidated, homogeneous SILT with 5-25% pumice fragments and 10% Diverse Basalt Volcanic Pebbles			
	Run 5 2.5/2.5	AAB9207 [illegible]	0 ppm 225 ppm BZ		AAA, with 1 cm x 1 cm cobble from 10.0-10.2.			
15	Run 6 2.5/2.5	AAB9208 RAD 13.5-15.0	0 ppm 450 ppm BZ		AAA			
	Run 7 2.5/2.5	NONE	0 ppm 200 ppm BZ	15.0-25.0	AAA			
20	Run 8 2.5/2.5	AAB9209 RAD 18.5-20.0	0 ppm 200 ppm BZ		AAA			Tools broke at 0930 hours
	Run 9 2.5/2.5	NONE	0 ppm 250 ppm BZ		20.0-21.6 - AAA 21.6-22.5 Continuous fine becoming ASH (SILT with abundant pumice crystals			Resumed coring at 1050 hours
25	Run 10 2.5/2.5	AAB9210 RAD 23.5-25.0	0 ppm 200 ppm BZ	25.0-30.0	Very fine Grained unconsolidated, ASH. Non organic texture and diameter, very abundant clear pumices 25% Pumice, 15% SILT, 85% ASH			
	Run 11 2.5/2.5	NONE	0 ppm 200 ppm BZ		AAA, with pumice fragments increasing to 5% @ core.			
30	Run 12 2.5/2.5	AAB9211 Full AAB9212 Dup 27.5-30.0	0 ppm 200 ppm BZ		27.5-29.0 - AAA 29.0-30.0 - Becoming a moderately consolidated ASH TUFF with abundant 2 mm-1 cm sized very [illegible]			

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 9/6/94

- Samples:

Full - Glass clean brass gamma Split, no core, fines moisture strontium densities [illegible] records

RAD - Glass clean brass gamma Split moisture [illegible]

SILT
SAND
CLAY
ASH
Rhyolite Pumice Tuff Fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30' To 50' Page 2 of 2

Driller [illegible] Box #(s) 7 Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method Air Rotary Sonic Auger Sampling Equip./Method Stainless Steel Split Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 11 2.5/2.5	[illegible]	0 ppm 2.5 Straight DI		Consolidated, moderately to very fine grained clay, very pale orange 10 YR 8/2 TUFF mixing fine grained ash with abundant dark minerals (pumice & ?) pumice			
32.5	Run 12 2.5/2.5	AAB9206 RAD 325-327.5	0 ppm 300 cpm DI		AAA			
35	Run 13 2.5/2.5	[illegible]	0 ppm 200 cpm DI		AAA pumice increasing to 5%			
37.5	Run 14 2.5/2.5	AAB9207 RAD 355-357.5	0 ppm 200 cpm DI		AAA			
40	Run 15 2.5/2.5	[illegible]	0 ppm 200 cpm DI		AAA			
42.5	Run 16 2.5/2.5	AAB9208 RAD 435-437.5	0 ppm 200 cpm DI		AAA, becoming to fine and at 44.3 feet becomes unconsolidated and very sugary with very little pumice small dark lithics still present			
45	Run 17 2.5/2.5	[illegible]	0 ppm 200 cpm DI		45.0-46.0 AAA 460 425 consolidated moderately pumiceous tuff 95% Fine Pumice dark to charcoal lapilli [illegible]			
47.5	Run 18 2.5/2.5	AAB9209 full 475-477.5	0 ppm 200 cpm DI		AAA, becoming clayey at the more lithic 9 clinoptilolite, hornblende and shard ? Pumice to pumice with [illegible]			10 Sept 94 Drilling moved to 125 Chaves [illegible]
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 9/1/94

ASH

Rhyolitic Pumice Tuff fragments

TUFF

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1288 TA/OU 10/1079 Drill Depth From 0 To 30 Page 1 of 2

Driller Stewart Bros. Box #(s) 1-5 Start Date/Time 21 Sept 94/0855 End Date/Time 21 Sept 94/1340

Drilling Equip./Method Failing F-10 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel [illegible]

Depth (feet)	Recovery (feet per foot / %)	AAB # Field Analytical Sample Number	Field Screening Results OVM BY CPM	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5	~~AAB~~ Jan Walk	Ø OVM ≤250 BY	Box 1 of 0-5	0-3.5 S. Hg Sandy soil, brown (5YR 4/4), trace organics, medium to coarse grained, consolidated, moist		Alluvium (backfill)	21 Sept 94 In zone: 0845 Drilling: 0855
	Run 2 2.5/2.5	AAB9429 4.2-5.0 Full	Ø OVM ≤250 BY		3.5- SAA Fine grains H(ash), lt brown (5YR 6/4), compacted, damp, trace gravel, trace pumice.			
5	Run 3 2.5/2.5		Ø OVM ≤250 BY		SAA weathered tuff/ash/silt sand			
	Run 4 2.5/2.5	AAB9430 9.5-10 RAD	Ø OVM ≤250 BY	Box 2 of 5-10	SAA, dry soil			
10	Run 5 2.5/2.5		Ø OVM ≤250 BY	Box 3 of 10-15	SAA weathered tuff/ash to soil, moderate comp, orange gray color (5YR 8/4) dry, trace pumice, ≤5% qtz fine-med-grain			
	Run 6 2.5/2.5	AAB9431 14.5-15.0 RAD	Ø OVM ≤250 BY		SAA lg pumice crystals 1-2.5cm, off white, make up ≈ 7% of run.			
15	Run 7 2.5/2.5	Full	Ø OVM ≤250 BY	Box 4 of 15-22.5	SAA coarse grained with depth, weakly competent, lg pieces of tuff (≤5%), dry (≥5.5cm)			
	Run 8 1.5/2.5	AAB9432 18-18.5 RAD	Ø OVM ≤250 BY		SAA 18.5-20 Core loss	Core loss		
20	Run 9 1.5/2.5		Ø OVM ≤250 BY		Fine grains H/ash, lt brown (5YR 6/4), soft, dry, trace pumice, ≤5% qtz trace lithic fragments. 21.5-22.5 core loss	Core loss		
	Run 10 2.5/2.5	AAB9433 22.5-23.5 Full	Ø OVM ≤250 BY	Box 5 of 22.5-30	SAA 23.5: sharp contact soil to tuff, ~~[illegible]~~ 21 Sept 94 23.5-25 Tuff: lt brown-gray, hard, compentant, 5-NB qtz, dry (5YR 6/1)			23.5-25 Tuff black, possible Tuff contact
25	Run 11 1.5/2.5		Ø OVM ≤250 BY		25- fine grained tuff/ash soil, ~~[illegible]~~ dry, orange gray color (5YR 8/4), ≤5% pumice fragments, dry ~~24-25~~ core loss 26.5-27.5	Core loss		
	Run 12 2.5/2.5	AAB9434 29.5-30 RAD	Ø OVM ≤250 BY		SAA grayish orange pink (5YR 7/2), weakly competent, tuff/ash, soft			Lunch: 1110
30								

Prepared by Jeff Wolterscheid Date 21 Sept 94 Checked By Neah Faulk Date 9-27-94

sand

tuff/ash/silt

silt

tuff

cobbles (pumice/lithics)

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1288 TA/OU 10/1079 Drill Depth From 30 To 50 Page 2 of 2

Driller Stewart Bro Box #(s) 5-8 Start Date/Time 21 Sept 94/0855 End Date/Time 21 Sept 94/1340

Drilling Equip./Method Failing F-10 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon

Core Logged BT 9-27-94

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number AA6 #	Field Screening Results OVM, BY CPM	Top/Bottom of Core In Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 11 2.5/2.5		∅ OVM ≤250 BT	Box 6 of 8 30-36 Fill	Tuff/ash, grayish orange pink (5YR 7/2), weakly competent, trace rhyolite, <5% pumice fragments, soft, friable.		Rhyolite	Tmzone: 1230 Start: 1253
	Run 12 2.5/2.5	AA85435 30.5-35 RAD	∅ OVM ≤250 BT		SAA nonwelded tuff/ash			
35	Run 13 2.5/2.5		∅ OVM ≤250 BT		SAA 37-37.5 Core loss			
	Run 14 2.5/2.5	AA85436 37.5-40 RAD	∅ OVM ≤250 BT	Box 7 of 8 36-42.5 Fill	SAA			
42	Run 15 2.5/2.5		∅ OVM ≤250 BT		SAA becoming more competent with depth, bit at 42' soft			
	Run 18 2.5/2.5	AA85437 42.5-45 RAD	∅ OVM ≤250 BT	Box 8 of 8 42.5-50 Fill	SAA nonwelded tuff slightly pinker in color (5YR 7/2) becoming harder with depth, <5% lithics, 5-10% gas, moist indicated			
45	Run 19 2.5/2.5	AA85438 46.2-47 Fill	∅ OVM 500 BT		46.2-47 Trans. tuff zone sand/pumice/tuff, clamp		Trans. Tuff Zone	
	Run 20 1.0/2.5	AA85439 47.5-47.5 Fill AA85441 Rinsate	∅ OVM ≤250 BT		47- Pumice bed, poorly sorted small 1-2cm pumice rich, moist, soft, Hgray (10YR 6/1) 48.5-50 Core loss	Core loss	Rhyolite	End of hole: 1340
50		AA85440 Fluid			SOTO.			

Prepared by Jeff Walterscheid Date 21 Sept 94 Checked By Nick Fowler Date 9-27-94

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 30' Page ____ of 2

Driller [illegible] Box #(s) 1-5 Start Date/Time 14 Sept 94 0900 End Date/Time 14 Sept 94 1630

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5 / 2.5	[illegible]	0 cpm 225 cpm Bz	0.0 / 2.5	Fine to med. grained unconsolidated SAND; SILT Matrix heterogeneous with angular to subrounded Moderate Yellowish Brown (10YR5/4) dusty appearance [illegible]		ALLUVIUM	14 Sept 94 Begin drilling operations
5	Run 2 2.5 / 2.5	9409224 Full 13:41	0 cpm 225 cpm Bz	2.5 / 5.0	Fining down wards, becoming uncons. stained SILT, 2-3 cm & 1-5 mm Pumice Lithic fragments Less matrix & increment throughout Sec.			
10	Run 3 2.5 / 2.5	NONE	0 cpm 225 cpm Bz	5.0 / 7.5	SAA, with one 5 cm clastic cobble at 5.5 feet.			
15	Run 4 2.5 / 2.5	9409225 RAD 12:20	0 cpm 225 cpm Bz	7.5 / 10.0	SAA, becoming more consolidated with the introduction of Silt clay			Note: soil description on the core boxes, not relative to Datum
20	Run 5 2.5 / 2.5	9409227 Full 11:40	0 cpm 225 cpm Bz	10.0 / 12.5	10.0 - 11.0 Matrix unconsolidated stained SILT to SAND 11.0 - 12.5 Moderately consolidated SILT dry consistency 5 cm pumice fragment			Returned at 0700 hours
25	Run 6 2.5 / 2.5	9409226 RAD 12:42	0 cpm 225 cpm Bz	12.5 / 15.0	unconsolidated SILT SILT with 20-50 mm pum ce fragments. Becomes more consolidated with depth, moderately homogeneous			
30	Run 7 2.5 / 2.5	NONE	0 cpm 225 cpm Bz	15.0 / 17.5	SAA			
35	Run 8 2.5 / 2.5	9409228 RAD 13:13	0 cpm 225 cpm Bz	17.5 / 20.0	SAA			Took a break at 1120 hours
40	Run 9 2.5 / 2.5	NONE	0 cpm 225 cpm Bz	20.0 / 22.5	SAA			Returned to site to drill at 1301 hours
45	Run 10 2.5 / 2.5	9409229 RAD 939 hrs	0 cpm 225 cpm Bz	22.5 / 25.0	Fine grained SILT with rhyolitic pumice and clastic fragments ranging in size from 50 mm - 3 cm			Stopped drilling at 1325 hours due to inclement weather.
50	Run 11 2.5 / 2.5	NONE	0 cpm 225 cpm Bz	25.0 / 27.5	Continuing as fine becoming an ASH SILT Contains 2-4 mm quartz crystals Becoming brownish Orange Pink 10YR8/2 with pumiceous fragments			Drilling began again at 1505 hours
55	Run 12 2.5 / 2.5	9409228 Full 20:03	0 cpm 225 cpm Bz	27.5 / 30.0	Fine grained unconsolidated ASH, with 2mm quartz crystals dry white pumice or lithic fragments			

Prepared by [illegible] Date 14 Sept 94 Checked By [illegible] Date 9/14/94

Samples:

Full - Gross alpha, beta, gamma spec, moisture, total uranium, strontium, TAL metals, semi-volatiles, volatiles

-RAD- [illegible]

SILT

SAND

ASH

Clay

Dacite, Rhyolite, Pumice and [illegible]

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From 30 To 50 Page 2 of 2

Driller [illegible] Box #(s) 6-9 Start Date/Time 14 Sept 94 0826 End Date/Time 14 Sept 94 1430

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Runs 2.5 / 2.5	[illegible]	Ø Dam 200ppm B2	30.0 32.5 Box #7	30.0-32.5 dAA 30.0-32.5 Abundant Tuff fragments as <1cm dia. clasts - fragments are grey/tan [illegible]		Nimbus	
32.5	Runs 2.5 / 2.5	449736 RAD 335312	200m 250ppm B1	32.5 35.0 Box #8	Moderately Consolidated Ash Tuff with abundant 1 cm dia. pumice clasts, minor plagioclase phenocrysts, matrix composed of fine grained ash and lithics [illegible]			
35	Runs 2.5 / 2.5	None	Ø Dam 200ppm B2		dAA [illegible]			
37.5	Runs 2.5 / 2.5	449733 RAD 385 313	Ø Dam 200ppm B1	37.5 40.0 Box #9	37.5-39.0 Complete unconsolidated, noncohesive Ash Tuff, no clasts of pumice or lithics, [illegible] abundant [illegible] 39.0-40.0 dAA [illegible]			
40	Runs 4.0 / 5.0	449733 RAD 424-429	Ø Dam 300ppm B1		dAA			
45	Runs 5.0 / 5.0	449734 Full 455 459	Ø Dam 250CPM B2	42.5-50.0 Box #10	45.0-47.5 dAA 47.5-50.0 Unconsolidated, noncohesive, Tuff composed of "popcorn" pumice abundant clear lithics and tephra of hornblende dacite Pyroxene rhyolite ash Pumice commonly elongate Shear planes and slickensides		Bandelier Tuff / Otowi Member	Drill rig ordered for 30 hours at a depth of 50 feet
50								

Prepared by [illegible] Date 14 Sept 94 Checked By [illegible] Date 9/16/94

Ash

Dacite, rhyolite pumice, and lithic fragments

Tuff

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 09 Sept 94 [illegible]

Drilling Equip /Method [illegible] Sampling Equip /Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
[illegible]	Run 1 2.5 2.5	None	0.0 m [illegible] Bt	1 of 10 [illegible]	[illegible]		ALLUVIUM	[illegible]
25	Run 2 2.5 2.5	[illegible]	[illegible]		[illegible]			
[illegible]	Run 3 [illegible] 2.5	None	[illegible]	2 of 10 [illegible]	[illegible]			
15	Run 4 [illegible] 2.5	[illegible]	[illegible]		Fining [illegible] Semi [illegible]			
[illegible]	Run 5 2.5 2.5	None	[illegible]	3 of 10 [illegible]	[illegible]			
10.5	Run 6 2.5 2.5	[illegible]	0.0 m [illegible] Bt		DAA [illegible]			[illegible] 1340 to 1400
15	Run 7 2.5 2.5	AABS [illegible]	0.0 m [illegible] Bt	4 of 10 [illegible]	[illegible] SILT			
17	Run 8 2.5 2.5	[illegible]	0.0 m [illegible] Bt		DAA [illegible] SILT by 15.5 feet [illegible] homogeneous			
20	Run 9 2.5 2.5	[illegible]	7.0 m [illegible] Bt	5 of 10 [illegible]	[illegible] SILT [illegible]			
22.5	Run 10 2.5 2.5	[illegible]	0.0 m [illegible] Bt		DAA [illegible] to ASH and SILT by [illegible]			
25	Run 11 2.5 2.5	None	7.0 m [illegible] Bt	6 of 10 [illegible]	DAA		DTAWI	
27.5	Run 12 2.5 2.5	[illegible]	7.0 m 2500 ppm Bt		[illegible] to ASH [illegible]			Drilling ended for the day at 1505 hours
30								

Prepared by [illegible] Date 09-09-94 Checked By [illegible] Date 9/26/94

- Gross alpha, beta, gamma spec, moisture, total uranium, strontium, lab metals, and semi-volatiles
- Redwan: Gross alpha, beta, gamma spec, [illegible]

SAND
SILT
CLAY
ASH
Pumice, rhyolite and other lithics

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10-1295 TA/OU 10-1 Drill Depth From 0 To 50 Page 2 of 2

Driller [illegible] Box #(s) 7-10 Start Date/Time 9/30/94 0830 End Date/Time 9/30/94 0915

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	2.5' / 83	None	0 ppm background	30 / 35	Ash-flow tuff, white, with inclusions of ash, pumice, and lithics; ash matrix; pumice fragments are white, rhyolitic; lithics are dense, aphanitic, gray to black; moderately welded; [illegible]		Bandelier Tuff	Drilling began at 0830 hours
35	2.5' / 83	None	0 ppm background	35 / 40	Ash-flow tuff, white, with inclusions of ash, pumice, and lithics; ash matrix; pumice fragments are white, rhyolitic; lithics are dense, aphanitic, gray to black; moderately welded; [illegible]		Bandelier Tuff	
40	2.5' / 83	None	0 ppm background	40 / 45	Ash-flow tuff, white, with inclusions of ash, pumice, and lithics; ash matrix; pumice fragments are white, rhyolitic; lithics are dense, aphanitic, gray to black; moderately welded; [illegible]		Bandelier Tuff	
45	2.5' / 83	None	0 ppm background	45 / 50	Ash-flow tuff, white, with inclusions of ash, pumice, and lithics; ash matrix; pumice fragments are white, rhyolitic; lithics are dense, aphanitic, gray to black; moderately welded; [illegible]		Bandelier Tuff	
50	2.5' / 83	None	0 ppm background	45 / 50	Ash-flow tuff, white, with inclusions of ash, pumice, and lithics; ash matrix; pumice fragments are white, rhyolitic; lithics are dense, aphanitic, gray to black; moderately welded; [illegible]		Bandelier Tuff	Drilling ended at 0915 hours; total depth 50 feet

Prepared by [illegible] Date 09-29-94 Checked By [illegible] Date 9/30/94

Ash

SAND

TUFF

Rhyolite Pumice and other Lithics

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page 1 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time 13 Sep 94 0745 End Date/Time 13 Sep 94 1155

Drilling Equip./Method [illegible] Sampling Equip./Method Stainless steel split Barrel

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run1 2.5 2.2	None	300cpm (background) 200cpm B3	0.0 2.5	0-2.5 Organic, wet, fine/fibrous top soil sediment. 1.0-2.5 Moist, moderately consolidated SANDY SILT. Light Brown 5YR5/6, non-calcareous fine to medium grained, Pumiceous tuff fragments present.			13 Sep 94 Begin drilling 0745 hours. Abraham Wadsworth.
2.5	Run2 3.5 3.5	AA89320 Full 23.33	900cpm 225cpm B1	2.5 5.0	2.5-3.5 Very unconsolidated, coarse, angular SAND. 3.5-5.0 Consolidated, Common, very fine SILT			
5	Run3 2.5 2.5	None	900cpm 200cpm B6	5.0 7.5	Consolidated, Moderate, very fine grained SILT Somewhat homogeneous with few to no inclusions			
7.5	Run4 2.5 2.5	AA89321 RAD 53.33	900cpm 225cpm B1	7.5 10.0	SAA, becoming finer downwards and less consolidated			
10	Run5 2.5 2.5	None	900cpm 225cpm B1	10.0 12.5	SAA, with pumice fragments ranging from 5-15mm exhibiting vesicular texture			
12.5	Run6 2.5 2.5	AA89322 RAD 49.33	900cpm 225cpm B1	12.5 15.0	SAA			
15	Run7 2.5 2.5	AA89323 Full 27.33 Duplicate	900cpm 200cpm B2	15.0 17.5	SAA, Becoming more consolidated downwards 25mm-1cm pumice fragments show contain abundant lithics. Also, dem clastic fragments present.			
17.5	Run8 2.5 2.5	AA89324 RAD 154.67	900cpm 200cpm B2	17.5 20.0	SAA			Tool advancement at 0914 hours
20	Run9 2.5 2.5	None	900cpm 200cpm B2	20.0 22.5	SAA with few to no Pumice fragments			Resumed and began drilling at 1000 hours.
22.5	Run10 2.5 2.5	AA89325 RAD 232.00	900cpm 200cpm B1	22.5 25.0	Continuing to fine downwards becoming unconsolidated. Beginning to notice Ash influence in SILT. 24.0-25.0 Becoming SANDY SILT with 1-2cm dacitic and pumice fragments			
25	Run11 2.5 2.5	None	900cpm 225cpm B1	25.0 27.5	SAA, with 1-2cm tuff fragments		DTA01	
27.5	Run12 2.5 2.5	AA89326 Full 27.2.33	900cpm 200cpm B1	27.5 30.0	Fining to Ash, Grayish Orange 10YR7/4 very fine grained with 2mm-1cm pumice fragments with 2mm pumice phenocrysts dominant. Matrix very fine grained with some lithics			

Prepared by [illegible] Date 13 Sep 94 Checked By [illegible] Date 9/20/94

- Samples
Full Suite
Gross alpha, beta, gamma spec, total uranium, strontium, TAL metals, semivolatiles, volatiles, and high explosives
- Radcon
Gross alpha, beta, gamma spec, no semivolatiles

ALLUVIUM

SILT
SAND
ASH
TUFF
Pumice, Rhyolitic dacite frags

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID PC-1291 TA/OU PC-1291 Drill Depth From 30 To 50 Page 2 of 2

Driller Stevens Drilling Box #(s) 2-4C Start Date/Time 12 Aug 94 End Date/Time 13 Aug 94 1155

Drilling Equip./Method CME 75 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon

Depth (feet)	Recovery (feet per inch / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 3 25/ 25	NEAC	0 cpm 225 cpm GZ		Clay Loam, Clay from Change to TR 5/3 ASH. Moist, micaceous, consolidated, homogeneous with fragments. Ash from 30.5 to Bottom of Core. Bottom of Core at 30.5 ft from Start. Bottom of Hole at 30.5 ft from Start.			
32.5	Run 4 2.5 / 2.5	AA89321 AA89322 AA89323	0 cpm 35 cpm GZ		ASH becomes more consolidated at 33.5 feet from start. Contains 10% or less lithic fragments.			
35	Run 5 50 / 50	AA89324 RAD 38 / 38	0 cpm 200 cpm GZ		ASH. Becomes more consolidated at 37.5 feet			
40	Run 6 50 / 50	AA89327 RAD 43.5 / 43.9	0 cpm 200 cpm GZ		ASH			
42	Run 7 50 / 50	AA89328 RAD 48.5 / 49.5	0 cpm 200 cpm GZ		ASH. 46.0 - 50.0 Clay consolidated, dry, Bottom of Core at 50.0 ft. Contains clast lithics, Clast from 46.0 to 48.5 ft. Contains 5% or less lithic fragments. Bottom of Core approximately 90% Tuff from 48.5 to Bottom of Core.			Drilling ended at 1155 hours at depth of 50 feet
50								

Prepared by [signature] Date 13 Aug 94 Checked By [signature] Date 9/6/94

ASH

TUFF

Rhyolite, Aphanitic, devitrified fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID 10 3123 TA/OU 10-1339 Drill Depth From 0 To 30 Page 1 of 2

Driller Arizona Testing Box #(s) 1 - 5 Start Date/Time 14 Sept 94 1045 End Date/Time 15 Sept 94 1530

Drilling Equip./Method Hollow Stem Auger Sampling Equip./Method Split Spoon Steel Liner + Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	3.5 / 70		0 ppm 2 ppm 01		0.0-0.6 - Moist, Organic rich topsoil + sediment			14 Sept 94. Drilling at 0915 hours 5 ft/s Clean, winds 0-5 mph
2.5	1.0 / 20	10B9235 Full 10B9236 Dup 35 33	300 ppm 3 scopes Pt 0 ppm 225 cpm Pt	0.0 - 7.5 Run 1 to 9	0.6-2.5 - Dry, fine, unconsolidated, predominantly SILT, moist w/ dry, warm ash-size mm white pumice fragments. Rare gravel-sized fragments. Rare gravel-sized pumice fragments throughout. Moist gray/tan mixed SILT with faint smell. Few orange/pumice fragments throughout			
5	1.0 / 20				SAA, becoming fewer gravel-sized pumice fragments. Becoming a SANDY SILT at 6 feet			
7.5	2.5 / 50	10B9237 Full 10B9238 Dup 35 35	30 ppm 3 scopes Pt 0 ppm 300 cpm Pt	7.5 - 13.3 Run 2 to 9	Continues as fewer clasts, becoming a Medium Brown SILTY SAND from 9 feet. Contains pumice and mafic minerals. Appears unconsolidated. Rare gravel-sized pumice fragments at 9 feet.			
10	2.5 / 50	10B9239 Full	0 ppm 3 scopes Pt		SAA, organic clasts abundant at 11 feet, rounded, composed of black tan			
12.5	1.5 / 30	10B9240 Dup 135 140	0 ppm Top Basin Ambient 3 scopes		SAA, as above, changing to Pale brown SILT with some fine grained, unconsolidated pumice. Rare gravel-sized fragments. Rare			Thermal wire and large clastic cobbles 3-7 cm at 13 feet
15	2.5 / 50		0 ppm 3 scopes Pt	13.3 - 19.0 Run 3 to 9	Dark Brown Orange 10YR 7/4 fine grained homogeneous SILT. Becoming more pumice at 17 feet. Dry			
17.5	2.3 / 46	10B9241 Dup 137-140	0 ppm 2 scopes Pt		SAA			Took shovel at 1120
20	2.5 / 50	10B9242 Full	0 ppm 2 scopes Pt	19.0 - 25.0 Run 4 to 9	SAA, becoming heterogeneous with 2% pumice fragments. Fragments small 0-5 mm			Returned to core and started drilling at 1330 hours
22.5	2.5 / 50	10B9243 RAD 240-242	0 ppm 3 scopes Pt		SAA, becoming less pumice with less pumice fragments			
25	2.5 / 50	None	0 ppm 3 scopes Pt	25.0 - 30.0 Run 5 to 9	Becoming fewer pumice with a slightly yellow Changing from Unconsolidated at 1170 very few pumice and ASH Contains very small 2 mm white crystals			
27.5	2.5 / 50	10B9244 Full 10B9245 Dup 267-270	0 ppm 2 scopes Pt		Unconsolidated unconsolidated Ash Small quartz crystals 2 mm diameter along with small dark lithics. Lithology consistent Tuff Bottom of 30 feet			
30								

Prepared by [signature] Date 15 Sept 94 Checked By [signature] Date 9/16/94

Full - Suite alpha, beta, gamma, SVOC, metals, total uranium, strontium, TAL metals, semi-volatiles, dioxins and high explosives

Dup

Rad - Gross alpha, beta, gamma, SVOC, metals, semi-volatiles, VOC's, dioxins

SILT
SAND
ASH
Rhyolite, Dacite,

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To [illegible] Page [illegible] of [illegible]

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time 15 Sept 94 1530

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
25	Run 15 2.5/2.5		0 ppm background		Very consolidated zones of Light Gray TUFF Mildly clayey zone of tuffaceous Pumice Conglomerate [illegible]			
30	Run 14 2.5/2.5	4605293 Rad 330-342	0 ppm background	30-35 Bottom	Changing to unconsolidated, noncohesive ASH and SAND; well sorted and contains predominantly Pumice			
35	Run 15 2.5/2.5		0 ppm background		Medium consolidated Pumiceous ASH and Sandy Matrix Conglomerate to clayey Pumice Breccia and some zones of Unconsolidated Pumice			
40	Run 16 2.5/2.5	4605297 Rad 350-362	0 ppm background	35.0-40.0 Bottom	[illegible]			
45	Run 17 5.0/5.0	4605295 Rad 438-443	0 ppm background	40.0-45.0 Bottom	40.0-45.0 SAA 425-450 SAA with increased rounded clasts			
50	Run 18 5.0/5.0	4605296 Rad 458-463	0 ppm background	45.0-50.0 Bottom	45.0-47.5 SAA 425-500 Very consolidated, noncohesive, unconsolidated Pumiceous Tuff Contains 10mm-50mm clasts of Pumice with 2mm crystals. Remainder of matrix is Tuff. Clasts are Rhyolite, Dacite, Pumice and Lithic fragments			15 Sept 94 Drilling ended 1530 hours at a depth of 50 feet.

Prepared by [illegible] Date 15 Sept 94 Checked By [illegible] Date 9/20/94

ASH
TUFF
Rhyolite, Dacite, Pumice, and Lithic fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID _____ TA/OU _____ Drill Depth From _____ To _____ Page 1 of 2

Driller _____ Box #(s) _____ Start Date/Time _____ End Date/Time _____

Drilling Equip./Method _____ Sampling Equip./Method _____

Depth (feet)	Recovery (feet per foot / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0					No access - used Geoprobe to			
5	Rec 2.5 2.5	NONE	Room background		Dry, unconsolidated Dusky Brown SILTY SAND w/ fine Vesicular Orange POROUS SILTY SAND. Fine to med grained with trace pebbles & small grained fragments			Hydrology Begin drilling 1420 hours. Direction winds SE 2.5 m/s
15	Rec 1.9 2.5	NONE	Room background		Becoming damper downwards very uniform dusty BROWN Med. Comegrained.			
20	Rec 2.5 2.5	NONE	Room 100 cpm BZ		17.5-19.0 - BAA 19.0-20.0 - Dry very coarse sediment with some characteristics of caliche 2cm PINK TUFF fragment (base of 19.5' bed			
22.5	Rec 2.5 2.5	NONE	Room 100 cpm BZ	Box 2 0-2.5 19.5-22.5	very Coarse grained and unconsolidated. Moist Moderate Brown SILTY SAND becoming more cohesive with 20% CLAY inclusions throughout			Total depth 1355 hours
25	Rec 2.5 2.5	NONE	Room 100 cpm BZ		22.5-24.0 - BAA 24.0-25.0 - Dry moist, cohesive SILTY CLAY with slight ASH influence. Very well consolidated			
25	Rec 2.5 2.5	NONE	Room 100 cpm BZ	Box 3 0-2.5 22.5-25.0	Very fine grained, non-cohesive, consolidated CLAY containing downward rejoin of CLAYEY SAND @ 23.5 feet 2-10 cm impervious silicate plate Burrow present at 23 feet			Returned to core at 1414 hours
30	Rec 2.5 2.5	NONE	Room 1000 cpm BZ		300 dpm Alpha Homogeneous, Fine grained unconsolidated, ASHEY SAND ASH has dry consistency			

Prepared by _____ Date _____ Checked By _____ Date 12 Oct 94

Symbols:

Full suite - Description, Color, grain size, moisture, soil structure, stratification, cementation, plasticity, fabric, inclusions and high explosives

Reduced - Description, color, grain size, moisture, cementation, plasticity and TAL metals

- SILT
- SAND
- CLAY
- ASH
- Andesine, Rhyolite and Pumice fragments

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID [illegible] TA/OU [illegible] Drill Depth From [illegible] To 50 Page 2 of 2

Driller [illegible] Box #(s) [illegible] Start Date/Time [illegible] End Date/Time [illegible]

Drilling Equip./Method [illegible] Sampling Equip./Method [illegible]

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 1 2.5/2.5	GAB9225 RAD 4.5-31.8	0 ppm 100 cpm BL	Top 30.0	SAA [illegible]		ALKALI FLOW + ASH	
32.5	Run 2 2.5/2.5	NONE	0 ppm 100 cpm BL	Bot 32.5	32.5-34.0 SAA 34.0-35.0 SAA [illegible]			
35	Run 3 2.5/2.5	GAB9226 [illegible] 3.0-32.8	0 ppm 100 cpm BL	Top 35.0 Bot 37.5	35.0 to 37.5 Unconsolidated Interbedded [illegible] ASHEY SILT to 36.3-36.9 Compacted dense, moist CLAY with [illegible]			
37.5	Run 4 2.5/2.5	NONE	0 ppm 100 cpm BL		Sand 37.5-39.3 Unconsolidated moderately compacted [illegible] SAND Quartzitic no reaction with [illegible] 39.3-39.9 Moderately consolidated [illegible]			
40	Run 5 2.5/2.5	GAB9235 Rad 41.5-31.7	0 ppm 100 cpm BL	Top 40.0 Bot 42.5	Unconsolidated moderately Compact Dark Yellowish Orange 10YR 6/6 - Pumice fragments 4th bit Light [illegible]		OTOWI MEMBER OF THE BANDELIER TUFF	
42.5	Run 6 2.5/2.5	NONE	0 ppm 100 cpm BL		SAA			
45	Run 7 2.5/2.5	GAB9236 Rad 41.5-31.7	0 ppm 100 cpm BL	Top 45.0 Bot 47.5	SAA			
47.5	Run 8 2.5/2.5	GAB9237 Rad [illegible]	0 ppm 100 cpm BL		SAA with pumice fragments increasing in size to 4cm Pumice clasts [illegible]			Drill ended at 1630 hours on test depth 50 feet
50								

Prepared by [illegible] Date [illegible] Checked By [illegible] Date 17 Oct 94

Sand
Clay
ASH
Rhyolite, Andesite or Pumice fragments
Tuff

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID IC-1295 TA/OU IC / IC 29 Drill Depth From 0.0 To 30.0 Page 1 of 2

Driller Stewart Brothers Box #(s) 1-4 Start Date/Time 11-11-94 / 1000 End Date/Time 11-14-94 / 1449

Drilling Equip./Method Failing F-10 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon Core Barrel

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number 448 Numbers	Field Screening Results	Top/Bottom of Core in Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
0	Run 1 2.5/2.5		0.0 OVM 2250 BS	0.0	0.0-0.4 Moderate yellowish brown (10YR5/4) silty sandy GRAVEL (fill for gravel pad)			11/11/94 Contract cold 1000 Enter zone Rig-ESH up over borehole location IC-1295
	Run 2 2.5/2.5	448958 0.5-3.0 RAD	0.0 OVM 2250 BS	2.5	0.4-2.5 Dark yellowish brown (10YR4/2) silty f. SAND. Little f. gravel throughout. Slightly moist			1035 Start drilling boreplug 1049 Run 1 retrieved 1055 Run 2 " 1101 Run 3 " 1111 Run 4 " 1122 Run 5 " 1125 Light rain falling Rig down each zone.
5	Run 3 2.5/2.5		0.0 OVM 2250 BS	5.0	2.5-5.0 Dark yellowish brown (10YR4/2) f. sandy SILT/silty f. SAND ~10% f. gravel throughout 5%-7% fine angular gravel. Moist 5			
	Run 4 2.5/2.5	448958 7.5-8.0 RAD	0.0 OVM 2250 BS	7.5	5.0-7.5 Dark yellowish brown (10YR4/2) silty f. SAND grading to moderate yellowish brown (10YR5/4) to dark yellowish brown (10YR4/2) f.-c. SAND. Little silt. Trace f. gravel. Slightly moist. Angular to subangular sand is primarily volcanic. Trace iron-oxide staining.			
10	Run 5 2.5/2.5		0.0 OVM 2250 BS	10.0	7.5-10.0 SAA 8.0-8.5 Zone moderate yellowish brown (10YR5/4) to moderate brown (5YR4/4) silty f.c. SAND. Iron-oxide staining common throughout with some concretions evident			
	Run 6 2.5/2.5	448958 12.5-13.0 RAD	0.0 OVM 2250 BS	12.5	10.0-12.5 Moderate yellowish brown (10YR5/4) f. sandy SILT. Dry to slightly moist. Color grades to moderate brown (5YR4/4).			1/11/94 Clear, cold 0830 Crew in zone, servicing rig 0917 Resume drilling 0932 Rig down for changing swivel 0948 Resume drilling 0952 Run 6 retrieved 0956 Run 7 " 0955 Run 8 " 1005 Run 9 " Approximately 0.5 ft of material recovered in top of core barrel (slough and not core from previous run)
15	Run 7 1.3/2.5		0.0 OVM 2250 BS	15.0	12.5-13.3 Moderate brown (5YR4/4) f. sandy SILT. Dry to slightly moist. Alternating color bands from 13.5 ft to 12.8 ft. Trace of secondary calcification (white) at 12.8 ft			1013 Run 10 retrieved 1030 Rig down for break. Exit zone. 1115 Return to zone 1118 Resume drilling 1122 Run 11 retrieved 1124 Run 12 "
	Run 8 2.0/2.5	448958 13.0-13.5 RAD	0.0 OVM 2250 BS		13.3-15.0 Core Loss			
	Run 9 2.5/2.5	448958 18.0-18.5 RAD	0.0 OVM 2250 BS	18.5	15.0-16.3 SAA 16.3-17.5 Core Loss			
20	Run 10 2.5/2.5	448958 23.5-24.0 RAD	0.0 OVM 2250 BS	23.5	17.5-18.5 Moderate yellowish brown (10YR5/4) f. sandy SILT/silty f. SAND. 5%-10% c. sand. Trace f. gravel. Dry to slightly moist			
	Run 11 1.9/2.5		0.0 OVM 2250 BS		18.5-20.0 Core Loss			
	Run 12 2.5/2.5	448958 28.5-29.0 RAD	0.0 OVM 2250 BS	28.4	20.0-21.7 Moderate yellowish brown (10YR5/4) f. sandy SILT. Trace c. sand and f. gravel. Dry.			
30					21.7-22.5 Pale yellowish brown (10YR6/2) silty f. SAND [ASH]. Little c. subangular buff pumice and lithic gravel.			
					22.5-24.0 SAA to 23.5 Increasing pumice fragments (5% to 8%) w. depth			
					24.0-26.9 Pale yellowish brown (10YR6/2) to moderate yellowish brown (10YR5/4) f. sandy SILT [ASH]. Little c. sand. Little f.-c. gravel (rounded to subround pumice and pumice fragments). Dry.			
					26.9-27.5 Core Loss			
					27.5-27.9 SAA			
					27.9-29.2 Pale yellowish brown (10YR6/2) silty f. SAND [ASH] Little c. sand. Occasional buff fragments to 2" dia. Dry. Finer SAND. Little silt. Trace f. gravel. Dry. Loose (Sand = ~15% pumice. 15% silt and 10% lithic material)			
					29.2-29.6 Pale yellowish brown (10YR6/2) f. sandy SILT. Trace c. sand and fine gravel. Dry. [Ash]			
30					29.6-30.0 Pale yellowish brown (10YR6/2) f. sandy SILT. Trace c. sand and fine gravel. Dry. [Ash]			

Prepared by Ron Buggen Date 11/11-11/14 1550 Checked By Derek Faulk Date 11/15/94

GRAVEL FILL · SANDY SILT · SAND · TUFF · SILTY SAND · PUMICE

LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM

SAMPLE MANAGEMENT FACILITY

CORE SAMPLE LOG

Borehole ID C-1-1295 TA/OU 1C / 079 Drill Depth From 35.0 To 50.0 Page 2 of 2

Driller Stewart Brothers Box #(s) 4 - 7 Start Date/Time 11-11-94 / 1000 End Date/Time 11-14-94 / 1445

Drilling Equip./Method Failing F-15 Hollow Stem Auger Sampling Equip./Method Stainless Steel Split Spoon (Core Barrel)

Depth (feet)	Recovery (feet per feet / %)	Field Analytical Sample Number	Field Screening Results	Top/Bottom of Core In Box	Lithology-Petrology - Soil	Graphic Log	Lithologic Unit	Notes
30	Run 13 2.5/2.5		CO OVM 4250 BF	31.0	30.0 - 37.5 Loose, pale yellowish brown (10YR 6/2) to moderate yellowish brown (10YR 5/4) fine sandy SILT containing abundant to v. f.-c. SAND with PMC scat. Trace f. gravel throughout. Dry.			11/14/94 (CONT.) 1142 Run 13 retrieved 1150 Driller reports hard drilling after 1ft of run. Retrieving core barrel to change swivel. Next run will be 15 ft. Both runs will compose Run #14. 1200 Second half of Run 14 retrieved. Full recovery 1210 Run 15 retrieved 1220 Break for lunch. 1400 Re-enter zone. 1401 Resume drilling 1411 Run 16 retrieved. 1422 Run 17 " 1431 Run 18 " 1441 Run 19 " 1445 Run 20 " TD for hole @ 50 ft, bgs Drillers preparing to trip augers.
	Run 14 2.5/2.5	44895F7 33.0-33.4 Rad	CO OVM 4250 BF		33.4 - 35.0 Dense, light brownish gray (5YR 6/1) TUFF. 5% - 10% Pumice - 5% fine c. mainly. Friable. Almost, moist?			
35	Run 15 2.5/2.5		CO OVM 4250 BF	35.0	35.0 - 37.5 Dense, friable very pale orange (10YR 8/2) to light brownish gray (5YR 6/1) TUFF. Trace pumice fragments			
	Run 16 2.5/2.5	44895F8 37.5-40.0 Rad	CO OVM 4250 BF	37.5	37.5 - 40.0 SAA			
40	Run 17 2.5/2.5		CO OVM 4250 BF	40.0	40.0 - 41.5 SAA. Trace rhyolitic fragments to 1/4" d.			
	Run 18 2.5/2.5	44895F9 41.5-42.0 Rad	CO OVM 4250 BF	41.5	41.5 - 42.9 SAA 42.9 - 43.5 pale pink yellowish brown (10YR 6/4) TUFF. Trace pumice and LMC fragments 43.5 - 45.0 Friable, weakly cemented f. SAND and PUMICE fragments. Dry. Trace rhyolitic fragments			
45	Run 19 2.5/2.5		CO OVM 4250 BF	45.0	45.0 - 47.5 SAA. Grades to dark yellowish orange (10YR 6/6) at 47.0 ft due to increasing iron-oxide staining.			
	Run 20 2.5/2.5	44895F10 47.5-50.0 Rad	CO OVM 4250 BF	47.5	47.5 - 48.1 SAA. Increasing LMC fragments and pumice 48.1 - 50.0 light brown (5YR 5/6) weakly cemented PUMICE fine sand- to coarse gravel size pumice fragments contained by micaceous tuffaceous clay matrix. Trace rhyolitic fragments. Slightly moist			
50				50.0	TOTAL DEPTH OF BOREHOLE @ 50 FEET B.G.S.			

Prepared by Ron Pierce Date 11-14-94 Checked By Derek Foulk Date 11/15/94

GRAVEL SANDY SILT

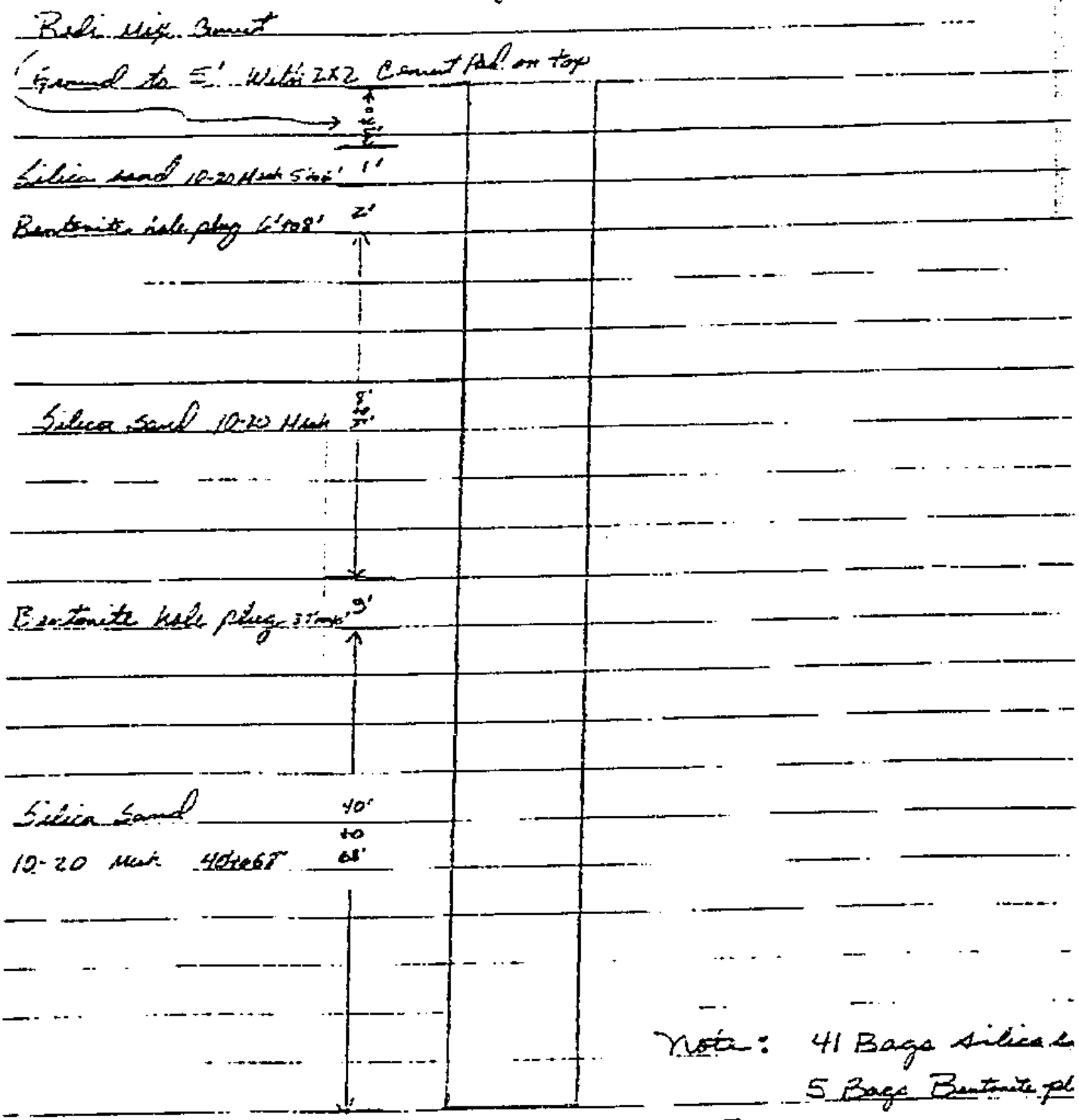
SAND TUFF

SILTY SAND PUMICE

Bayo moisture test Hole

Redi Mix Cement

Ground to 5' With 2x2 Cement Pad on top



Silica sand 10-20 Mesh 5'to6' 1'

Bentonite hole plug 6'to8' 2'

Silica Sand 10-20 Mesh 8' to 9'

Bentonite hole plug 3'to4' 9'

Silica Sand 40' to 68'

10-20 Mesh 40'to68'

Note: 41 Bags silica s

5 Bags Bentonite pl

Aluminum tube 2.500 wall.

APPENDIX D

SCREENING RESULTS

BOREHOLES WITH ELEVATED RADIOACTIVITY

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB2847	2.9	0.6	1800	12	510	1.46	<13	<8	89	<4	<4	<3	<4	240	<5	22	13	22
AAB2848	2.57	0.8	2200	17	510	1.75	<13	14	62	<4	<4	<3	<4	400	<5	29	8	23
AAB2849	2.86	0.58	1900	<12	500	1.4	<13	9	66	<4	<4	<3	<4	250	<5	20	10	18
AAB2850	2.56	0.51	2200	<12	730	2.47	<13	9	85	<4	<4	<3	<4	260	<5	28	13	24
AAB2852	3.24	0.42	1400	<12	450	1.37	<13	9	69	<4	<4	<3	<4	260	<5	24	<8	22
AAB2853	3.25	0.34	1100	30	550	1.46	<13	10	77	<4	<4	<3	<4	140	<5	24	<8	21
AAB2854	3.02	0.37	1300	<12	540	1.62	<13	<8	89	<4	<4	<3	<4	170	<5	25	<8	21
AAB2855	3.64	0.32	460	<12	614	1.24	<13	<8	130	<4	<4	<3	<4	64	<5	247	19	56
AAB2862	2.56	0.84	2400	19	440	1.74	<13	13	65	<4	<4	<3	<4	390	<5	20	9	16
AAB2864	2.56	0.43	2400	<12	360	1.57	<13	<8	64	<4	<4	<3	<4	360	<5	22	<8	18
AAB2865	2.6	0.59	2400	<12	460	2.1	<13	11	86	<4	<4	<3	<4	420	<5	28	<8	24
AAB2868	3.36	0.42	1300	<12	460	1.32	<13	8	75	<4	<4	<3	<4	210	<5	26	<8	13
AAB2869	2.6	0.76	2000	<12	600	1.65	<13	13	70	<4	<4	<3	<4	330	<5	38	<8	11
AAB2870	2.62	0.96	2200	<12	430	1.66	<13	8	74	<4	<4	<3	<4	280	<5	26	<8	20
AAB2871	2.95	0.49	1400	<12	500	1.36	<13	<8	75	<4	<4	<3	<4	220	<5	23	<8	15
AAB2872	2.63	0.56	2300	<12	380	1.79	<13	11	69	<4	<4	<3	<4	420	<5	23	<8	21
AAB2873	3.01	0.49	1800	<12	440	1.52	<13	11	66	<4	<4	<3	<4	250	<5	23	<8	18
AAB2874	3.41	0.46	1300	<12	540	1.41	<13	<8	80	<4	<4	<3	<4	220	<5	18	<8	22
AAB2875	3.19	0.4	1200	<12	640	1.67	<13	12	86	<4	<4	<3	<4	170	<5	32	14	32
AAB2876	3.48	0.42	850	<12	620	1.37	<13	11	100	<4	<4	<3	<4	180	<5	36	17	42
AAB2877	3.65	0.23	327	<12	628	1.03	<13	<8	120	<4	<4	<3	<4	35	<5	44	28	48
AAB2877D	3.66	0.24	330	<12	630	1.04	<13	<8	120	<4	<4	<3	<4	36	<5	44	28	48
AAB2878	3.48	0.41	986	<12	505	1.19	<13	<8	75	<4	<4	<3	<4	205	<5	27	14	26
AAB2878D	3.48	0.42	990	<12	510	1.19	<13	<8	76	<4	<4	<3	<4	210	<5	28	14	27
AAB2879	3.18	0.32	630	<12	340	0.84	<13	10	40	<4	<4	<3	<4	180	<5	20	<8	15
AAB2880	3.19	0.46	1000	<12	500	1.27	<13	8	56	<4	<4	<3	<4	240	<5	28	<8	16
AAB2881	2.9	0.44	935	<12	649	1.66	<13	15	112	<4	<4	<3	<4	181	<5	42	8	48
AAB2881D	2.91	0.44	940	<12	650	1.67	<13	16	110	<4	<4	<3	<4	180	<5	42	8	49

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB2886	2.6	0.88	2456	13	406	1.77	<13	<8	61	<4	<4	<3	<4	361	<5	22	<8	15
AAB2687	2.8	1.1	1874	<12	455	1.6	<13	<8	75	<4	<4	<3	<4	224	<5	23	<8	14
AAB2888	3.02	0.59	1279	<12	498	1.3	<13	<8	67	<4	<4	<3	<4	198	<5	27	9	22
AAB2889	2.71	0.69	2096	24	419	2.08	<13	9.6	85	4.3	<4	<3	<4	306	<5	21	14	25
AAB2890	3.33	0.34	1338	<12	490	1.35	<13	<8	64	<4	<4	<3	<4	228	<5	24	10	28
AAB2891	3.49	0.4	1291	<12	503	1.33	<13	9.5	71	4.2	<4	<3	<4	189	<5	19	18	23
AAB2892	3.48	0.33	989	<12	517	1.27	<13	<8	76	<4	<4	<3	<4	94	<5	24	8.5	20
AAB2894	2.81	0.62	1900	<12	520	1.59	<13	<8	65	<4	<4	<3	<4	330	<5	26	<8	17
AAB2895	2.82	0.64	1939	29	563	1.66	<13	16	64	<4	<4	<3	6	255	<5	21	8	22
AAB2896	2.53	0.49	2183	13	477	2.25	13.3	<8	83	<4	<4	<3	<4	216	<5	30	8.2	34
AAB2897	3.17	0.488	1664	<12	503	1.69	<13	9.7	71	<4	<4	<3	<4	263	<5	26	10	25
AAB2898	3.33	0.46	1330	<12	615	1.56	<13	9.7	64	<4	<4	<3	<4	148	<5	28	<5	24
AAB2899	3.42	0.38	909	16	549	1.28	<13	<8	62	<4	<4	<3	<4	167	<5	29	<8	26
AAB2900	3.02	0.23	384	<12	406	0.78	<13	<8	59	<4	<4	<3	<4	47	<5	26	<8	25
AAB2901	3.5	0.26	429	<12	698	1.21	<13	<8	134	<4	<4	<3	<4	91	<5	44	12	51
AAB2902	3.89	0.23	265	<12	701	1.06	<13	<8	123	<4	<4	<3	6	55	<5	49	17	55
AAB2907	3.01	0.61	1729	<12	464	1.45	<13	<8	62	<4	<4	<3	<4	255	<5	20	<8	18
AAB2908	2.61	1.84	2021	18	566	1.7	<13	9	55	4	<4	<3	<4	330	<5	15	<8	14
AAB2909	3.15	0.5	1817	25	566	1.69	<13	15	63	<4	<4	<3	<	258	<5	21	10	19
AAB2910	2.97	0.63	1494	<12	525	1.67	<13	10	68	<4	<4	<3	<4	226	<5	22	8	27
AAB2911	3.45	0.21	678	<12	486	1.21	<13	<8	40	<4	<4	<3	<4	93	<5	14	<8	15
AAB2912	3.15	0.5	893	<12	724	1.45	<13	<8	114	<4	<4	<3	4	311	<5	39	15	52
AAB2913	3.4	0.26	328	<12	727	1.04	<13	9	117	<4	<4	<3	<4	89	<5	44	16	49
AAB2914	3.82	0.22	2238	<12	740	1.08	<13	<8	135	<4	<4	<3	<4	49	<5	45	22	59
AAB2921	2.81	0.51	2343	18	524	1.81	<13	<8	58	<4	<4	<3	4	349	<5	20	9	22
AAB2922	3.08	0.44	1846	<12	496	1.59	<13	<8	59	<4	<4	<3	<4	305	<5	22	<8	19
AAB2923	2.93	0.7	1948	15	507	1.64	<13	9	56	<4	<4	<3	<4	292	<5	26	9	19
AAB2924	3.16	0.51	1490	<12	589	1.48	<13	<8	64	<4	<4	<3	<4	194	<5	26	10	30

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB2925	3.53	0.44	1235	<12	520	1.41	<13	<8	74	<4	<4	<3	<4	217	<5	20	16	23
AAB2926	3.42	0.38	1264	<12	491	1.25	<13	10	71	<4	<4	<3	<4	186	<5	24	8	19
AAB2927	3.42	0.34	626	<12	353	0.78	<13	<8	42	<4	<4	<3	<4	178	<5	19	10	12
AAB2930	2.92	0.51	1578	<12	869	2.39	<13	11	96	<4	<4	<3	<4	197	<5	31	<8	35
AAB2931	3.41	0.26	441	<12	657	1.16	<13	<8	113	<4	<4	<3	<4	48	<5	41	20	49
AAB2932	3.48	0.47	922	16	808	1.52	<13	14	120	<4	<4	<3	<4	121	<5	49	16	54
AAB2936	2.6	0.91	2518	14	469	1.76	<13	<8	63	<4	<4	<3	<4	385	<5	22	<8	22
AAB2937	3.05	0.63	1731	<12	540	1.5	<13	16	52	<4	<4	<3	<4	283	<5	21	<8	23
AAB2938	2.87	0.55	2603	19	607	1.9	<13	9	69	<4	<4	<3	<4	234	<5	26	<8	27
AAB2939	2.9	0.5	1964	27	557	2.03	<13	12	73	6	<4	<3	<4	304	<5	22	11	21
AAB2940	3.5	0.33	898	<12	527	1.21	<13	<8	76	<4	<4	<3	<4	158	<5	26	<8	23
AAB2941	2.42	0.61	1827	22	458	2.89	19	22	89	<4	<4	<3	<4	246	<5	31	<8	37
AAB2942	3.09	0.38	542	<12	949	1.79	<13	<8	169	<4	<4	<3	<4	320	<5	53	8	59
AAB2943	3.75	0.27	378	<12	794	1.2	<13	<8	137	<4	<4	<3	<4	134	<5	52	27	53
AAB2945	3.91	0.26	301	<12	763	1.15	<13	<8	143	<4	<4	<3	<4	55	<5	47	26	45
AAB2950	2.72	0.91	2931	<12	471	1.87	<13	<8	55	<4	<4	<3	<4	402	<5	22	<8	20
AAB2951	2.57	1.25	2654	15	444	1.77	<13	8	46	<4	<4	3	<4	344	<5	24	<8	15
AAB2952	3.2	0.53	1948	17	498	1.7	<13	<8	70	<4	<4	<3	<4	271	<5	24	11	18
AAB2953	3.42	0.51	1758	<12	554	1.61	<13	11	81	<4	<4	<3	<4	244	<5	30	11	31
AAB2954	3.28	0.37	1174	75	577	1.6	30	<8	75	<4	<4	3	4	139	<5	24	11	19
AAB2955	4	0.27	345	<12	776	1.25	<13	<8	133	<4	<4	<3	5	40	<5	45	19	50
AAB2956	3.85	0.27	352	<12	741	1.28	<13	<8	144	<4	<4	<3	<4	27	<5	55	17	44
AAB2957	4.21	0.25	341	<12	812	1.2	<13	<8	141	<4	<4	<3	<4	23	<5	49	21	59
AAB2965	2.39	0.86	2408	22	410	1.66	<13	9	55	<4	<4	<3	<4	331	<5	22	<8	21
AAB2966	2.32	0.82	2361	17	395	1.63	<13	<8	48	<4	<4	<3	<4	331	<5	17	<8	13
AAB2967	2.53	0.72	2536	23	295	1.85	19	9	66	<4	<4	<3	<4	375	<5	19	9	20
AAB2968	3.11	0.44	1425	<12	452	1.37	<13	13	73	<4	<4	<3	<4	254	<5	24	9	27
AAB2969	3.34	0.36	973	<12	574	1.29	<13	<8	65	<4	<4	<3	<4	99	<5	27	<8	27

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB2970	3.14	0.32	979	<12	562	1.37	<13	<8	73	<4	<4	<3	<4	89	<5	28	11	32
AAB2971	2.41	0.66	1881	15	756	3.08	<13	21	134	<4	<4	<3	<4	247	<5	38	9	35
AAB2972	3.25	0.4	798	<12	761	1.73	<13	<8	136	<4	<4	<3	5	88	<5	45	12	54
AAB2976	3.92	0.21	233	<12	694	1.03	<13	<8	119	<4	<4	<3	<4	11	<5	49	30	58
AAB2980	2.43	1.08	2501	<12	414	1.65	<13	<8	49	<4	<4	<3	<4	348	<5	18	<8	18
AAB2981	2.97	0.41	1533	<12	533	1.43	<13	<8	60.8	<4	<4	<3	<4	211	<5	25.2	9.32	15.7
AAB2982	2.43	0.53	2309	<12	509	2.24	<13	19	81	<4	<4	<3	5	353	<5	26	<8	28
AAB2983	2.65	0.49	1868	14.2	505	1.81	<13	<8	72.3	<4	<4	<3	4.62	280	<5	27.1	<8	23.8
AAB2984	2.99	0.46	1755	<12	450	1.57	<13	<8	70.3	<4	<4	<3	<4	208	<5	26.3	<8	22.6
AAB2985	3.05	0.41	1420	<12	490	1.43	<13	12.8	72.3	<4	<4	<3	<4	203	<5	29.3	<8	22.1
AAB2986	3.04	0.36	1173	<12	612	1.53	<13	8.6	78	<4	<4	<3	<4	155	<5	28.5	<8	23.3
AAB2987	3.42	0.24	362	<12	743	1.21	<13	<8	135	<4	<4	<3	<4	111	<5	52.4	17.3	49.7
AAB2992	2.57	0.72	2401	<12	464	1.68	<13	<8	61.5	<4	<4	<3	<4	382	<5	22.1	<8	14.3
AAB2993	2.48	0.89	2605	<12	388	1.65	<13	8.59	55.9	<4	<4	<3	<4	364	<5	25.3	<8	19.5
AAB2994	2.53	0.45	2259	15.6	467	1.69	<13	15.2	50.5	<4	<4	<3	<4	355	<5	19	<8	19
AAB2995	2.58	0.46	2302	21.8	503	1.77	<13	<8	60.7	<4	<4	<3	<4	358	<5	20.8	<8	22.7
AAB2996	2.66	0.56	1762	<12	468	1.91	<13	11	83	<4	<4	<3	<4	371	<5	24.9	9.61	27.6
AAB2997	2.49	0.52	1615	<12	821	3.03	<13	13.8	101	<4	<4	<3	<4	234	<5	44.1	16.3	47
AAB2998	2.69	0.37	649	<12	907	1.88	17.6	12.1	168	<4	<4	<3	<4	240	<5	54.2	19.9	73.7
AAB2999	3.36	0.23	287	<12	775	1.16	<13	<8	143	<4	<4	<3	<4	122	<5	55.3	17.1	62.6
AAB3000	3.89	0.26	291	<12	809	1.19	<13	<8	152	<4	<4	4	<4	81	<5	60	19	70
AAB3006	2.67	0.93	2699	<12	531	1.83	<13	12	59	<4	<4	<3	<4	313	<5	25	<8	15
AAB3007	3.06	0.73	1321	<12	556	1.57	<13	<8	70	<4	<4	<3	5	175	<5	30	<8	28
AAB3007D	3.1	0.91	1762	<12	549	1.79	<13	<8	91	<4	<4	<3	<4	187	<5	35	<8	16
AAB3008	2.59	0.47	2157	<12	513	1.85	<13	10	75	<4	<4	<3	<4	387	<5	22	8	31
AAB3009	2.92	0.38	1454	<12	608	1.67	<13	<8	80	<4	<4	<3	<4	195	<5	20	8	20
AAB3010	2.09	0.64	1912	14	652	3	<13	19	79	<4	<4	<3	<4	338	<5	38	10	42
AAB3011	3	0.39	674	<12	791	1.51	<13	<8	128	<4	<4	<3	<4	193	<5	46	11	54

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB3012	3.37	0.25	428	<12	699	1.17	<13	<8	113	<4	<4	<3	<4	92	<5	51	17	58
AAB3014	3.55	0.23	363	<12	723	1.07	<13	8	126	<4	<4	<3	<4	61	<5	50	22	57
AAB3021	2.67	0.31	2484	148	293	1.85	<13	51	74	<4	<4	<3	<4	327	<5	27	<8	22
AAB3022	2.58	0.32	2601	141	284	1.8	13	45	76	<4	<4	<3	<4	289	<5	28	11	19
AAB3023	3.41	0.31	1411	17	513	1.68	<13	15	109	<4	<4	<3	<4	147	<5	35	11	26
AAB3024	2.75	0.46	2338	14	484	1.89	<13	<8	74	<4	<4	<3	<4	217	<5	23	<8	16
AAB3025	2.84	0.59	2423	<12	522	2.17	<13	15	79	<4	<4	<3	<4	333	<5	27	<8	11
AAB3026	1.36	0.81	1640	<12	689	3.62	13	13	122	<4	<4	<3	<4	346	<5	63	9	75
AAB3027	3.15	0.48	1010	<12	946	1.81	<13	<8	146	<4	<4	<3	<4	171	<5	52	17	51
AAB3028	3.83	0.28	316	<12	759	1.22	<13	<8	149	<4	<4	<3	<4	74	<5	53	20	53
AAB3029	3.75	0.24	273	<12	729	1.07	<13	<8	134	<4	<4	<3	<4	54.6	<5	53.2	19.1	56.4
AAB3035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3037	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3038	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3039	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3040	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3043	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3048	3.26	0.38	1295	<12	594	1.52	<13	<8	83	<4	<4	3	<4	139	<5	33	8	27
AAB3049	3.1	0.41	1314	<12	488	1.38	<13	<8	78	<4	<4	<3	4	217	<5	30	<8	22
AAB3050	3.04	0.38	1566	<12	587	1.84	<13	<8	100	<4	<4	<3	<4	198	<5	28	<8	22
AAB3051	2.31	0.88	2377	12	601	2.75	14	8	79	<4	<4	<3	<4	384	<5	31	<8	29
AAB3052	2.51	0.45	2004	14	425	1.67	<13	<8	71	<4	<4	<3	<4	276	<5	24	8	21
AAB3054	3.58	0.35	609	<12	827	1.69	<13	<8	160	<4	<4	<3	5	62	<5	55	24	60
AAB3056	3.49	0.27	393	<12	687	1.24	<13	<8	134	<4	<4	<3	<4	44	<5	52	21	54
AAB3058	3.82	0.25	306	<12	708	1.08	<13	<8	138	<4	<4	<3	<4	32	<5	52	20	51
AAB3061	3.78	0.26	324	<12	698	1.06	<13	<8	132	<4	<4	<3	<4	40	<5	56	27	52

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB3063	3.37	0.35	1267	<12	823	1.61	<13	<8	79	<4	<4	<3	<4	127	<5	36	<8	29
AAB3064	2.98	0.44	1630	18	650	1.85	<13	<8	67	<4	<4	4	<4	187	<5	24	10	27
AAB3065	2.49	1.03	2417	24	640	2.94	14	<8	89	<4	<4	<3	<4	412	<5	26	11	33
AAB3066	2.37	0.55	2142	<12	507	2.01	<13	11	76	<4	<4	<3	<4	240	<5	30	18	25
AAB3067	3.42	0.33	546	<12	717	1.52	14	<8	138	<4	<4	<3	<4	64	<5	54	22	55
AAB3068	2.82	0.51	1128	<12	899	2.54	<13	17	173	<4	<4	<3	<4	159	<5	52	14	60
AAB3070	3.82	0.26	312	<12	744	1.19	<13	<8	143	<4	<4	4	<4	34	<5	51	17	57
AAB3071	3.89	0.24	298	<12	754	1.07	<13	10	132	<4	<4	<3	<4	19	<5	47	28	60
AAB3075	2.73	0.48	1868	16	554	1.78	13	<8	70	<4	<4	<3	<4	191	<5	22	<8	21
AAB3076	2.8	0.5	1936	22	535	1.71	<13	9	79	<4	<4	<3	<4	189	<5	25	<8	23
AAB3077	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3078	2.69	0.47	2526	<12	634	1.99	<13	<8	68	<4	<4	<3	5	288	<5	28	<8	27
AAB3079	2.59	0.5	2257	24	338	1.78	<13	9	54	<4	<4	<3	<4	266	<5	21	<8	19
AAB3081	2.48	0.5	1096	<12	1032	2.56	<13	17	160	<4	<4	<3	<4	86	<5	57	13	68
AAB3082	3.54	0.28	428	<12	733	1.33	<13	<8	140	<4	<4	<3	<4	59	<5	44	20	54
AAB3083	3.87	0.24	273	12	707	1.09	17	<8	129	<4	<4	<3	<4	21	<5	50	31	57
AAB3084	3.95	0.24	296	<12	712	1.06	<13	<8	111	<4	<4	<3	<4	15	<5	46	17	59
AAB3088	2.97	0.4	1995	<12	600	1.641	<13	<8	84	<4	<4	<3	<4	144	<5	24	10	31
AAB3089	2.88	0.37	1747	17	580	1.65	<13	12	63	4	<4	<3	<4	173	<5	16	<8	19
AAB3090	2.85	0.4	2389	15	469	1.58	<13	13	62	4	<4	<3	<4	230	<5	17	<8	19
AAB3091	2.49	0.503	2010	<12	461	1.81	<13	<8	74.8	<4	<4	<2	<4	269	<5	26.9	12.5	26.8
AAB6121	3.13	0.33	627	<12	343	0.8	<13	15	42	<4	<4	<3	<4	173	<5	15	<8	9
AAB6123	3.83	0.36	599	<12	629	1.34	<13	<8	127	<4	<4	<3	5	100	<5	42	18	36
AAB6127	3.31	0.45	1331	<12	623	1.54	<13	9	64	<4	<4	<3	<4	154	<5	27	<8	19
AAB6128	3.18	0.43	1551	<12	582	1.64	<13	<8	84	<4	<4	5	<4	181	<5	26	<8	20
AAB6130	2.96	0.64	1679	<12	577	1.57	<13	15	65	<4	<4	<3	<4	290	<5	28	<8	17
AAB6131	3.08	0.72	1639	<12	526	1.61	14	11	60	<4	<4	<3	<4	215	<5	23	18	24
AAB6132	2.75	0.47	2289	<12	408	1.59	14	8	44	<4	<4	<3	5	286	<5	23	<8	15

NA = Not Analyzed

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Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6133	3	0.4	1816	<12	550	1.58	<13	10	74	<4	<4	<3	<4	267	<5	22	<8	14
AAB6134	3.43	0.38	1097	<12	514	1.25	<13	<8	74	<4	<4	<3	<4	158	<5	25	<8	21
AAB6135	3.6	0.38	879	<12	490	1.1	13	<8	58	<4	<4	<3	<4	140	<5	21	12	25
AAB6136	3.29	0.36	762	<12	409	0.91	<13	<8	43	<4	<4	<3	<4	170	<5	23	<8	8
AAB6137	3.06	0.379	672	<12	354	0.83	<13	<8	42	<4	<4	<3	<4	166	<5	29	<8	9
AAB6138	2.77	0.44	1040	<12	457	1.43	<13	<8	47	<4	<4	<3	<4	164	<5	22	9	18
AAB6140	3.65	0.26	515	<12	643	1.19	<13	10	115	<4	<4	<3	4	82	<5	40	16	44
AAB6145	3.16	0.45	2040	<12	777	2.08	<13	<8	83	<4	<4	<3	5	210	<5	24	9	25
AAB6146	2.91	0.53	2264	60	897	2.39	24	10	95	<4	<4	<3	<4	256	<5	38	<8	38
AAB6147	2.17	0.72	2381	18	1123	3.81	<13	17	139	<4	<4	<3	<4	267	<5	41	16	54
AAB6150	3.54	0.35	660	<12	963	1.57	<13	<8	172	<4	<4	<3	<4	79	<5	53	17	69
AAB6153	3.98	0.24	327	<12	810	1.2	<13	<8	141	<4	<4	5	<4	22	<5	51	21	58
AAB6154	4.06	0.23	297	<12	763	1.13	<13	<8	150	<4	<4	<3	<4	28	<5	47	27	62
AAB6156	4.11	0.24	294	<12	761	1.11	<13	<8	137	<4	<4	<3	<4	18	<5	50	27	74
AAB6158	3.13	0.47	1853	<12	568	1.63	<13	<8	76	<4	<4	<3	<4	267	<5	27	14	25
AAB6159	3.36	0.37	1520	<12	648	1.62	<13	<8	89	<4	<4	<3	<4	161	<5	30	8	28
AAB6160	2.85	0.61	1816	<12	616	1.7	<13	10	83	<4	<4	<3	<4	303	<5	25	10	36
AAB6161	3.1	0.42	2237	<12	753	1.99	16	<8	85	<4	<4	3	<4	185	<5	26	9	32
AAB6163	2.58	0.54	2661	<12	490	2.31	<13	8	81	<4	<4	<3	<4	363	<5	31	<8	30
AAB6164	3.01	0.57	1140	<12	983	2.57	<13	29	178	<4	<4	<3	<4	138	<5	57	27	71
AAB6165	3.96	0.25	347	<12	767	1.24	<13	12	128	<4	<4	<3	<4	40	<5	55	20	67
AAB6167	4.17	0.25	275	<12	780	1.14	14	<8	146	<4	<4	<3	<4	18	<5	57	23	67
AAB6170	2.72	0.468	2005	20.7	428	1.59	<13	13	52.5	5.74	<4	<3	<4	294	<5	23.3	<8	12.6
AAB6171	2.93	0.47	1957	<12	492	1.65	<13	<8	62	4	<4	<3	<4	293	<5	21	11	21
AAB6172	3.36	0.49	1482	16	634	1.59	14	<8	78	<4	<4	<3	<4	167	<5	33	<8	36
AAB6173	3.79	0.36	1036	<12	636	1.39	<13	9	81	<4	<4	<3	4	143	<5	29	<8	23
AAB6174	3.26	0.44	1333	<12	600	1.46	<13	<8	66	<4	<4	<3	<4	196	<5	28	<8	29
AAB6175	2.91	0.58	1787	16	846	2.27	<13	16	109	4	<4	<3	<4	224	<5	34	<8	37

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6176	2.94	0.46	2022	<12	513	1.7	<13	<8	59	<4	<4	<3	<4	309	<5	24	<8	24
AAB6177	3.57	0.27	363	<12	731	1.24	<13	<8	124	<4	<4	<3	5	55	<5	49	24	62
AAB6178	3.8	0.23	290	<12	694	1.11	<13	<8	135	<4	<4	<3	<4	25	<5	47	17	48
AAB6179	3.97	0.27	312	<12	763	1.09	<13	10	139	<4	<4	<3	<4	53	<5	51	24	50
AAB6183	2.48	0.46	2017	<12	365	1.51	<13	13.5	53.5	<4	<4	<3	<4	298	<5	22.8	15	18.7
AAB6184	3.12	0.33	1315	<12	595	1.42	<13	<8	72.5	<4	<4	<3	<4	104	<5	26.8	10.7	23.1
AAB6185	3.22	0.36	1127	<12	627	1.54	13.6	8.56	77.1	<4	<4	<3	<4	96.1	<5	28.3	9.11	28.2
AAB6187	2.94	0.37	1564	<12	609	1.56	<13	<8	67.3	<4	:4	<3	<4	178	<5	22.7	<8	17.1
AAB6188	2.27	0.57	2107	24.5	474	2.24	<13	9.68	75	<4	<4	<3	<4	299	<5	26.7	<8	28.6
AAB6189	3.14	0.27	398	<12	725	1.3	<13	17.4	119	<4	<4	<3	<4	53.4	<5	45.5	17.6	59.9
AAB6192	3.57	0.21	258	<12	666	1.06	<13	<8	118	<4	<4	<3	<4	<10	<5	49.6	24.4	69
AAB6195	3.73	0.23	246	<12	674	1.02	<13	<8	125	<4	<4	<3	<4	19.7	<5	50	23.5	72.3
AAB6196	3.89	0.24	271	<12	712	1.04	<13	<8	125	<4	<4	<3	<4	<10	<5	44	16	53
AAB6199	2.7	0.41	1833	14.6	464	1.47	<13	13.8	58.4	<4	<4	<3	<4	239	<5	22.8	9.81	27.6
AAB6200	3.19	0.34	1144	<12	547	1.37	<13	<8	66.8	<4	<4	<3	<4	156	<5	25.7	8.46	23.1
AAB6201	2.65	0.36	1747	19.2	447	1.3	<13	<8	49.4	<4	<4	<3	<4	252	<5	23.2	<8	26.1
AAB6202	2.84	0.97	1925	13.4	638	2.07	<13	11.5	66.4	<4	<4	<3	<4	384	<5	26.6	<8	36.7
AAB6203	2.64	0.85	1878	37.9	595	1.95	22.9	<8	67.5	<4	<4	<3	<4	343	<5	25.8	<8	31.6
AAB6204	1.65	0.7	1386	15.4	542	3.02	20.4	15.4	136	<4	<4	<3	<4	256	<5	45.2	8.4	71.7
AAB6209	3.46	0.3	466	<12	696	1.22	<13	<8	126	<4	<4	<3	<4	72	<5	44	16	49
AAB6210	3.63	0.23	273	<12	682	1.02	<13	<8	123	<4	<4	<3	<4	34	<5	50	23	57
AAB6212	3.79	0.21	273	<12	677	1.01	<13	<8	118	<4	<4	<3	<4	19	<5	48	9	52
AAB6213	3.8	0.24	284	<12	699	1.04	<13	<8	130	<4	<4	<3	<4	7	<5	53	31	62
AAB6216	2.79	0.6	2346	<12	498	1.8	<13	<8	64	<4	<4	3	<4	309	<5	28	<8	34
AAB6217	3.15	0.67	1590	24	610	1.74	<13	<8	88	<4	<4	<3	<4	171	<5	32	<8	34
AAB6218	2.78	0.48	2297	12	592	1.81	<13	10	61	<4	<4	<3	<4	293	<5	28	<8	27
AAB6219	2.76	0.47	2425	16	587	1.81	<13	12	72	<4	<4	4	4	285	<5	27	<8	32
AAB6220	2.86	0.53	1960	<12	981	2.57	23	12	112	<4	<4	3	<4	181	<5	36	9	31

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6221	2.65	0.44	2093	<12	373	1.7	<13	17	69	<4	<4	<3	<4	294	<5	26	<8	25
AAB6223	2.94	0.49	1227	<12	867	1.97	<13	11	144	<4	<4	<3	<4	218	<5	47	20	51
AAB6224	3.54	0.27	395	<12	817	1.35	<13	9	155	<4	<4	<3	<4	63	<5	54	29	53
AAB6225	3.79	0.25	334	<12	762	1.2	<13	<8	142	<4	<4	<3	<4	43	<5	50	24	57
AAB6229	2.71	0.55	2235	15	473	1.76	<13	8	68	<4	<4	3	<4	321	<5	29	<8	26
AAB6230	2.73	0.61	2008	<12	485	1.53	<13	9	64	<4	<4	<3	<4	240	<5	24	<8	25
AAB6233	3	0.38	1512	<12	514	1.44	<13	<8	70	<4	<4	<3	<4	143	<5	24	<8	21
AAB6234	2.63	0.39	2037	<12	449	1.57	<13	<8	66	<4	<4	<3	<4	275	<5	14	<8	22
AAB6234D	2.44	0.5	1217	<12	1028	2.91	<13	17	207	<4	<4	<3	<4	157	<5	70	15	62
AAB6235	2.77	0.44	1496	15	708	1.85	<13	9	96	<4	<4	<3	<4	155	<5	28	<8	25
AAB6236	2.78	0.39	1316	<12	534	1.61	<13	11	76	<4	<4	<3	<4	192	<5	23	10	29
AAB6237	3.03	0.45	961	32	884	1.95	18	19	183	<4	<4	3	<4	149	<5	52	15	54
AAB6238	3.4	0.25	302	<12	748	1.17	<13	<8	127	<4	<4	<3	<4	92	<5	55	25	56
AAB6242	3.47	0.22	262	<12	701	1.09	<13	<8	140	<4	<4	<3	<4	44	<5	46	22	45
AAB6245	2.75	0.82	2338	19	435	1.78	<13	<8	70	<4	<4	<3	<4	296	<5	28	<8	23
AAB6246	2.95	1.02	2560	18	462	1.98	<13	8	69	<4	<4	3	5	329	<5	27	<8	25
AAB6247	3.06	0.6	2065	34	543	1.71	<13	<8	76	<4	<4	<3	<4	223	<5	27	10	34
AAB6248	3.43	0.39	1356	12	615	1.64	<13	<8	84	<4	<4	<3	<4	135	<5	31	13	33
AAB6249	3.12	0.44	1413	69	726	1.86	13	10	83	<4	<4	<3	<4	166	<5	25	<8	25
AAB6250	3.48	0.25	869	<12	559	1.44	<13	<8	63	<4	<4	<3	<4	126	<5	25	<8	22
AAB6252	3.02	0.48	1132	<12	721	1.93	24	<8	105	<4	<4	<3	<4	135	<5	39	<8	41
AAB6253	3.52	0.34	611	<12	735	1.46	<13	<8	130	<4	<4	<3	5	55	<5	45	21	55
AAB6254	3.75	0.25	364	<12	714	1.13	<13	<8	134	<4	<4	<3	<4	33	<5	52	15	58
AAB6255	3.81	0.24	256	<12	748	1.13	13	<8	141	<4	<4	<3	4	18	<5	58	19	62
AAB6259	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6261	2.66	0.566	2311	24.7	413	1.57	<13	10.3	56.8	<4	<4	<3	<4	340	<5	22.4	<8	17.3
AAB6262	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6263	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6265	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6266	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6267	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6269	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6273	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6274	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6275	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6276	3.36	0.36	1400	<12	619	1.58	<13	9	87	<4	<4	<3	<4	116	<5	29	9	27
AAB6277	3.17	0.46	1848	<12	753	2.01	<13	10	92	<4	<4	<3	<4	145	<5	34	8	31
AAB6280	3.06	0.49	1695	<12	791	2.09	<13	<8	105	<4	<4	<3	4	148	<5	41	<8	21
AAB6284	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6285	3.73	0.26	380	<12	771	1.32	<13	<8	145	<4	<4	<3	6	43	<5	55	19	57
AAB6286	4.07	0.26	310	<12	787	1.22	<13	<8	157	<4	<4	<3	<4	29	<5	56	28	60
AAB6287	3.9	0.24	306	<12	723	1.14	<13	8	132	<4	<4	<3	<4	17	<5	52	19	53
AAB6291	2.95	0.54	2198	<12	499	1.68	<13	11	71	<4	<4	<3	<4	245	<5	29	<8	29
AAB6298	3.21	0.56	1335	<12	730	1.59	<13	9.5	107	<4	<4	<3	<4	205	<5	42.2	<8	21.6
AAB6300	3.21	0.57	1720	<12	998	2.13	<13	11.9	91.8	<4	<4	<3	<4	175	<5	31	<8	23.6
AAB6301	3.02	0.477	1195	<12	423	1.43	<13	9.17	69.2	<4	<4	<3	<4	160	<5	27.2	<8	22.5
AAB6302	2.77	0.46	1646	<12	436	1.4	<13	<8	61	<4	<4	<3	<4	237	<5	26	11	23
AAB6303	3.25	0.3	406	<12	816	1.38	<13	<8	155	<4	<4	<3	<4	133	<5	50	25	58
AAB6305	3.55	0.29	351	<12	824	1.29	<13	<8	143	<4	<4	<3	<4	94	<5	52	20	68
AAB6309	2.66	1.07	1904	19	559	1.61	<13	77	99	<4	<4	17	<4	326	<5	32	11	28
AAB6310	2.88	1.36	1684	<12	477	1.53	<13	<8	72	<4	<4	<3	<4	146	<5	23	10	24
AAB6311	2.8	1.02	1573	<12	491	1.51	<13	<8	61	<4	<4	<3	<4	183	<5	25	11	24
AAB6312	3.01	0.53	1725	12	732	1.99	<13	11	92	<4	<4	<3	<4	203	<5	30	<8	30
AAB6314	2.78	0.59	1567	14	860	1.798	<13	<8	85	<4	<4	<3	4	204	<5	33	<8	22
AAB6315	3.52	0.2	569	<12	359	1.186	<13	<8	64	<4	<4	<3	<4	50	<5	26	9	22

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6316	3.73	0.28	319	<12	731	1.19	<13	<8	143	<4	<4	3	<4	43	<5	52	24	62
AAB6316D	3.2	0.4	516	16	760	1,505	<13	12	153	<4	<4	<3	<4	74	<5	53	20	57
AAB6318	3.5	0.3	359	<12	732	1.27	<13	<8	142	<4	<4	<3	<4	47	<5	55	17	56
AAB6318D	3.85	0.23	271	<12	710	1.09	<13	<8	132	<4	<4	<3	<4	18	<5	52	15	59
AAB6319	3.5	0.3	359	<12	732	1.27	<13	<8	142	<4	<4	<3	<4	47	<5	55	17	56
AAB6323	3.29	0.4	1242	<12	603	1.541	<13	<8	87	<4	<4	<3	<4	143	<5	29	11	17
AAB6324	3.34	0.43	1451	<12	644	1.72	<13	15	82	<4	<4	<3	<4	103	<5	31	11	33
AAB6325	3.12	0.38	1363	<12	601	1.51	<13	<8	69	<4	<4	<3	<4	138	<5	29	<8	29
AAB6326	3.15	0.37	1512	<12	707	1.77	<13	<8	76	<4	<4	<3	<4	160	<5	27	14	28
AAB6329	2.53	0.57	1960	22	453	2.32	<13	20	95	5	<4	<3	<4	254	<5	28	15	31
AAB6331	2.91	0.66	1439	<12	816	2.277	<13	16	101	<4	<4	<3	<4	270	<5	43	14	37
AAB6332	3.39	0.28	539	<12	765	1.46	<13	13	142	<4	<4	<3	<4	67	<5	48	14	61
AAB6333	3.66	0.28	306	<12	770	1.16	<13	<8	130	<4	<4	<3	<4	49	<5	49	21	50
AAB6334	3.83	0.25	347	<12	768	1.19	<13	<8	129	<4	<4	<3	<4	34	<5	52	23	59
AAB6337	3.19	0.37	1321	28.69	563	1.6	15.5	15.1	75.1	<4	<4	3.6	4.1	146	<5	31	<8	21
AAB6339	3.39	0.33	1053	<12	647	1.48	<13	<8	76	<4	<4	<3	<4	117	<5	32.8	8.1	24.2
AAB6340	3.14	0.416	1497	<12	690	1.74	<13	<8	86.3	<4	<4	<3	<4	129	<5	34.9	<8	23.4
AAB6341	2.47	0.63	2250	15.4	979	2.82	13.5	8.1	118	<4	<4	<3	<4	190	<5	38.1	<8	25.7
AAB6342	2.82	0.56	1732	17.3	471	1.63	<13	8.79	85.3	4.39	<4	3.18	<4	253	<5	18.9	9.12	9.44
AAB6344	3.17	0.38	666	<12	823	1.75	<13	9.68	151	<4	<4	<3	<4	71.9	<5	50.1	24.1	52.1
AAB6345	3.47	0.28	339	<12	668	1.12	<13	<8	121	4.07	<4	<3	<4	96.4	<5	41.1	17.5	22
AAB6346	3.46	0.252	414	<12	655	1.04	<13	<8	109	<4	<4	<3	<4	73.8	<5	49.4	21.5	48.2
AAB6347	3.74	0.26	368	<12	733	1.2	<13	<8	136	<4	<4	<3	5.8	81	<5	53	17.5	48
AAB6351	3.09	0.715	1756	12.5	507	1.6	<13	<8	64.2	<4	<4	<3	<4	225	<5	22.3	<8	17
AAB6352	3.48	0.35	1205	<12	670	1.55	<13	<8	83.2	<4	<4	<3	<4	98.2	<5	32	10.6	32.6
AAB6356	3.2	0.35	1186	<12	592	1.52	<13	<8	69.9	<4	<4	<3	<4	111	<5	27.4	<8	31.9
AAB6357	2.77	0.522	1831	23	724	2.23	<13	16.2	91.5	<4	<4	<3	<4	183	<5	34.1	11	32.3
AAB6358	2.04	0.75	1643	15.3	663	2.8	<13	10.3	114	<4	<4	<3	<4	189	<5	40	<8	40.6

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6359	3.17	0.402	860	<12	705	1.45	<13	<8	120	<4	<4	<3	<4	144	<5	46.2	9.93	42.6
AAB6361	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6365	2.83	0.984	2245	<12	495	1.75	<13	<8	68.8	<4	<4	<3	<4	257	<5	27.4	<8	26.1
AAB6366	3.38	0.398	1241	<12	644	1.58	<13	9.95	86.4	<4	<4	<3	<4	104	<5	28.6	<8	22.8
AAB6369	3.37	0.531	2100	12.3	719	2.15	<13	18.5	102	<4	<4	<3	<4	134	<5	26.5	8.19	28
AAB6370	3.34	0.416	1489	<12	676	1.62	<13	12	76.5	<4	<4	<3	<4	147	<5	23.7	9.35	19.4
AAB6372	2.98	0.514	1535	<12	449	1.69	<13	16.5	71.1	<4	<4	<3	<4	151	<5	30.8	10.1	21.2
AAB6373	3.04	0.364	1453	<12	457	1.41	<13	<8	67.4	<4	<4	<3	<4	225	<5	23.7	<8	<8
AAB6374	3.11	0.299	531	<12	766	1.32	<13	8.25	131	<4	<4	<3	<4	170	<5	48.8	30.5	21.1
AAB6375	3.78	0.27	408	<12	760	1.34	<13	<8	164	8.06	<4	<3	<4	105	<5	52.4	18.9	52.5
AAB6377	3.7	0.26	338	<12	798	1.25	<13	13	150	<4	<4	<3	5.06	66.4	<5	79.9	33.4	56.7
AAB6380	3.45	0.55	1035	<12	476	1.26	<13	9.56	54.7	<4	<4	<3	<4	142	<5	20	<8	16.2
AAB6381	3.35	0.41	1377	<12	721	1.6	<13	<8	77	<4	<4	<3	<4	161	<5	36.9	9	23
AAB6382	3.51	0.375	1192	<12	605	1.48	<13	13.1	86.7	<4	<4	<3	<4	118	<5	24.8	<8	15.2
AAB6383	3.69	0.36	1033	<12	710	1.64	<13	<8	69.7	<4	<4	<3	<4	99.1	<5	30.3	12.5	29.6
AAB6385	2.9	0.43	2323	<12	562	1.6	<13	8.6	66.6	<4	<4	<3	<4	299	<5	21.4	8.8	23.4
AAB6386	2.98	0.51	1618	<12	469	1.64	<13	<8	83.3	<4	<4	<3	<4	162	<5	31.5	11.8	29.9
AAB6387	3.03	0.45	1640	<12	933	1.55	<13	13.9	71.6	<4	<4	<3	<4	222	<5	30.3	<8	26.7
AAB6388	30.4	0.288	402	<12	826	1.4	<13	<8	134	<4	<4	<3	<4	91.6	<5	55	17.5	67.7
AAB6389	3.78	0.25	320	<12	804	1.25	<13	8.5	146	<4	<4	<3	<4	64.2	<5	59.7	25.8	61.7
AAB6391	2.75	0.51	2126	<12	469	1.64	<13	11.2	67.2	<4	<4	<3	<4	271	<5	24.8	<8	23.2
AAB6393	3.37	0.35	1183	<12	620	1.48	<13	9.6	73.4	<4	<4	<3	<4	91.5	<5	25.8	12.5	29.2
AAB6394	3.53	0.465	1200	<12	613	1.59	<13	<8	83.3	<4	<4	<3	<4	86.4	<5	32.7	10.7	25.3
AAB6396	2.93	0.42	1715	<12	599	1.7	<13	<8	78.4	<4	<4	<3	<4	225	<5	24.7	12.5	28.7
AAB6397	2.63	0.55	1549	<12	561	1.93	<13	13.7	93.9	<4	<4	<3	<4	163	<5	29.6	9.9	29.7
AAB6398	2.7	0.56	1525	<12	565	1.89	<13	<8	92.2	<4	<4	<3	5.58	190	<5	28	<8	30.5
AAB6399	2.91	0.55	1631	<12	494	1.53	<13	12	72.3	<4	<4	<3	<4	177	<5	25.9	9.9	21.7
AAB6400	3.14	0.43	872	<12	825	1.95	<13	<8	139	<4	<4	<3	<4	69.8	<5	52.8	19.6	54.2

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6401	3.45	0.336	516	<12	906	1.58	<13	<8	153	<4	<4	<3	<4	81.9	<5	56.2	16	59.6
AAB6402	3.74	0.34	433	<12	797	1.49	<13	<8	152	<4	<4	<3	<4	71.4	<5	57.8	18	60
AAB6406	2.82	0.598	1961	15.4	503	1.55	<13	241	120	5.8	<4	28.3	<4	451	<5	26	21.2	<8
AAB6407	2.75	0.256	2137	26.1	294	1.94	<13	13.4	70.5	5.54	<4	<3	<4	204	<5	27.7	11.5	10.1
AAB6408	3.55	0.179	1305	<12	318	1.8	<13	<8	93	5.14	<4	<3	<4	100.5	<5	34.7	<8	24.2
AAB6411	3.61	0.23	643	<12	429	1.1	<13	<8	36.8	<4	<4	<3	<4	39.3	<5	20.7	<8	20.6
AAB6412	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6417	3.44	0.44	666	<12	810	1.38	<13	<8	117	<4	<4	<3	<4	106	<5	38.6	17.5	38.3
AAB6418	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6419	4.3	0.27	282	<12	718	1.13	<13	<8	130	<4	<4	<3	<4	14	<5	50	25	48
AAB6424	2.99	0.38	1960	23	575	1.72	<13	12	65	<4	<4	<3	<4	163	<5	30	<8	25
AAB6425	2.99	0.42	1339	<12	595	1.63	<13	<8	63	<4	<4	3	<4	159	<5	21	<8	21
AAB6426	3.61	0.19	664	<12	469	1.15	<13	<8	64	<4	<4	<3	<4	75	<5	18	<8	22
AAB6427	2.59	0.54	2290	15	406	2.128	<13	19	77	<4	<4	<3	<4	250	<5	25	45	18
AAB6429	3.4	0.31	450	<12	744	1.37	<13	9	143	<4	<4	<3	<4	46	<5	55	23	59
AAB6430	3.75	0.26	310	<12	694	1.11	<13	<8	143	<4	<4	<3	<4	26	<5	52	20	69
AAB6431	3.95	0.25	311	<12	732	1.11	18	<8	141	<4	<4	<3	<4	14	<5	50	22	62
AAB6433	2.81	0.44	1860	12	807	1.72	<13	<8	82	<4	<4	<3	<4	250	<5	29	8	25
AAB6435	3.17	0.33	1499	14	604	1.58	<13	18	77	<4	<4	<3	<4	113	<5	28	9	27
AAB6436	3.34	0.34	1166	<12	621	1.71	<13	<8	86	<4	<4	<3	<4	161	<5	34	13	28
AAB6437	2.69	0.43	1777	<12	613	1.76	<13	<8	65	<4	<4	<3	<4	224	<5	26	11	32
AAB6438	2.79	0.442	1799	<12	734	1.57	18.2	<8	73.9	<4	<4	<3	4.18	196	<5	30.8	12.9	15.9
AAB6440	3.33	0.33	587	<12	805	1.61	<13	<8	146	<4	<4	<3	<4	81	<5	53	20	54
AAB6441	3.78	0.26	426	<12	735	1.21	<13	<8	124	<4	<4	<3	<4	34	<5	47	19	50
AAB6442	3.9	0.25	285	<12	732	1.11	<13	<8	129	<4	<4	<3	<4	18	<5	47	20	51
AAB6443	3.83	0.25	292	<12	716	1.09	<13	<8	120	<4	<4	<3	<4	16	<5	48	24	52
AAB6448	3.23	0.34	1344	<12	545	1.49	<13	<8	68.1	<4	<4	<3	<4	170	<5	29.5	<5	22.7
AAB6449	2.88	0.369	1722	16.3	434	1.29	<13	<8	43.8	<4	<4	<3	<4	314	<5	19.8	14.7	39.8

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6450	3.27	0.385	1317	<12	604	1.74	<13	13.4	59.9	<4	<4	<3	5.01	166	<5	22.3	12.6	15.9
AAB6451	2.51	0.47	1671	19.4	780	2.25	<13	<8	90.7	<4	<4	<3	<4	233	<5	38.8	15.7	30.4
AAB6456	3.8	0.215	174	<12	640	0.91	<13	<8	117	<4	<4	<3	<4	38.5	<5	41.1	24.6	35.3
AAB6457	4.57	0.271	378	12.3	704	1.2	15.4	<8	151	<4	<4	<3	<4	<10	<5	60	20	58.1
AAB6458	4.09	0.25	267	<12	752	1.09	<13	8.6	141	<4	<4	<3	<4	22.7	<5	48.3	16.8	65.2
AAB6462	3.59	0.365	1273	<12	627	1.54	<13	8.15	88	<4	<4	<3	6.4	132	<5	35.2	<8	27.8
AAB6463	3.04	0.373	1564	17.3	525	1.68	<13	<8	80	<4	<4	<3	<4	210	<5	33.5	8.69	18.2
AAB6463D	3.04	0.424	2159	<12	780	2.4	<13	8.79	104	<4	<4	<3	<4	205	<5	22.7	16.9	13.4
AAB6464	2.71	0.48	2192	<12	537	1.66	<13	<8	66.5	<4	<4	<3	<4	276	<5	22.7	<8	19.4
AAB6466	2.87	0.478	1267	<12	437	1.34	<13	<8	81	5.58	<4	<3	<4	206	<5	25.3	<8	8.24
AAB6467	2.7	0.592	1872	21.6	520	1.77	<13	<8	85.6	<4	<4	<3	<4	282	<5	26.1	9.46	18.5
AAB6468	2.75	0.521	1283	20	800	1.83	<13	<8	129	<4	<4	<3	<4	255	<5	45.4	14.8	38.3
AAB6469	3.52	0.29	387	<12	804	1.4	<13	<8	143	<4	<4	<3	<4	68.2	<5	56.4	19.6	62.5
AAB6470	3.62	0.25	324	<12	640	1.01	<13	<8	120	<4	<4	<3	<4	39.5	<5	42.3	18	37.5
AAB6474	2.92	0.37	1634	<12	529	1.47	<13	<8	61.5	<4	<4	<3	<4	211	<5	28.5	11	27.9
AAB6475	3.29	0.314	1159	16	545	1.36	<13	<8	72.4	<4	<4	<3	<4	126	<5	24.4	<8	16.8
AAB6476	2.7	0.52	1827	<12	537	1.6	<13	8.3	67	<4	<4	<3	<4	230	<5	20.5	<8	16.8
AAB6477	2.84	0.962	2736	15.2	644	3.07	15.2	12.2	106	<4	<4	<3	<4	339	<5	32.9	<8	41
AAB6479	3.04	0.439	1036	<12	822	2.26	<13	<8	173	<4	<4	<3	<4	166	<5	51.9	25.2	45
AAB6480	3.54	0.235	312	<12	652	0.976	2.36	<8	125	<4	<4	<3	<4	53.4	<5	47.9	19.2	39.8
AAB6481	4.04	0.258	314	<12	610	1.07	<13	<8	131	11.5	<4	<3	<4	<10	<5	49.4	19.6	49.4
AAB6482	3.76	0.226	197	<12	615	0.879	<13	<8	113.5	<4	<4	<3	<4	28.8	<5	47.2	11.8	49.2
AAB6486	2.77	0.423	1753	17.4	417	1.39	<13	<8	55.3	<4	<4	<3	<4	253	<5	25.1	<8	21.2
AAB6487	3.22	0.36	1475	27.7	609	1.66	<13	10.4	79	<4	<4	<3	<4	137	<5	31	<8	29.8
AAB6488	3.2	0.5	1387	15.18	790	1.66	<13	10.1	72.9	<4	<4	<3	<4	219	<5	24	<8	13.7
AAB6488D	3.2	0.502	1386	15.2	790	1.66	<13	10.1	72.9	<4	<4	<3	<4	219	<5	24	<8	13.8
AAB6489	2.83	0.42	1783	<12	505	1.7	<13	10.6	75.8	<4	<4	<3	<4	222	<5	28.6	<8	26.2
AAB6490	2.53	0.462	2468	26.1	405	1.7	<13	14.2	49.7	<4	<4	<3	<4	360	<5	23.6	<8	12.9

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6491	3.03	0.356	1216	<12	704	1.82	<13	<8	76.6	<4	<4	<3	<4	202	<5	28.3	15.7	14.7
AAB6495	3.55	0.289	391	<12	749	1.36	<13	10.4	145	<4	<4	<3	<4	60.4	<5	48.9	30.5	48.1
AAB6495D	3.55	0.289	391	<12	749	1.37	<13	10.4	145.4	<4	<4	<3	<4	60.5	<5	49	30.6	48.1
AAB6496	3.91	0.26	335	<12	789	1.24	<13	9.7	133	<4	<4	<3	<4	41.7	<5	50.8	23.3	65.5
AAB6497	3.8	0.253	246	<12	679	1.06	<13	<8	118	<4	<4	<3	<4	23.7	<5	43.5	27.3	22.3
AAB6499	3.79	0.279	535	<12	656	1.13	<13	<8	103.3	4.75	<4	<3	<4	57.6	<5	39.8	27.5	31.7
AAB6502	3.09	0.46	2117	16.3	431	1.7	<13	11.2	71.7	<4	<4	<3	<4	255	<5	25.5	<8	22.3
AAB6503	3	0.5	1957	<12	414	1.67	<13	9.6	69.4	<4	<4	<3	5.06	278	<5	26.7	<8	19.3
AAB6504	3.24	0.5	1994	12.7	479	1.63	<13	9.3	74.8	<4	<4	<3	<4	233	<5	17.6	<8	21.3
AAB6505	3.63	0.43	1204	<12	478	1.31	<13	8.64	54.9	<4	<4	<3	<4	169	<5	25	10.2	30.4
AAB6506	4.09	0.43	635	<12	502	1.17	<13	<8	70.6	<4	<4	<3	<4	74	<5	29.6	12.3	25.4
AAB6507	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6508	3.88	0.41	692	<12	481	1.14	<13	11.3	71.2	<4	<4	<3	<4	78.1	<5	22	8.65	26
AAB6509	3.8	0.35	538	<12	455	1.08	<13	<12	73.3	<4	<4	<3	<4	65.1	<5	24.9	12.4	23.5
AAB6511	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6513	3.15	0.36	1844	16.5	490	1.59	<13	<8	74.2	<4	<4	<3	<4	203	<5	23.4	<8	26.5
AAB6516	3.2	0.47	2273	<12	509	1.84	15.5	<8	60.8	<4	<4	<3	<4	292	<5	26.2	9.6	29.1
AAB6517	3.09	0.5	2195	19.7	468	1.73	<13	15.6	66.3	<4	<4	<3	<4	313	<5	24	<8	18
AAB6518	3.93	0.468	1100	<12	562	1.31	<13	9.19	70.8	<4	<4	<3	<4	113	<5	26.4	<8	21.4
AAB6519	3.79	0.47	924	<12	524	1.18	<13	<8	65.2	<4	<4	<3	<4	203	<5	21.1	11.6	25.4
AAB6521	4	0.42	713	<12	499	1.15	<13	8.2	76.3	<4	<4	<3	<4	92.6	<5	22.5	11.7	25.7
AAB6522	3.45	0.55	1035	<12	476	1.26	<13	9.56	54.7	<4	<4	<3	<4	142	<5	20	<8	16.2
AAB6523	3.83	0.38	639	<12	493	1.14	<13	<8	78.7	<4	<4	<3	<4	48.6	<5	24.2	<8	27.7
AAB6528	3.42	0.327	1454	<12	510	1.53	<13	<8	87.8	<4	<4	<3	<4	203	<5	26.9	13.5	25.4
AAB6529	3.04	0.444	2095	27.4	416	1.48	<13	<8	55.5	5.18	<4	<3	<4	315	<5	20	<8	17.5
AAB6530	3.35	0.497	1997	12.7	420	1.59	<13	19.9	78.5	<4	<4	<3	<4	312	<5	23.4	<8	22.3
AAB6531	4.14	0.461	1302	<12	458	1.41	<13	<8	82.1	<4	<4	<3	<4	199	<5	27.4	12	24.4
AAB6533	4.31	0.4	692	<12	425	1.13	<13	<8	84.7	<4	<4	<3	<4	89.1	<5	22.4	9.19	18.5

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6534	4.06	0.4	676	<12	442	1.12	15.2	<8	84.7	<4	<4	<3	<4	88	<5	28.8	12.5	31.3
AAB6540	3.35	0.383	2062	<12	401	1.61	<13	14.3	75.1	<4	<4	<3	<4	234	<5	27.9	<8	16.4
AAB6541	3.37	0.406	2030	<12	391	1.65	<13	18.4	78.9	<4	<4	<3	<4	251	<5	27.5	<8	25.4
AAB6544	3.27	0.509	2408	16.2	434	1.75	<13	18.7	72.7	<4	<4	<3	<4	353	<5	25.5	12.2	19.5
AAB6545	3.59	0.402	1184	14.8	424	1.17	<13	<8	56.9	<4	<4	<3	<4	189	<5	21.5	<8	21.4
AAB6547	3.6	0.402	799	<12	429	1.03	<13	<8	54.9	<4	<4	<3	<4	126	<5	17.1	13	<8
AAB6548	4.09	0.25	267	<12	752	1.09	<13	8.6	141	<4	<4	<3	<4	22.7	<5	48.3	16.8	65.2
AAB6549	3.77	0.337	555	<12	423	0.971	<13	<8	53.3	<4	<4	<3	<4	69.6	<5	20.6	10.9	13.2
AAB6553	3.75	0.405	558	2.86	419	0.977	<13	<8	69.4	4.22	<4	<3	<4	108	<5	17.7	13.1	<8
AAB6554	2.68	0.477	2123	15.7	448	2.58	<13	<8	93.9	<4	<4	<3	<4	275	<5	29.1	<8	22
AAB6555	2.99	0.449	2060	12.1	501	2.26	17	17.8	77.2	5.18	<4	<3	5.15	244	<5	29	<8	15.3
AAB6556	3.18	0.491	2277	19.5	385	1.75	<13	12.2	71.2	<4	<4	<3	<4	326	<5	23.6	<8	14.9
AAB6557	3.85	0.415	1239	18.6	467	1.33	<13	11.1	73.3	<4	<4	<3	<4	190	<5	27.7	<8	29.1
AAB6559	3.54	0.432	1732	14.4	435	1.46	<13	16.3	73.2	<4	<4	<3	<4	268	<5	26.9	<8	17
AAB6560	4.38	0.415	743	<12	452	1.17	<13	<8	83.9	<4	<4	<3	<4	82.7	<5	33.7	<8	31.7
AAB6561	3.92	0.356	660	<12	411	1.08	<13	<8	78.2	<4	<4	<3	<4	55.9	<5	20.4	<8	17.7
AAB6567	3.36	0.336	1158	<12	467	1.78	<13	<8	64.4	<4	<4	<3	<4	128	<5	23.2	<8	20.4
AAB6568	3.04	0.426	2095	<12	402	1.59	<13	18.1	72.3	<4	<4	<3	<4	313	<5	22.2	8.24	12.5
AAB6570	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6572	3.46	0.5	1972	<12	456	1.58	<13	16.1	72.2	<4	<4	<3	<4	291	<5	30.1	<8	21.1
AAB6573	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6574	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6575	2.73	0.61	1744	21	432	2.01	<13	<8	85	<4	<4	<3	<4	193	<5	22.3	<8	26.3
AAB6576	3.52	0.29	347	<12	765	1.37	<13	<8	139	<4	<4	<3	<4	33.8	<5	50.4	20.8	67.1
AAB6577	3.72	0.28	283	<12	740	1.15	<13	<12	142	<4	<4	<3	<4	33.1	<5	50.2	22.7	61.2
AAB6578	3.81	0.299	306	<12	736	1.79	<13	9.05	128	<4	<4	<3	<4	27.9	<5	51.9	19.6	62.9
AAB6582	3.19	1.19	2055	13.2	477	1.65	<13	11.6	103	<4	<4	<3	5.1	260	<5	30.4	11.1	23.6
AAB6586	3.54	0.504	1388	<12	525	1.49	<13	19	84.9	<4	<4	<3	<4	165	<5	33.8	10.1	30.6

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB6590	3.07	0.422	1066	22.7	457	1.32	<13	<8	78.6	<4	<4	<3	<4	193	<5	29.8	<8	21.4
AAB6591	3.36	0.475	1127	42	547	1.52	<13	<8	55.3	<4	<4	<3	<4	205	<5	22.9	<8	10.3
AAB6592	3.37	0.365	667	13.9	685	1.25	13.7	<8	114	<4	<4	<3	<4	130	<5	36.8	19	25.9
AAB6593	4.18	0.303	483	<12	775	1.41	<13	<8	164	<4	<4	<3	<4	67.6	<5	61.8	20.6	57.2
AAB6596	3.49	0.465	1570	<12	495	1.57	<13	14.04	72.3	<4	<4	<3	<4	168	<5	32.5	<8	14.1
AAB6597	3.77	0.367	967	<12	535	1.34	<13	9.95	85.8	<4	<4	<3	<4	133	<5	32.6	<8	22.6
AAB6598	3.59	0.423	1416	17	596	1.48	<13	<8	78.2	6.21	<4	<3	<4	125	<5	23.1	<8	14.7
AAB6599	3.51	0.472	1277	<12	496	1.38	<13	<8	83.8	4.49	<4	<3	5.03	178	<5	25.2	10.2	22.5
AAB6601	3.23	0.468	1229	<12	796	2.23	<13	<8	150	<4	<4	<3	<4	140	<5	52	<8	57.7
AAB6602	3.75	0.302	507	<12	762	1.47	<13	9.94	161	<4	<4	<3	<4	117	<5	56.2	18.4	52.7
AAB6605	2.65	0.574	2309	41	468	1.77	<13	79	69.6	<4	<4	4.61	<4	397	<5	22.6	<8	13
AAB6606	2.48	0.576	2692	50.8	394	1.95	<13	97.4	71	<4	<4	3.81	4.44	444	<5	21.7	<8	12.7
AAB6607	3.06	0.47	1053	13.3	418	1.41	17	<8	73.5	<4	<4	<3	<4	166	<5	21.7	9.74	15.1
AAB6608	3.11	0.39	994	22.2	529	1.41	<13	25.4	68.8	<4	<4	<3	<4	149	<5	23.5	11.7	20
AAB6609	3.3	0.472	851	13.2	701	1.62	<13	<8	65.4	<4	<4	<3	<4	124	<5	17.9	<8	16.2
AAB6611	3.22	0.425	1211	21.7	747	1.41	<13	10.3	76.8	<4	<4	<3	<4	202	<5	21.5	11.7	19.6
AAB6613	3.37	0.272	308	<12	678	1.25	<13	10.8	129	<4	<4	<3	<4	134	<5	45.6	13.5	48.5
AAB6616	3.16	0.437	1098	14	519	1.72	13.6	9.3	70	<4	<4	<3	<4	136	<5	24.3	<8	21.3
AAB6619	2.93	0.458	1068	<12	377	1.22	<13	<8	60.5	<4	<4	<3	<4	175	<5	19.2	11.5	21.2
AAB6622	3.16	0.413	890	<12	490	1.3	<13	<8	63.7	<4	<4	<3	<4	173	<5	27.7	12.8	20.7
AAB6624	3.35	0.249	370	<12	642	0.986	<13	<8	105	<4	<4	<3	<4	101	<5	35.7	24	37.9
AAB8643	3.17	0.415	752	<12	449	0.955	<13	<8	51.2	<4	<4	<3	<4	206	<5	20.9	<8	10.8
AAB8644	2.74	0.533	1572	24.3	650	1.96	<13	<8	92	<4	<4	<3	<4	234	<5	31.4	<8	28.5
AAB8645	3.2	0.55	2512	<12	452	1.83	21	19.4	69.7	<4	<4	<3	<4	442	<5	27.1	12.2	25.2
AAB8646	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB8648	4.03	0.43	985	<12	433	1.21	<13	12.9	71	<4	<4	<3	<4	137	<5	26.4	9.88	26.4
AAB8649	4.06	0.397	713	<12	415	1.09	<13	8.51	75.1	<4	<4	<3	<4	63.9	<5	24.3	13.1	19.9
AAB8650	4.08	0.344	691	<12	423	1.1	<13	11.1	71.7	<4	<4	<3	<4	50	<5	27.7	<8	23.4

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB8654	3.2	0.303	1401	<12	367	1.27	14.5	9.08	56.4	<4	<4	<3	<4	178	<5	22.9	17.6	18.9
AAB8657	3.39	0.374	1946	<12	463	1.54	<13	11.8	70.6	<4	<4	<3	<4	288	<5	24.1	<8	12.1
AAB8658	3.08	0.406	2199	<12	415	1.62	<13	11.9	63.9	<4	<4	<3	<4	342	<5	22.5	<8	16.3
AAB8659	3.33	0.472	2087	<12	404	1.56	<13	16	72	<4	<4	<3	5.08	278	<5	23.5	<8	19.3
AAB8660	4.06	0.434	1268	0.493	432	1.32	<13	11.6	76.3	5.31	<4	<3	4.06	175	<5	25.3	<8	20.9
AAB8662	3.89	0.397	622	<12	434	0.998	<13	<8	61.9	<4	<4	<3	<4	123	<5	21.9	10.2	16.2
AAB8663	4.04	0.399	660	<12	406	1.09	<13	<8	78.9	<4	<4	<3	<4	109	<5	24.5	10.6	11.9
AAB8664	3.79	0.35	649	<12	402	1.07	<13	8.83	77.9	<4	<4	<3	<4	96.3	<5	24.3	<8	17.3
AAB8669	3.13	0.393	1987	19.1	414	1.55	<13	<8	73.9	<4	<4	<3	<4	278	<5	24.3	<8	15.2
AAB8671	3.39	0.42	2030	<12	430	1.61	<13	12.4	67	<4	<4	<3	5.57	303	<5	27.4	<8	23.4
AAB8672	3.46	0.5	1972	<12	456	1.58	<13	16.1	72.2	<4	<4	<3	<4	291	<5	30.1	<8	21.1
AAB8673	3.84	0.451	1394	10.4	436	1.37	<13	8.15	79.1	6.9	<4	<3	<4	196	<5	25	<8	16.4
AAB8675	4.26	0.423	744	<12	427	1.13	<13	9.05	81.3	<4	<4	<3	<4	96.4	<5	23.8	8.69	23
AAB8676	3.99	0.405	776	<12	423	1.11	<13	<8	73.3	<4	<4	<3	<4	111	<5	24.4	20.7	26.9
AAB8677	4.01	0.397	730	<12	442	1.14	<13	<8	89.7	<4	<4	<3	<4	75.3	<5	26.7	8.38	28.2
AAB8681	3.25	0.379	2004	12.4	362	1.57	<13	12	71.6	<4	<4	<3	<4	287	<5	26.7	<8	29.9
AAB8682	3.42	0.422	1876	<12	409	1.61	<13	8.39	69.9	11	<4	<3	<4	310	<5	32.2	<8	31.5
AAB8683	3.77	0.469	2088	<12	451	1.76	<13	9.64	75.6	<4	<4	<3	<4	252	<5	31.4	9.1	24.6
AAB8684	3.1	0.548	2857	<12	427	1.89	<13	9.38	65.8	<4	<4	<3	<4	377	<5	27.3	13.6	17.8
AAB8689	4.08	0.437	794	<12	460	1.16	14.3	13.2	89.9	<4	<4	<3	<4	130	<5	26.5	12.2	28.9
AAB8690	2.91	0.469	1934	13.2	444	1.6	<13	33	66.6	6.96	<4	<3	<4	306	<5	26.2	<8	25.5
AAB8692	3.42	0.422	1876	<12	409	1.61	<13	8.39	69.9	11	<4	<3	<4	310	<5	32.2	<8	31.5
AAB8692D	2.99	0.405	2114	<12	360	1.66	<13	11.5	67	<4	<4	<3	<4	291	<5	26.2	8.8	20
AAB8693	3.41	0.403	1776	15.7	438	1.64	18.2	8.22	75.1	<4	<4	<3	<4	287	<5	25.6	<8	23.3
AAB8694	2.91	0.517	2669	18.7	506	1.85	16.5	10.6	86.3	<4	<4	<3	<4	369	<5	24.1	<8	16
AAB8695	3.73	0.439	1231	<12	484	1.45	<13	13.5	75	<4	<4	<3	<4	242	<5	24.1	8.17	31.8
AAB8696	3.46	0.482	1595	<12	445	1.45	<13	12.2	69.7	<4	<4	<3	<4	260	<5	21.9	14.8	20.3
AAB8698	3.98	0.4	728	<12	406	1.1	5.47	<8	73.5	<4	<4	<3	<4	86.6	<5	22.7	<8	22.8

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB8699	3.96	0.4	740	<12	407	1.09	<13	<8	68.6	9.31	<4	<3	<4	76.2	<5	23	<8	17.6
AAB8700	2.63	0.625	2374	23.1	561	1.91	<13	<8	64.2	5.36	<4	<3	<4	348	<5	11.9	<8	17.6
AAB8702	2.78	0.397	2145	17.2	416	1.74	<13	9.92	65.8	5.37	<4	<3	<4	278	<5	17.5	16.5	<8
AAB8703	2.98	0.346	1794	13.6	403	1.41	<13	<8	64.7	<4	<4	<3	<4	255.5	<5	21.6	11.9	<8
AAB8704	2.88	0.458	2150	23.8	425	1.56	<13	12.5	62.1	4.69	<4	<3	<4	352	<5	16.4	13.3	<8
AAB8705	3.4	0.442	1279	<12	446	1.21	<13	<8	53.9	4.33	<4	<3	<4	215	<5	16.2	10.7	<8
AAB8706	3.47	0.452	1139	<12	488	1.23	<13	<8	69.2	<4	<4	<3	<4	202	<5	17.5	15.2	<8
AAB8707	3.55	0.418	1306	13.3	453	1.2	<13	<8	55.3	<4	<4	<3	<4	225	<5	19.3	12.5	<8
AAB8708	3.48	0.273	795	<12	488	1.14	<13	<8	66.8	5.25	<4	<3	<4	132	<5	16.6	13.7	<8
AAB8710	4.3	0.433	748.5	<12	452.5	1.19	<13	9.98	80.1	<4	<4	<3	<4	84.3	<5	29.03	9.8	32.7
AAB8711	3.89	0.337	625	<12	435	0.999	<13	<8	69.3	<4	<4	<3	<4	59.8	<5	21.7	16.6	<8
AAB8713	3.48	0.472	927	<12	808	1.31	<13	<8	95.8	<4	<4	<3	<4	188	<5	36.1	29.6	<8
AAB8716	2.9	0.405	1971	19.8	363	1.5	<13	14.9	58.4	4.42	<4	<3	<4	309	<5	20.3	20.1	<8
AAB8717	4.05	0.397	729	<12	468	1.1	<13	13.3	85.7	<4	<4	<3	<4	103	<5	26.4	13.3	23.7
AAB8718	3.95	0.407	751	<12	446	1.1	<13	12.1	80.6	<4	<4	<3	<4	94.4	<5	25.3	10.2	30.9
AAB8720	4.05	0.385	682	<12	469	1.15	<13	<8	81.2	<4	<4	<3	<4	87.5	<5	26.7	8.94	23.5
AAB8721	3.92	0.281	480	<12	601	1.11	<13	12.3	126	4.79	<4	<3	<4	21.7	<5	42.9	17	29
AAB8723	3.95	0.37	699	<12	454	1.1	<13	12.9	78.8	<4	<4	<3	<4	63.8	<5	24.8	11.1	28.1
AAB8726	4.17	0.253	403	<12	648	1.12	<13	13.7	144	<4	<4	<3	<4	11	<5	43.7	21.4	50.3
AAB9201	2.94	0.412	1567	15.4	408	1.37	<13	<8	58.7	<4	<4	<3	<4	240	<5	19.2	<8	13.1
AAB9202	3.1	0.594	3152	12.9	484	2.08	<13	15.2	74.4	<4	<4	<3	<4	409.2	<5	25.9	13.2	23.2
AAB9203	3.98	0.479	1261	<12	457	1.37	14	12.5	78	<4	<4	<3	<4	194	<5	24.6	<8	24.1
AAB9206	3.68	0.397	718	<12	422	0.989	<13	<8	65.9	4.04	<4	<3	<4	106.6	<5	15.4	15.01	<8
AAB9207	3.61	0.384	653	<12	420	0.979	<13	<8	66.1	7.78	<4	<3	<4	95	<5	13.5	19.3	<8
AAB9208	4.11	0.388	685	<12	445	1.17	<13	<8	82.5	6.77	<4	<3	<4	82.5	<5	26.1	14.5	23.5
AAB9212	2.77	0.395	1848	26.7	369	1.52	<13	13.7	65.2	<4	<4	<3	<4	273	<5	20.3	12.8	14.3
AAB9213	3.06	0.401	1419	26.3	389	1.41	<13	<8	59.7	<4	<4	<3	<4	260	<5	27.1	8.55	27.3
AAB9214	2.92	0.442	1796	31	420	1.55	<13	18.5	54.6	<4	<4	<3	<4	338	<5	19.4	<8	16.3

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB9215	3.24	0.444	1137	21.3	414	1.24	<13	<8	59.4	<4	<4	<3	<4	178	<5	23.3	8.89	18.6
AAB9217	3.68	0.376	466	<12	431	0.958	<13	<8	60.5	<4	<4	<3	<4	98.3	<5	22.5	15	19.2
AAB9220	3.74	0.362	567	<12	434	0.976	<13	<8	60.2	<4	<4	<3	<4	91.8	<5	21.5	9.42	15.9
AAB9221	3.62	0.358	531	<12	411	0.947	<13	<8	59.8	<4	<4	<3	<4	89.3	<5	20.6	16	17.6
AAB9225	2.87	0.432	1510	31.2	442	1.41	<13	21	58.6	<4	<4	<3	<4	247	<5	24.8	<8	16.5
AAB9228	2.76	0.505	1934	35.1	459	1.48	<13	11.5	57.8	<4	<4	<3	<4	354	<5	15.4	9.4	15.3
AAB9229	3.51	0.423	995	12.7	422	1.18	<13	<8	57.5	<4	<4	<3	<4	204	<5	16.1	14.6	17.1
AAB9230	3.76	0.388	582	<12	418	0.961	<13	<8	63.4	<4	<4	<3	<4	96	<5	21.4	<8	18.7
AAB9232	3.69	0.371	594	<12	440	0.952	<13	8.73	63.3	<4	<4	<3	<4	87.4	<5	23	18.2	21.8
AAB9233	3.75	0.385	546	<12	434	0.972	<13	9.61	62.5	<4	<4	<3	<4	84.2	<5	20.2	8.84	21.8
AAB9237	2.75	0.566	1948	28.4	521	1.86	<13	<8	65.4	<4	<4	<3	<4	328	<5	27.2	8.4	19.8
AAB9238	2.48	0.738	2211	30.1	374	1.95	<13	<8	44	<4	<4	<3	<4	359	<5	19.9	<8	18
AAB9239	2.69	0.667	1887	19	495	1.71	5.35	31	61	<4	<4	<3	<4	371	<5	22	<8	15.9
AAB9240	2.9	0.523	2129	23.3	388	1.55	15.4	12.9	55.5	<4	<4	<3	<4	353	<5	17.2	<8	11.2
AAB9241	3.41	0.443	1191	16.7	448	1.22	13.4	<8	71.7	<4	<4	<3	<4	215	<5	21.3	<8	14.3
AAB9243	3.82	0.401	592	<12	403	0.932	<13	<8	46.7	<4	<4	<3	<4	101	<5	20	<8	15.8
AAB9244	3.64	0.384	467	<12	409	0.933	<13	10	60.2	<4	<4	<3	<4	86.8	<5	21.9	8.94	19
AAB9245	3.74	0.342	558	<12	452	0.958	<13	<8	66.9	<4	<4	<3	<4	71.7	<5	21.2	17	11.6
AAB9249	3.38	0.198	471	<12	393	0.956	<13	<8	30.6	<4	<4	<3	<4	51.4	<5	23	<8	14.4
AAB9250	2.9	0.451	1321	<12	389	1.28	<13	<8	66.2	<4	<4	<3	<4	189	<5	21	9.24	15.8
AAB9252	2.94	0.422	981	<12	484	1.51	<13	<8	83.9	<4	<4	<3	<4	175	<5	26.8	12.3	23.4
AAB9258	2.74	0.503	1435	29.6	600	2.18	<13	9.02	97.4	<4	<4	<3	<4	190	<5	20.8	8.78	16.3
AAB9259	2.86	0.462	1303	18.7	557	2	<13	<8	92.6	<4	<4	<3	<4	179	<5	31.5	12.2	27.2
AAB9261	2.93	0.428	1663	12.4	367	1.46	<13	<8	56.1	<4	<4	<3	<4	246	<5	20.9	8.31	17.1
AAB9264	2.97	0.521	1566	24.3	589	1.83	<13	<8	78.8	<4	<4	<3	<4	239	<5	32.4	9.49	16.9
AAB9266	3.67	0.258	345	<12	665	1.08	<13	<8	118	<4	<4	<3	<4	86.7	<5	46.1	21.1	46.5
AAB9270	2.9	0.453	1248	23.1	578	1.9	<13	<8	101	<4	<4	<3	<4	167	<5	26.6	8.34	19.8
AAB9273	3.56	0.412	1113	29.4	549	1.53	<13	<8	74.8	<4	<4	<3	<4	136	<5	19.3	<8	19.9

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB9275	3.33	0.285	465	<12	771	1.3	<13	<8	137	<4	<4	<3	<4	126	<5	46.7	16.2	47.3
AAB9276	3.36	0.271	275	<12	703	1.15	<13	<8	129	<4	<4	<3	<4	131	<5	47.1	14.6	42.4
AAB9279	3.03	0.43	1646	17.4	606	1.8	<13	8.52	68.9	<4	<4	<3	<4	220	<5	25	<8	15.1
AAB9280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9282	2.95	0.502	1167	14.3	506	1.53	<13	<8	78.1	<4	<4	<3	<4	196	<5	27.7	11.7	18.7
AAB9284	3.55	0.222	159	<12	589	0.892	<13	10.8	111	<4	<4	<3	<4	32.7	<5	42.9	17.6	45.9
AAB9285	3.54	0.237	371	<12	660	0.982	<13	<8	114	<4	<4	<3	<4	43.6	<5	57.6	17.9	39.2
AAB9288	2.8	0.435	2077	40.3	628	1.49	<13	16.7	54.5	<4	<4	<3	<4	370	<5	21.6	<8	12.5
AAB9290	3.1	0.45	1212	23.6	432	1.39	<13	<8	79.6	<4	<4	<3	<4	256	<5	18.4	12	14.4
AAB9294	3.61	0.228	240	<12	615	0.878	<13	<8	98.2	<4	<4	<3	<4	26.6	<5	40.1	24.6	41.6
AAB9295	3.6	0.23	253	13.7	643	0.967	16.4	<8	116	<4	<4	<3	<4	29.6	<5	43.4	26.9	36.4
AAB9298	2.76	0.423	2542	37.9	750	3.1	<13	<8	104	<4	<4	<3	<4	261	<5	23.7	10	34.4
AAB9299	2.93	0.438	1878	23.8	771	2.32	<13	<8	82.1	<4	<4	<3	<4	256	<5	28.7	<8	22
AAB9305	2.86	0.475	1416	21	473	1.39	<13	8.7	54.5	5.38	<4	<3	<4	246	<5	19.4	<8	13.9
AAB9306	3.67	0.221	198	<12	671	0.919	<13	<8	112	7.81	<4	<3	<4	31.7	<5	39.7	15.4	33.9
AAB9307	3.68	0.232	308	<12	663	0.939	<13	<8	113	<4	<4	<3	<4	18.4	<5	43.9	16.8	35.7
AAB9311	2.57	0.423	1615	25.3	674	1.46	<13	<8	60	<4	<4	<3	<4	311	<5	19.2	<8	16.7
AAB9312	2.84	0.4	1619	22.4	456	1.41	<13	<8	62.5	<4	<4	<3	<4	246	<5	23.2	<8	23.7
AAB9314	2.75	0.537	1854	31.6	379	1.64	14	<8	73.5	<4	<4	<3	<4	294	<5	25.8	<8	16
AAB9316	3.58	0.401	630	<12	493	1.07	<13	8.5	62.7	<4	<4	<3	<4	146	<5	19.9	12.1	22.9
AAB9318	3.05	0.449	1299	14.9	637	1.81	<13	<8	80.6	<4	<4	<3	<4	129	<5	24.4	16	20.8
AAB9321	2.96	0.454	1238	19.6	385	1.37	<13	<8	70.9	<4	<4	<3	<4	199	<5	20.9	11.1	18.1
AAB9323	2.9	0.436	1455	15.9	358	1.32	<13	<8	67	7.15	<4	<3	<4	199	<5	17.9	8.77	21.2
AAB9325	3.52	0.244	328	<12	710	1.1	<13	<8	125	<4	<4	<3	<4	69.4	<5	45.3	27.6	40.4
AAB9328	2.72	0.459	1915	25.1	643	1.95	<13	<8	73.8	<4	<4	<3	<4	292	<5	23.6	<8	17.9
AAB9329	2.95	1.24	2425	27.7	592	2.3	<13	<8	46.6	<4	<4	<3	<4	295	<5	21.9	8.15	16.6
AAB9331	2.56	0.497	1786	26.9	429	1.83	<13	<8	76.3	<4	<4	<3	<4	295	<5	21.9	8.15	16.6
AAB9332	2.4	0.538	2013	30.8	500	1.93	<13	9.36	71	<4	<4	<3	<4	307	<5	22	10.1	19.6

NA = Not Analyzed

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Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB9334	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9335	3.71	0.221	149	<12	659	0.97	<13	16.2	108	<4	<4	<3	<4	31.8	<5	45.5	22.8	37.7
AAB9337	3.52	0.252	350	0.596	626	1.03	<13	<8	120	<4	<4	<3	<4	46.9	<5	45.5	24.7	43.8
AAB9345	2.7	0.494	1467	20.2	527	1.69	<13	<8	88.6	<4	<4	<3	<4	245	<5	25.3	<8	17.2
AAB9346	2.87	0.476	1297	14.9	345	1.26	<13	13.4	73.9	<4	<4	<3	<4	198	<5	25.2	<8	19.7
AAB9348	3.14	0.33	644	<12	684	1.36	<13	9.12	98.6	<4	<4	<3	<4	75.9	<5	41.5	17.5	43
AAB9349	3.61	0.273	265	<12	685	1.1	<13	<8	114	<4	<4	<3	<4	62.2	<5	43.6	13.2	44.3
AAB9352	3.45	0.115	394	21.1	357	1.08	<13	<8	57.4	<4	<4	<3	<4	75.4	<5	19.4	8.23	13.8
AAB9353	2.69	0.548	1489	20.8	557	2.16	<13	<8	81.8	6.05	<4	<3	<4	189	<5	22.6	11.1	18.1
AAB9355	3.45	0.282	687	<12	487	1.11	<13	12.3	74.6	<4	<4	<3	<4	105	<5	28.4	<8	18.2
AAB9356	3.39	0.39	796	20.8	487	1.12	<13	<8	71.2	<4	<4	<3	<4	143	<5	27.8	<8	13.4
AAB9358	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9365	2.62	0.468	1458	17.3	507	1.78	<13	<8	70.8	<4	<4	<3	<4	224	<5	25.1	<8	16.1
AAB9366	3.02	0.463	1380	14.2	460	1.3	<13	13.2	71.3	<4	<4	<3	<4	222	<5	25.6	9.06	19.9
AAB9367	2.8	0.519	1427	15.3	879	2.26	<13	<8	109	<4	<4	<3	<4	214	<5	38.5	11.7	37.7
AAB9370	2.61	0.825	2390	35.9	373	1.57	<13	10.5	54.7	<4	<4	<3	<4	356	<5	17.6	<8	10
AAB9371	2.5	0.613	2393	42.7	364	1.56	<13	<8	46.7	<4	<4	<3	<4	350	<5	19.6	<8	15.1
AAB9372	3.01	0.404	1404	14.7	423	1.79	<13	<8	70.8	<4	<4	<3	<4	198	<5	21.1	<8	19.6
AAB9376	3.45	0.373	528	14.3	658	1.16	<13	<8	98.8	<4	<4	<3	<4	86.7	<5	34.7	20.1	32.4
AAB9377	3.68	0.395	565	<12	380	1	<13	<8	58.2	<4	<4	<3	<4	104	<5	20.9	12.9	22.3
AAB9378	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9379	3.83	0.385	621	<12	394	0.975	<13	<8	69.7	<4	<4	<3	<4	70.7	<5	15.9	11.8	22.3
AAB9383	2.5	0.821	2144	26.4	396	1.64	<13	<8	46	<4	<4	<3	<4	362	<5	17.1	<8	10.1
AAB9386	3.16	0.287	1081	16.8	473	1.32	<13	<8	74	<4	<4	<3	<4	153	<5	20	<8	21.3
AAB9387	3.18	0.395	1129	16.2	501	1.43	<13	<8	67.8	<4	<4	<3	<4	164	<5	17.9	<8	11.5
AAB9391	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9393	3.73	0.227	196	18.8	645	0.928	<13	<8	105	<4	<4	<3	<4	32.7	<5	40.9	19	31.8
AAB9398	3.08	0.318	569	<12	750	1.37	<13	9.82	131	<4	<4	<3	<4	154	<5	43.9	23.9	40.4

NA = Not Analyzed

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Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB9421	2.65	0.589	1827	38.5	603	2.46	<13	13.5	103	<4	<4	<3	<4	283	<5	32.5	<8	26.3
AAB9423	3.22	0.462	1193	17.7	624	1.62	<13	8.03	70.1	<4	<4	<3	<4	186	<5	21.7	<8	20.3
AAB9425	3.41	0.259	323	<12	674	1.12	<13	<8	111	<4	<4	<3	<4	49.9	<5	48.2	17.6	44.3
AAB9426	3.55	0.274	430	<12	701	1.09	<13	<8	120	<4	<4	<3	<4	85.9	<5	40.5	20.3	43.3
AAB9430	2.7	0.352	1445	13.5	354	1.3	<13	<8	54.5	<4	<4	<3	<4	250	<5	17.6	<8	15.2
AAB9431	2.93	0.433	1395	20.8	459	1.34	<13	12.3	61.1	<4	<4	<3	<4	289	<5	17.2	<8	<8
AAB9432	2.69	0.524	2110	27.6	442	1.53	<13	9.98	56.3	<4	<4	<3	<4	345	<5	19.1	8.21	14.2
AAB9434	3.87	0.396	531	<12	404	0.954	<13	<8	62.2	<4	<4	<3	<4	119	<5	21.8	<8	15.4
AAB9435	3.81	0.379	476	<12	427	0.953	<13	<8	70.2	<4	<4	<3	<4	95	<5	20.1	<8	19.9
AAB9436	3.61	0.365	504	<12	439	0.959	<13	<8	66.9	<4	<4	<3	<4	96.8	<5	22.5	11.5	20.8
AAB9437	3.65	0.348	461	<12	409	0.962	<13	11.3	65.4	<4	<4	<3	<4	64.6	<5	22.5	<8	26.9
AAB9444	3.06	0.336	1021	18	516	1.48	<13	<8	77.1	<4	<4	<3	<4	146	<5	26.9	<8	12.7
AAB9445	3.18	0.359	1185	14.3	552	1.51	14.1	<8	76.1	<4	<4	<3	<4	185	<5	28.2	<8	16.7
AAB9446	2.95	0.468	1458	25.2	552	2.07	<13	<8	91.4	<4	<4	<3	<4	163	<5	30.4	13.7	22.9
AAB9447	3.19	0.323	1063	<12	569	1.37	<13	<8	69.1	<4	<4	<3	<4	157	<5	25.3	<8	20.6
AAB9449	2.83	0.462	1860	22.3	546	1.6	<13	15.2	74.6	<4	<4	<3	<4	292	<5	20	11.8	15.8
AAB9450	2.91	0.471	1613	19.7	490	1.4	<13	<8	58.7	4.71	<4	<3	<4	219	<5	20.7	<8	12
AAB9452	3.15	0.302	603	<12	778	1.12	<13	<8	107	<4	<4	<3	<4	70.6	<5	43.4	25	45
AAB9453	2.91	0.384	1491	27.5	544	1.88	<13	9	75.6	<4	<4	<3	<4	145	<5	32.6	<8	21.4
AAB9456	3.1	0.387	1193	18.7	518	1.58	<13	<8	69.7	<4	<4	<3	<4	168	<5	26	11	16.7
AAB9457	2.99	0.337	1398	15.3	526	1.63	<13	<8	71.8	<4	<4	<3	<4	181	<5	26.1	<8	18.8
AAB9460	2.75	0.49	1852	18.3	432	1.71	<13	10	54.4	<4	<4	<3	<4	311	<5	20.6	<8	15.7
AAB9462	2.93	0.334	1262	<12	443	1.23	<13	<8	49.2	<4	<4	<3	<4	223	<5	21.4	<8	15.6
AAB9463	3.17	0.295	427	<12	653	1.18	<13	<8	119	<4	<4	<3	<4	51.8	<5	43.8	11.1	35.2
AAB9467	2.86	0.447	1468	32.3	558	1.98	<13	<8	81.4	<4	<4	<3	<4	167	<5	32	8.38	20.7
AAB9468	2.69	0.476	1715	36.5	558	2.06	<13	<8	73.7	<4	<4	<3	<4	223	<5	29.3	<8	23.6
AAB9470	3.13	0.321	1125	<12	551	1.41	<13	<8	66.1	<4	<4	<3	<4	172	<5	22.8	<8	17.8
AAB9471	3.04	0.369	1503	25.1	537	1.47	<13	<8	59	<4	<4	<3	<4	193	<5	23.4	<8	10.7

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB9472	2.74	0.52	1897	30.4	538	1.81	<13	<8	72.4	<4	<4	<3	<4	245	<5	24.7	<8	13.7
AAB9473	3.27	0.257	224	<12	628	0.97	<13	<8	106	6.04	<4	<3	<4	30.3	<5	37.7	15.8	45.2
AAB9475	3.31	0.24	340	<12	660	0.934	<13	<8	112	<4	<4	<3	<4	35.2	<5	45.4	12.5	38.7
AAB9478	3.22	0.336	1155	<12	531	1.41	<13	<8	61.8	<4	<4	<3	<4	152	<5	29.9	<8	22
AAB9479	3.06	0.364	1337	21.9	497	1.55	<13	<8	77.6	<4	<4	<3	<4	176	<5	26.5	<8	16.5
AAB9480	2.85	0.426	1976	15.5	588	2.2	<13	9.25	69.1	<4	<4	<3	<4	234	<5	15.6	9.31	20.1
AAB9482	3.05	0.35	1328	22.4	561	1.49	<13	<8	65.8	<4	<4	<3	<4	195	<5	22.8	10	18.8
AAB9483	3.05	0.46	1354	22.1	575	1.52	<13	<8	72.8	<4	<4	<3	<4	178	<5	34.4	8.41	19.4
AAB9485	3.33	0.25	373	<12	644	1.08	<13	9.86	119	<4	<4	<3	<4	41.7	<5	41	22.1	37.3
AAB9486	3.01	0.432	1516	46.4	611	1.66	<13	<8	67.8	4.24	<4	<3	<4	192	<5	25.4	10.2	15.3
AAB9490	2.78	0.441	1723	14.7	431	1.31	<13	<8	58.4	<4	<4	<3	<4	248	<5	17.2	<8	9.67
AAB9491	2.84	0.428	1521	14.7	432	1.26	<13	<8	47.8	<4	<4	<3	<4	230	<5	20.5	8.36	10.3
AAB9492	3.18	0.318	1089	21.2	563	1.35	<13	<8	65.2	<4	<4	<3	<4	152	<5	25.8	<8	15.7
AAB9493	2.9	0.473	1713	38.3	646	1.83	<13	<8	71.3	<4	<4	<3	<4	238	<5	25.5	<8	18.9
AAB9495	2.98	0.395	907	15.9	742	1.6	<13	10.9	101	<4	<4	<3	<4	125	<5	37.2	11	30.3
AAB9496	3.14	0.257	499	<12	647	1.06	<13	<8	105	4.19	<4	<3	<4	64.8	<5	33.8	13	28.4
AAB9501	2.88	0.419	1795	19	602	1.95	<13	<8	78.1	<4	<4	<3	<4	183	<5	23.8	11	17.1
AAB9502	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9505	2.92	0.433	1399	21.9	484	1.62	<13	<8	63.4	4.22	<4	<3	<4	191	<5	26.1	<8	17
AAB9507	2.87	0.469	1833	18.8	564	1.67	<13	<8	74.1	<4	<4	<3	<4	294	<5	24.6	14.1	18.5
AAB9508	2.95	0.402	1200	<12	329	1.19	<13	<8	60.8	<4	<4	<3	<4	181	<5	22.2	<8	21.7
AAB9510	3.36	0.259	380	<12	641	1.1	<13	<8	111	<4	<4	<3	<4	26.5	<5	41.2	16.5	40.7
AAB9515	3.03	0.35	1278	<12	536	1.52	<13	9.98	67.4	<4	<4	<3	<4	161	<5	25.6	<8	16.1
AAB9516	3.2	0.372	1152	16	498	1.43	<13	<8	65.9	<4	<4	<3	<4	175	<5	23.9	8.98	22
AAB9518	3.07	0.37	1123	13.7	545	1.43	<13	<8	65.9	<4	<4	<3	<4	158	<5	28.7	12	24.9
AAB9519	2.7	0.479	1899	23	589	1.6	<13	<8	68.5	4.59	<4	<3	<4	327	<5	17.5	<8	11.7
AAB9519D	2.7	0.479	1899	16	498	1.43	<13	<8	65.9	<4	<4	<3	<4	175	<5	23.9	8.98	22
AAB9521	3.08	0.505	1408	<12	627	1.73	<13	<8	83.9	5.23	<4	<3	<4	203	<5	24.9	<8	19.5

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB9522	3.3	0.222	218	<12	600	0.945	<13	<8	106	<4	<4	<3	<4	34.6	<5	35.5	19.3	35.6
AAB9525	3.03	0.397	1557	22.8	528	1.53	<13	<8	62.3	<4	<4	<3	<4	208	<5	25.7	<8	15.8
AAB9526	3.08	0.438	1343	23.2	756	1.52	<13	<8	59.5	6.96	<4	<3	<4	236.8	<5	29.2	10.7	20.9
AAB9529	2.7	0.458	1778	28.9	453	1.6	<13	<8	55.6	<4	<4	<3	<4	272	<5	27.1	<8	18.9
AAB9530	2.82	0.437	1895	20	486	1.31	<13	<8	62	<4	<4	<3	<4	247	<5	17.4	<8	13.6
AAB9531	2.96	0.401	1506	15.4	590	1.45	<13	<8	52	<4	<4	<3	<4	256	<5	22.4	<8	16.8
AAB9532	2.93	0.416	1618	<12	503	1.32	<13	<8	59.7	<4	<4	<3	<4	232	<5	23.6	<8	17.9
AAB9534	3.43	0.231	168	<12	628	0.91	<13	9.7	101	<4	<4	<3	<4	27.8	<5	39.6	20.8	35.1
AAB9537	2.53	0.521	2167	35.8	362	1.87	<13	<8	58.9	<4	<4	<3	<4	323	<5	24.8	<8	19.7
AAB9538	2.86	0.487	1217	20.5	388	1.55	<13	15.3	59.4	<4	<4	<3	<4	370	<5	20.9	<8	19
AAB9540	3.58	0.383	515	<12	394	1.04	<13	<8	76.4	<4	<4	<3	<4	93.1	<5	20.5	9.03	24.8
AAB9541	3.86	0.408	511	<12	387	1.02	<13	<8	66.6	9.09	<4	<3	<4	74.1	<5	12.6	<8	16.2
AAB9542	3.64	0.402	472	<12	399	0.98	<13	<8	65.5	<4	<4	<3	<4	75.8	<5	19.6	<8	15.6
AAB9545	2.56	0.748	2391	38.6	334	1.68	<13	<8	41.3	<4	<4	<3	<4	374	<5	17.2	<8	17.5
AAB9547	2.49	0.51	2314	37.1	425	1.77	<13	11.1	54.5	7.15	<4	<3	<4	338	<5	23.3	<8	23.9
AAB9548	3.38	0.447	1031	<12	393	1.2	<13	<8	54.8	<4	<4	<3	<4	176	<5	19.8	<8	18
AAB9550	2.11	0.754	1981	49.2	1098	3.47	<13	19.4	134	<4	<4	<3	<4	410	<5	44.9	<8	33.8
AAB9551	3.22	0.271	620	<12	404	1.43	39.5	<8	93.2	4.31	<4	<3	<4	208	<5	33.4	10.7	24.8
AAB9552	3.47	0.423	781	<12	465	1.08	<13	<8	62.5	<4	<4	<3	<4	124	<5	20.9	<8	17.8
AAB9553	3.63	0.427	523	<12	480	0.989	20	<8	57.5	<4	<4	<3	<4	94.1	<5	18	<8	12.3
AAB9557	2.6	0.676	2307	31.8	442	1.67	<13	<8	49.9	<4	<4	3.09	<4	367	<5	20.4	<8	21.3
AAB9559	2.58	0.576	2252	39.9	450	1.72	<13	8.25	55.4	<4	<4	<3	<4	347	<5	23.6	<8	17
AAB9560	2.75	0.589	1681	32.3	393	2.1	<13	15.8	69.7	<4	<4	<3	<4	243	<5	20.4	16.2	17.9
AAB9564	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9565	3.84	0.368	511	<12	439	0.935	<13	<8	55.1	<4	<4	<3	<4	82.8	<5	20.3	<8	19.2
AAB9566	3.86	0.38	642	<12	445	0.952	<13	<8	59.6	<4	<4	<3	<4	82.7	<5	18	<8	21.5
AAB9569	2.54	0.769	2184	37.3	349	1.63	<13	14.5	55.5	<4	<4	<3	<4	352	<5	20.9	<8	10.1
AAB9570	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-1
TA-10
XRF Metals Screening Results

Sample ID	K (%)	Ca (%)	Ti (ppm)	Cr (ppm)	Mn (ppm)	Fe (%)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)	Se (ppm)	Cd (ppm)	Sb (ppm)	Ba (ppm)	Hg (ppm)	Pb (ppm)	U (ppm)	Th (ppm)
AAB9574	2.75	0.513	2093	20.6	414	1.64	<13	11.1	49.4	<4	<4	<3	<4	347	<5	20	12.8	9.73
AAB9575	2.62	0.491	2205	32.6	411	1.67	<13	<8	51.1	<4	<4	<3	<4	362	<5	18.1	8.31	14.2
AAB9577	3.94	0.368	621	<12	397	0.47	<13	11.5	55.5	<4	<4	<3	<4	98.9	<5	11.8	<8	12.1
AAB9578	3.78	0.412	597	<12	400	0.953	<13	<8	52.2	<4	<4	<3	<4	124	<5	21.3	11.4	20.9
AAB9579	3.74	0.377	541	<12	416	0.936	<13	<8	59.5	<4	<4	<3	<4	83.7	<5	18.6	8.2	12.2
AAB9581	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9583	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9584	2.99	0.539	2104	28.3	464	1.5	<13	15.6	50	<4	<4	<3	<4	339	<5	21.1	11.8	12.3
AAB9585	3.63	0.461	1142	12.4	426	1.18	<13	<8	65.7	<4	<4	<3	<4	190	<5	20.6	9.39	17.3
AAB9586	3.65	0.45	1176	18.2	420	1.23	<13	<8	65	<4	<4	<3	<4	202	<5	23.7	<8	17.5
AAB9587	3.36	0.414	1414	21.4	460	1.66	<13	<8	67.5	<4	<4	<3	<4	147	<5	19.9	11.5	20
AAB9588	3.9	0.365	613	<12	436	1	<13	<8	68.3	<4	<4	<3	<4	91.9	<5	20	11	18.6
AAB9589	3.79	0.335	613	3.17	405	0.93	<13	<8	58	<4	<4	<3	<4	63.9	<5	13.8	<8	15.4
AAB9590	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

K = Potassium, Ca = Calcium, Ti = Titanium, Cr = Chromium, Mn = Manganese, Fe = Iron, Ni = Nickel, Cu = Copper, Zn = Zinc, As = Arsenic, Se = Selenium, Cd = Cadmium, Sb = Antimony, Ba = Barium, Hg = Mercury, Pb = Lead, U = Uranium, Th = Thorium

Detection Limits: K = 0.01%, Ca = 0.01%, Ti = 30 ppm, Cr = 12 ppm, Mn = 16 ppm, Fe = 0.001%, Ni = 13 ppm, Cu = 8 ppm, Zn = 5 ppm, As = 4 ppm, Se = 4 ppm, Cd = 3 ppm, Sb = 4 ppm, Ba = 10 ppm, Hg = 5 ppm, Pb = 7 ppm, U = 8 ppm, Th = 8 ppm.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) ideno(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB2847	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2848	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2849	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2850	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2852	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2853	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2854	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2855	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2862	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2864	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2865	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2868	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2869	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2870	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2871	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2872	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2873	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2874	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2875	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2876	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2877	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2877D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2878	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2878D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2879	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2880	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2881	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2881D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2886	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2887	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2888	<0.1	<0.1	0.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2889	<0.1	<0.1	201.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2890	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2891	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Fluoranthene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) idene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB2892	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2894	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB2895	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2896	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2897	<0.1	<0.1	0.148	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2898	<0.1	<0.1	0.2	<0.1	<0.1	0.15	0.15	0.14	0.22	0.28	0.1	<0.1	<0.1	<0.1	<5
AAB2899	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2900	<0.1	<0.1	0.24	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2901	<0.1	<0.1	0.28	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.11	<5
AAB2902	<0.1	<0.1	0.32	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2907	<0.1	<0.1	0.31	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2908	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2909	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2910	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2911	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2912	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2913	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2914	<0.1	<0.1	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2921	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2922	<0.1	<0.1	.017	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2923	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2924	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2925	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2926	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2927	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2930	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2931	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2932	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2936	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2937	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2938	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2939	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2940	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2941	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Fluoranthene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) Idene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB2942	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2943	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2945	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2950	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	2.7	0.9	<0.1	0.4	1.1	<0.1	0.4	18
AAB2951	<0.1	<0.1	0.5	<0.1	<0.1	0.4	0.2	1.1	<0.1	<0.1	<0.1	<0.1	0.2	0.9	<5
AAB2952	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2953	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2954	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2955	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2956	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10
AAB2957	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<10
AAB2965	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2966	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2967	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2968	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2969	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2970	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2971	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2972	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2976	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2980	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2981	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2982	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2983	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2984	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2985	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2986	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2987	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB2992	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5
AAB2993	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5
AAB2994	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5
AAB2995	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5
AAB2996	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5
AAB2997	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) idene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB2998	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5
AAB2999	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5
AAB3000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3006	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.21	<0.1	<0.1	<0.1	<5
AAB3007	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3007D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3008	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3009	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3010	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3011	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3012	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3014	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3022	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<5
AAB3023	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	<0.1	<0.1	<0.1	<0.1	<5
AAB3024	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<5
AAB3025	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3026	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<5
AAB3027	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.6	<0.1	<0.1	0.2	<0.1	<5
AAB3028	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	<0.1	<0.1	<0.1	<0.1	<5
AAB3029	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	<0.1	<0.1	<0.1	<0.1	<5
AAB3035	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.8	<0.1	<0.1	<0.1	<0.1	<5
AAB3036	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.3	<0.1	<0.1	<0.1	<0.1	<5
AAB3037	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.4	<0.1	<0.1	<0.1	<0.1	<5
AAB3038	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<5
AAB3039	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.7	<0.1	<0.1	<0.1	<0.1	<5
AAB3040	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<5
AAB3041	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<5
AAB3043	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	<0.1	<0.1	<0.1	<0.1	<5
AAB3048	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.3	<0.1	<0.1	<0.1	<0.1	<5
AAB3049	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.4	<0.1	<0.1	<0.1	<0.1	<5
AAB3050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Fluoranthrene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) (deno(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB3054	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3056	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3058	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3061	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.1	<0.1	<0.1	<5
AAB3063	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3064	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3065	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3066	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3067	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3068	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3070	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3071	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3075	<0.1	.29	0.19	<0.1	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB3076	<0.1	<0.1	0.26	<0.1	0.22	0.94	<0.1	0.71	7.5	0.45	2.76	4.14	<0.1	<0.1	10
AAB3077	<0.1	0.25	0.27	<0.1	<0.1	0.87	<0.1	0.86	6.84	0.46	2.45	3.8	<0.1	<0.1	17
AAB3078	<0.1	0.27	0.28	0.11	0.21	1.3	<0.1	1.05	10.4	0.53	3.63	6.16	<0.1	<0.1	20
AAB3079	<0.1	<0.1	0.27	<0.1	<0.1	0.71	<0.1	0.9	5.48	0.27	1.97	3.13	<0.1	<0.1	31
AAB3081	<0.1	0.31	0.23	<0.1	0.21	0.36	<0.1	0.41	2.51	0.15	0.87	0.778	<0.1	<0.1	22
AAB3082	<0.1	<0.1	0.21	<0.1	0.19	0.43	<0.1	0.46	3.26	<0.1	1.06	1.7	<0.1	<0.1	15
AAB3083	<0.1	<0.1	0.32	0.16	<0.1	1.7	<0.1	1.05	10.5	0.46	3.8	5.6	<0.1	<0.1	25
AAB3084	<0.1	<0.1	0.25	<0.1	<0.1	0.18	<0.1	1.79	1.19	<0.1	0.17	<0.1	<0.1	<0.1	10
AAB3088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB3089	<0.1	0.34	0.25	<0.1	0.15	0.71	<0.1	0.31	5.71	0.31	1.7	3.11	<0.1	<0.1	22
AAB3090	<0.1	<0.1	0.19	<0.1	0.2	0.95	<0.1	0.63	7.14	<0.1	2.49	3.45	<0.1	<0.1	25
AAB3091	<0.1	0.26	0.23	<0.1	<0.1	0.35	<0.1	0.14	2.95	2.75	0.84	0.58	<0.1	<0.1	13
AAB6121	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.29	<0.1	<0.1	<5
AAB6123	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6127	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6128	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6130	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6131	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6132	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6133	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6134	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Fluoranthene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) (dene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB6135	<0.1	<0.1	0.38	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6136	<0.1	<0.1	0.31	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6137	<0.1	<0.1	0.28	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6138	<0.1	<0.1	0.24	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6140	<0.1	<0.1	0.21	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6145	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6146	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6147	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6150	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6153	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	0.22	<0.1	<0.1	<0.1	<0.1	<5
AAB6154	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6156	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6158	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6159	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6160	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6161	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.45	<0.1	<0.1	<0.1	<5
AAB6163	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.37	0.23	<0.1	<0.1	<5
AAB6164	<0.1	<0.1	<0.1	<0.1	0.24	0.41	<0.1	0.64	0.17	0.33	0.24	<0.1	<0.1	<0.1	<5
AAB6165	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.48	<0.1	<0.1	<0.1	<5
AAB6167	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.43	<0.1	<0.1	<0.1	<5
AAB6170	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.34	<0.1	<0.1	<0.1	<5
AAB6171	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5
AAB6172	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.31	<0.1	<0.1	<0.1	<5
AAB6173	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.31	<0.1	<0.1	<0.1	<5
AAB6174	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.35	<0.1	<0.1	<0.1	<5
AAB6175	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.24	<0.1	<0.1	<0.1	<5
AAB6176	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.33	<0.1	<0.1	<0.1	<5
AAB6177	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.34	<0.1	<0.1	<0.1	<5
AAB6178	<0.1	<0.1	<0.1	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<5
AAB6179	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6183	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6184	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6185	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6187	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) [dene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB6188	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6189	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6192	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6195	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.18	<0.1	<0.1	<0.1	<5
AAB6196	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6199	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.13	<0.1	<0.1	<0.1	<5
AAB6200	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6201	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.29	<0.1	<0.1	<0.1	<5
AAB6202	<0.1	<0.1	10.2	26.5	0.24	2.4	5.02	4.53	2.64	4.15	0.78	4.7	<0.1	3.06	<5
AAB6203	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.33	<0.1	<0.1	<0.1	<5
AAB6204	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.41	<0.1	<0.1	<0.1	<5
AAB6209	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.16	<0.1	<0.1	<0.1	<5
AAB6210	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6212	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6213	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6216	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6217	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6218	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.16	<0.1	<0.1	<0.1	<5
AAB6219	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6220	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.48	<0.1	<0.1	<0.1	<5
AAB6221	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6223	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.12	<0.1	<0.1	<0.1	<5
AAB6224	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6225	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6229	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6230	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6233	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6234	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6234D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6235	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6236	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6237	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6238	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6242	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.14	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) idene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB6245	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6246	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6247	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6248	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6249	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.18	<0.1	<0.1	<0.1	<5
AAB6250	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.14	<0.1	<0.1	<0.1	<5
AAB6252	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6253	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6254	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<5
AAB6255	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6259	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6260	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	<0.1	<0.1	<0.1	<0.1	<5
AAB6261	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<5
AAB6262	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6263	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.2	<0.1	<0.1	<0.1	<0.1	<5
AAB6265	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6266	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<5
AAB6267	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<5
AAB6269	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<5
AAB6273	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<5
AAB6274	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6275	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6276	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6277	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6280	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6284	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6285	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6286	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6287	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6291	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6298	<0.1	0.26	0.23	<0.1	0.19	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	7
AAB6300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6301	<0.1	0.24	0.23	<0.1	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6302	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) ideno(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB6303	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6305	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6309	<0.1	0.32	0.25	<0.1	0.21	0.76	<0.1	0.64	6.39	0.67	2.24	3.27	<0.1	<0.1	73
AAB6310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6311	<0.1	<0.1	0.27	<0.1	<0.1	1.03	<0.1	0.5	8.51	0.47	3.06	4.15	<0.1	<0.1	70
AAB6312	<0.1	0.3	0.25	<0.1	<0.1	1.51	<0.1	1.36	9.37	0.28	3.52	4.82	<0.1	<0.1	50
AAB6314	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6315	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	0.61	4.3	0.34	1.5	2.6	<0.1	<0.1	19
AAB6316	<0.1	0.27	0.28	0.16	<0.1	1.3	<0.1	2.4	12.8	0.4	4.3	6.8	<0.1	<0.1	19
AAB6316D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6318	<0.1	0.37	0.27	<0.1	<0.1	1.7	<0.1	1.5	1.1	0.5	0.21	6.7	<0.1	<0.1	10
AAB6318D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6319	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6323	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6324	<0.1	0.32	0.28	<0.1	0.24	<0.1	<0.1	0.25	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	6
AAB6325	<0.1	0.33	0.26	<0.1	0.2	<0.1	<0.1	0.37	0.46	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6326	<0.1	<0.1	0.25	<0.1	<0.1	<0.1	<0.1	0.56	0.44	<0.1	<0.1	<0.1	<0.1	<0.1	7
AAB6329	<0.1	<0.1	0.29	<0.1	0.21	<0.1	<0.1	0.97	0.9	<0.1	0.14	0.36	<0.1	<0.1	9
AAB6331	<0.1	<0.1	0.29	<0.1	<0.1	<0.1	<0.1	1.21	1.02	<0.1	0.33	0.39	<0.1	<0.1	9
AAB6332	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6333	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6334	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	8
AAB6337	<0.1	<0.1	0.26	<0.1	0.18	<0.1	<0.1	0.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11
AAB6339	<0.1	<0.1	0.257	<0.1	0.18	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	10
AAB6340	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6341	<0.1	0.34	0.29	<0.1	0.21	<0.1	<0.1	0.52	0.61	0.61	0.21	<0.1	<0.1	<0.1	17
AAB6342	<0.1	<0.1	0.24	<0.1	<0.1	<0.1	<0.1	0.47	0.75	<0.1	<0.1	<0.1	<0.1	<0.1	13
AAB6344	<0.1	0.28	0.24	<0.1	<0.1	<0.1	<0.1	<0.1	0.89	<0.1	0.26	<0.1	<0.1	<0.1	16
AAB6345	<0.1	0.3	0.25	<0.1	0.2	<0.1	<0.1	0.213	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	12
AAB6346	<0.1	0.27	0.25	<0.1	0.18	0.14	<0.1	0.34	0.17	<0.1	<0.1	<0.1	<0.1	<0.1	14
AAB6347	<0.1	<0.1	0.26	<0.1	<0.1	1.5	<0.1	1.5	10.2	0.5	3.7	5.8	<0.1	<0.1	30
AAB6351	<0.1	<0.1	0.93	<0.1	<0.1	0.27	0.42	<0.1	<0.1	<0.1	<0.1	25.12	<0.1	<0.1	<5
AAB6352	<0.1	<0.1	0.87	<0.1	<0.1	0.24	0.42	0.31	0.16	<0.1	4.11	<0.1	<0.1	<0.1	7
AAB6356	<0.1	0.57	0.81	<0.1	<0.1	0.11	0.55	0.28	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B,and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) ideno(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB6357	<0.1	<0.1	0.89	<0.1	<0.1	0.25	0.41	0.59	0.33	0.26	<0.1	11.25	<0.1	<0.1	<5
AAB6358	<0.1	<0.1	0.9	<0.1	<0.1	0.25	0.43	<0.1	35	0.25	<0.1	<0.1	<0.1	<0.1	<5
AAB6359	<0.1	<0.1	0.75	<0.1	<0.1	0.28	0.43	<0.1	<0.1	<0.1	<0.1	25.62	<0.1	<0.1	<5
AAB6361	<0.1	<0.1	0.98	<0.1	<0.1	0.26	0.44	<0.1	<0.1	<0.1	2.46	<0.1	<0.1	<0.1	<5
AAB6365	<0.1	0.54	0.76	<0.1	<0.1	0.36	0.49	<0.1	<0.1	<0.1	<0.1	10.11	<0.1	<0.1	<5
AAB6366	<0.1	<0.1	1.18	<0.1	<0.1	0.3	0.49	<0.1	<0.1	<0.1	<0.1	14.16	<0.1	<0.1	<5
AAB6369	<0.1	<0.1	0.96	<0.1	<0.1	0.27	0.46	<0.1	<0.1	<0.1	1.6	<0.1	<0.1	<0.1	<5
AAB6370	<0.1	<0.1	1	<0.1	<0.1	0.31	0.45	<0.1	<0.1	<0.1	3.77	<0.1	<0.1	<0.1	<5
AAB6372	<0.1	<0.1	0.71	<0.1	<0.1	0.32	0.46	<0.1	<0.1	<0.1	<0.1	11.39	<0.1	<0.1	<5
AAB6373	<0.1	<0.1	0.73	<0.1	<0.1	0.31	0.42	<0.1	<0.1	0.24	4.66	<0.1	<0.1	<0.1	<5
AAB6374	<0.1	<0.1	0.94	<0.1	<0.1	0.25	0.48	<0.1	<0.1	<0.1	<0.1	7.54	<0.1	<0.1	6
AAB6375	<0.1	<0.1	0.74	<0.1	<0.1	0.27	0.42	<0.1	<0.1	<0.1	<0.1	12.69	<0.1	<0.1	7
AAB6377	<0.1	<0.1	0.95	<0.1	<0.1	0.28	0.42	0.33	<0.1	<0.1	<0.1	17.03	<0.1	<0.1	7
AAB6380	<0.1	<0.1	0.85	<0.1	<0.1	0.27	0.43	<0.1	<0.1	<0.1	<0.1	36.21	<0.1	<0.1	<5
AAB6381	<0.1	<0.1	0.84	<0.1	<0.1	0.31	0.44	<0.1	<0.1	0.22	<0.1	0.31	<0.1	<0.1	<5
AAB6382	<0.1	<0.1	0.84	<0.1	<0.1	0.26	0.43	<0.1	<0.1	0.32	<0.1	17.74	<0.1	<0.1	<5
AAB6383	<0.1	<0.1	0.78	<0.1	<0.1	<0.1	0.41	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<0.1	7
AAB6385	<0.1	<0.1	0.82	<0.1	<0.1	0.29	0.42	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	7
AAB6386	<0.1	<0.1	1	<0.1	<0.1	0.28	0.43	<0.1	<0.1	0.31	<0.1	43.25	<0.1	<0.1	8
AAB6387	<0.1	<0.1	0.62	<0.1	<0.1	0.32	0.41	<0.1	<0.1	<0.1	<0.1	24.96	<0.1	<0.1	7
AAB6388	<0.1	<0.1	0.87	<0.1	<0.1	0.26	0.43	<0.1	<0.1	<0.1	5.05	<0.1	<0.1	<0.1	<5
AAB6389	<0.1	<0.1	0.87	<0.1	<0.1	0.28	0.43	<0.1	<0.1	<0.1	<0.1	24.79	<0.1	<0.1	<5
AAB6391	<0.1	<0.1	0.828	<0.1	0.358	0.262	<0.1	<0.1	<0.1	<0.1	<0.1	42.6	<0.1	<0.1	<5
AAB6393	<0.1	13.36	1.97	<0.1	0.37	1.15	0.64	2.98	<0.1	2	<0.1	<0.1	<0.1	<0.1	<5
AAB6394	<0.1	<0.1	0.58	<0.1	<0.1	0.25	0.39	<0.1	<0.1	<0.1	<0.1	23.21	<0.1	<0.1	<5
AAB6396	<0.1	<0.1	0.52	<0.1	<0.1	0.22	0.35	<0.1	<0.1	<0.1	<0.1	13.5	<0.1	<0.1	<5
AAB6397	<0.1	11.5	1.81	<0.1	3.8	1.21	0.71	2.99	<0.1	2.02	<0.1	0.74	<0.1	<0.1	<5
AAB6398	<0.1	<0.1	0.4	<0.1	<0.1	0.25	0.29	<0.1	<0.1	<0.1	<0.1	15.69	<0.1	<0.1	<5
AAB6399	<0.1	<0.1	1.6	<0.1	3.98	1.12	0.71	3.13	<0.1	2.12	<0.1	0.91	<0.1	<0.1	<5
AAB6400	<0.1	0.2	<0.1	<0.1	0.65	1	7.5	8328	0.39	6.11	<0.1	4.36	1.1	1.66	<5
AAB6401	<0.1	11.38	1.7	<0.1	3.39	1.7	0.74	2.29	<0.1	2.12	<0.1	1.19	<0.1	<0.1	<5
AAB6402	<0.1	<0.1	1.94	0.41	0.37	1.66	1.77	3.07	<0.1	0.77	18.45	0.79	2.82	2.12	<5
AAB6406	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6407	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) idene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB6408	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6411	<0.1	<0.1	1.03	<0.1	<0.1	0.26	0.49	<0.1	<0.1	<0.1	5.18	<0.1	<0.1	<0.1	<5
AAB6412	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6417	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6418	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6419	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6424	<0.1	0.3	0.2	<0.1	0.2	<0.1	<0.1	0.29	0.63	<0.1	<0.1	<0.1	<0.1	<0.1	12.52
AAB6425	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6426	<0.1	0.3	0.16	<0.1	0.16	<0.1	<0.1	0.29	0.62	<0.1	<0.1	<0.1	<0.1	<0.1	12.52
AAB6427	<0.1	0.3	0.26	<0.1	<0.1	0.87	<0.1	1.1	7.3	<0.1	2.2	<0.1	<0.1	<0.1	51.7
AAB6429	<0.1	<0.1	<0.1	<0.1	0.17	0.62	<0.1	0.38	5.2	<0.1	<0.1	<0.1	<0.1	<0.1	54
AAB6430	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6431	<0.1	<0.1	0.18	<0.1	0.15	0.62	<0.1	0.2	4.9	<0.1	1.3	2.4	<0.1	<0.1	27
AAB6433	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6435	<0.1	<0.1	0.2	<0.1	0.22	<0.1	<0.1	<0.1	0.75	<0.1	0.17	<0.1	<0.1	<0.1	<5
AAB6436	<0.1	0.3	0.3	<0.1	0.21	<0.1	<0.1	1.3	0.72	<0.1	0.1	0.19	<0.1	<0.1	6
AAB6437	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6438	<0.1	0.3	0.31	<0.1	<0.1	<0.1	<0.1	1.4	1.3	<0.1	0.48	0.55	<0.1	<0.1	7
AAB6440	<0.1	0.28	0.24	<0.1	0.19	0.11	<0.1	0.83	0.7	<0.1	<0.1	0.16	<0.1	<0.1	15
AAB6441	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6442	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6443	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6448	<0.1	0.27	0.23	<0.1	0.22	<0.1	<0.1	0.96	0.92	0.9	0.33	<0.1	<0.1	<0.1	17
AAB6449	<0.1	0.27	0.26	<0.1	0.2	0.12	<0.1	1.95	0.88	<0.1	0.18	0.42	<0.1	<0.1	17
AAB6450	<0.1	0.3	0.25	<0.1	0.127	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	10
AAB6451	<0.1	<0.1	0.22	<0.1	<0.1	<0.1	<0.1	1.1	1.01	<0.1	0.26	<0.1	<0.1	<0.1	8
AAB6456	<0.1	0.26	0.19	<0.1	0.15	<0.1	<0.1	0.61	0.54	<0.1	<0.1	<0.1	<0.1	<0.1	7
AAB6457	<0.1	0.26	0.2	<0.1	0.15	<0.1	<0.1	0.46	0.42	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6458	<0.1	11.97	1.99	<0.1	3.79	1	0.65	2.86	<0.1	1.97	<0.1	0.54	<0.1	<0.1	<5
AAB6462	<0.1	<0.1	0.25	<0.1	0.15	<0.1	<0.1	0.33	0.42	<0.1	<0.1	<0.1	<0.1	<0.1	14
AAB6463	<0.1	0.28	0.25	<0.1	0.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6463D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6464	<0.1	<0.1	0.299	<0.1	0.21	0.43	<0.1	0.9	3.69	0.49	1.41	2.54	<0.1	<0.1	45
AAB6466	<0.1	0.312	0.25	<0.1	0.15	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg. and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) (dene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB6467	<0.1	<0.1	0.19	<0.1	0.19	0.11	<0.1	0.53	0.52	0.47	<0.1	<0.1	<0.1	<0.1	16
AAB6468	<0.1	<0.1	0.23	<0.1	0.15	<0.1	<0.1	0.21	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	10
AAB6469	<0.1	2.99	0.14	<0.1	2.09	1.2	<0.1	0.768	0.26	1.5	0.51	<0.1	<0.1	<0.1	39
AAB6470	<0.1	0.27	0.26	<0.1	0.2	0.19	<0.1	2.4	1.5	<0.1	0.57	<0.1	<0.1	<0.1	12
AAB6474	<0.1	<0.1	0.92	<0.1	<0.1	0.26	0.42	<0.1	<0.1	<0.1	<0.1	35.8	<0.1	<0.1	8
AAB6475	<0.1	0.58	0.85	<0.1	<0.1	0.45	0.56	0.21	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6476	<0.1	0.5	0.96	<0.1	<0.1	0.25	0.47	<0.1	<0.1	0.23	<0.1	14.71	<0.1	<0.1	<5
AAB6477	<0.1	0.48	0.92	<0.1	<0.1	0.32	0.46	<0.1	<0.1	<0.1	<0.1	7.05	<0.1	<0.1	6
AAB6479	<0.1	<0.1	0.93	<0.1	<0.1	0.3	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6480	<0.1	0.56	1.01	<0.1	<0.1	0.27	0.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6481	<0.1	<0.1	0.96	<0.1	<0.1	0.26	0.5	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<5
AAB6482	<0.1	0.54	0.81	<0.1	<0.1	0.29	0.49	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6486	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6487	<0.1	<0.1	0.95	<0.1	<0.1	0.28	0.48	<0.1	<0.1	0.24	<0.1	39.82	<0.1	<0.1	8
AAB6488	<0.1	0.64	1.12	0.4	0.11	1.16	<0.1	0.77	<0.1	<0.1	0.12	<0.1	<0.1	<0.1	<5
AAB6488D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6489	<0.1	<0.1	0.88	<0.1	<0.1	0.25	0.42	<0.1	<0.1	<0.1	<0.1	40.5	<0.1	<0.1	<5
AAB6490	<0.1	<0.1	0.93	<0.1	<0.1	0.24	0.42	<0.1	<0.1	<0.1	<0.1	26.49	<0.1	<0.1	<5
AAB6491	<0.1	0.72	1.1	<0.1	0.28	0.66	0.71	2.28	11.12	0.11	3.6	5.9	<0.1	0.52	35
AAB6495	<0.1	<0.1	0.76	<0.1	<0.1	0.25	0.43	<0.1	<0.1	<0.1	<0.1	36.56	<0.1	<0.1	<5
AAB6495D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6496	<0.1	0.49	0.93	<0.1	<0.1	0.27	0.43	<0.1	<0.1	0.22	3.3	<0.1	<0.1	<0.1	7
AAB6497	<0.1	<0.1	0.92	<0.1	<0.1	0.27	0.43	<0.1	<0.1	0.21	<0.1	16.36	<0.1	<0.1	<5
AAB6499	<0.1	<0.1	0.94	<0.1	<0.1	0.27	0.43	0.27	0.13	0.24	<0.1	<0.1	<0.1	<0.1	<5
AAB6502	<0.1	<0.1	0.82	<0.1	0.36	0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6503	<0.1	<0.1	0.89	<0.1	<0.1	0.32	0.46	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6504	<0.1	12.31	2.08	<0.1	3.87	1	0.589	2.86	<0.1	1.93	<0.1	1.18	<0.1	<0.1	36
AAB6505	<0.1	<0.1	0.86	<0.1	<0.1	0.28	0.43	<0.1	<0.1	<0.1	<0.1	26.98	<0.1	<0.1	<5
AAB6506	<0.1	<0.1	2.28	<0.1	0.39	<0.1	0.55	2.95	<0.1	1.9	<0.1	0.69	<0.1	<0.1	<5
AAB6507	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6508	<0.1	<0.1	0.91	<0.1	<0.1	0.26	0.45	<0.1	<0.1	<0.1	<0.1	40.32	<0.1	<0.1	<5
AAB6509	<0.1	<0.1	0.84	<0.1	<0.1	0.25	0.43	<0.1	<0.1	<0.1	<0.1	27.87	<0.1	<0.1	7
AAB6511	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6513	<0.1	<0.1	0.828	<0.1	0.358	0.262	<0.1	<0.1	<0.1	<0.1	<0.1	42.6	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) idene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB6516	<0.1	<0.1	0.82	<0.1	0.35	0.26	<0.1	<0.1	<0.1	<0.1	<0.1	35.88	<0.1	<0.1	6
AAB6517	<0.1	<0.1	0.65	<0.1	<0.1	0.25	0.42	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6
AAB6518	<0.1	<0.1	0.86	<0.1	<0.1	0.27	0.44	<0.1	<0.1	<0.1	<0.1	25.56	<0.1	<0.1	<5
AAB6519	<0.1	<0.1	0.85	<0.1	<0.1	0.27	0.41	<0.1	<0.1	0.87	<0.1	14.36	<0.1	<0.1	<5
AAB6521	<0.1	9.74	<0.1	<0.1	0.3	1	1.42	2.87	<0.1	1.78	<0.1	1.08	<0.1	<0.1	<5
AAB6522	<0.1	13.11	1.77	<0.1	4	1.04	0.7	3.23	<0.1	1.84	<0.1	1.16	<0.1	<0.1	<5
AAB6523	<0.1	<0.1	0.78	<0.1	0.34	0.24	<0.1	<0.1	<0.1	<0.1	<0.1	41.7	<0.1	<0.1	<5
AAB6528	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6529	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6530	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6531	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6533	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6534	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6540	<0.1	8	1.9	1.6	0.8	<0.1	0.45	6.2	0.29	4	<0.1	2	<0.1	<0.1	<5
AAB6541	<0.1	7.59	1.85	1.62	0.785	<0.1	1.27	6.46	<0.1	4.29	<0.1	2.44	<0.1	<0.1	52
AAB6544	<0.1	7.8	1.9	1.6	0.86	<0.1	0.41	6.2	0.26	4.2	<0.1	1.6	<0.1	<0.1	15
AAB6545	<0.1	8.1	1.85	1.7	0.8	<0.1	1.2	6	0.56	4	<0.1	2.2	<0.1	<0.1	<5
AAB6547	<0.1	8.4	1.8	1.7	0.7	<0.1	0.42	5.9	0.29	4	<0.1	2	<0.1	<0.1	<5
AAB6548	<0.1	8.62	1.8	1.7	0.7	<0.1	1.3	5.9	0.61	3.9	<0.1	1.9	<0.1	<0.1	<5
AAB6549	<0.1	6.9	1.6	1.5	0.8	<0.1	0.39	6.3	0.27	4.4	<0.1	2.6	<0.1	<0.1	30
AAB6553	<0.1	18.9	2.6	<0.01	0.41	<0.1	1	4.25	0.24	2.7	<0.1	1.1	<0.1	<0.1	50
AAB6554	<0.1	16.2	2.5	<.01	0.56	<0.1	2.7	4..5	0.3	3.1	<0.1	0.83	<0.1	<0.1	30
AAB6555	<0.1	18.3	2	<.01	0.41	<0.1	1	4.6	0.27	2.9	<0.1	1.7	<0.1	<0.1	32
AAB6556	<0.1	15.6	2	0.44	5.5	<0.1	1	3.9	<0.1	2.88	<0.1	1.2	<0.1	<0.1	43
AAB6557	<0.1	16	2..2	<.01	0.59	<0.1	0.75	4.9	0.27	3.1	<0.1	0.82	<0.1	<0.1	60
AAB6559	<0.1	15	2.4	2.4	0.66	<0.1	1.9	4.9	0.32	3.1	<0.1	1.44	<0.1	<0.1	75
AAB6560	<0.1	19.11	2.54	<0.1	0.552	<0.1	2.53	4.63	0.269	2.96	<0.1	1.76	<0.1	<0.1	89
AAB6561	<0.1	16.8	2.1	<.01	0.55	<0.1	0.87	4.8	0.74	3.3	<0.1	1.1	<0.1	<0.1	96
AAB6567	<0.1	8.98	1.88	1.7	0.7	<0.1	0.4	5.9	0.32	3.8	<0.1	2.3	<0.1	<0.1	<5
AAB6568	<0.1	12	2.22	1.96	0.892	<0.1	1.81	5.37	<0.1	3.48	<0.1	2.1	<0.1	<0.1	96
AAB6570	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6572	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6573	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6574	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) idene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatile
AAB6575	<0.1	0.54	0.7	<0.1	<0.1	0.35	0.49	<0.1	<0.1	0.16	4.16	<0.1	<0.1	<0.1	<5
AAB6576	<0.1	<0.1	0.72	<0.1	<0.1	0.28	0.46	<0.1	<0.1	<0.1	2.72	<0.1	<0.1	<0.1	7
AAB6577	<0.1	<0.1	0.66	<0.1	<0.1	0.27	0.48	<0.1	<0.1	<0.1	<0.1	11.22	<0.1	<0.1	<5
AAB6578	<0.1	<0.1	0.7	<0.1	<0.1	0.25	0.47	<0.1	<0.1	0.27	<0.1	31.67	<0.1	<0.1	<5
AAB6582	50.7	0.31	0.13	<0.1	0.48	0.19	<0.1	0.48	<0.1	<0.1	16.8	8.82	<0.1	<0.1	39
AAB6586	<0.1	8.47	1.9	0.271	1.05	<0.1	1.64	8.31	0.82	5.98	<0.1	3.32	<0.1	<0.1	135
AAB6590	<0.1	8.3	2.2	0.3	1.7	<0.1	1.7	8	0.93	5.7	<0.1	3	<0.1	0.98	32
AAB6591	<0.1	8	1.9	0.32	1.1	<0.1	1.7	7.9	0.55	5.5	1.1	3.4	<0.1	<0.1	19
AAB6592	<0.1	8.8	2.1	0.27	0.99	<0.1	1.5	8	0.72	5.3	<0.1	3.1	<0.1	<0.1	20
AAB6593	<0.1	7.9	1.8	0.32	0.97	<0.1	1.6	8.6	0.61	5.7	1.6	3.8	<0.1	<0.1	135
AAB6596	50.6	0.35	0.15	0.21	0.48	0.34	0.51	<0.1	<0.1	<0.1	1.29	0.16	<0.1	0.26	27
AAB6597	<0.1	<0.1	<0.1	<0.1	0.292	0.443	0.614	0.209	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6598	<0.1	0.19	<0.1	<0.1	0.61	0.469	0.108	0.362	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6599	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6601	52.5	0.2	0.16	<0.1	0.71	<0.1	0.41	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	27
AAB6602	<0.1	0.137	<0.1	<0.1	0.542	0.524	0.754	0.245	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6605	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6606	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6607	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6608	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6609	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6611	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB6613	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6616	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	7.53	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6619	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	8.22	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6622	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	8.31	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB6624	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB8643	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6.86	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8644	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8645	<0.1	13.8	2.3	2.2	0.83	<0.1	1.9	5.2	0.29	3.5	<0.1	1.89	<0.1	<0.1	75
AAB8646	<0.1	12.3	1.9	6.4	0.2	<0.1	2.4	3.2	<0.1	2	<0.1	1.5	<0.1	<0.1	<5
AAB8648	<0.1	12.5	2.2	2.1	0.77	<0.1	0.6	5.3	0.34	3.6	<0.1	1.47	<0.1	<0.1	67
AAB8649	<0.1	9.94	2.023	1.9	0.756	<0.1	0.529	5.57	<0.1	3.31	<0.1	1.42	<0.1	<0.1	17
AAB8650	<0.1	10.1	2	1.8	0.8	<0.1	0.67	6.2	0.32	4.2	<0.1	1.9	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) Idena(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatile
AAB8654	<0.1	11.2	2.5	0.46	1.2	<0.1	0.82	8.2	2.3	6.3	<0.1	3.6	<0.1	2	61
AAB8657	<0.1	9.7	2.4	<0.1	1.1	<0.1	0.71	7.9	1	5.7	1.5	3.2	0.55	2	23
AAB8656	<0.1	11.4	3	0.33	1.3	0.36	2	8.2	0.76	5.5	1.4	3.7	<0.1	0.97	49
AAB8659	<0.1	10.5	2.2	0.33	1.1	<0.1	1.9	7.9	0.93	5.5	1.67	3.3	<0.1	<0.1	61
AAB8660	<0.1	10.77	2.3	0.37	1.36	<0.1	2.2	8	0.71	5.7	1.5	3.6	<0.1	<0.1	34
AAB8662	<0.1	10.2	2.4	0.3	1.07	<0.1	0.53	7.8	1.5	5.1	1	3.2	<0.1	<0.1	25
AAB8663	<0.1	9.3	2.2	0.3	1.1	0.36	0.54	7.8	0.69	5.3	1.6	2.7	<0.1	<0.1	33
AAB8664	<0.1	9.8	2.5	0.33	1	0.31	0.58	8	0.74	5.5	<0.1	3.5	<0.1	<0.1	59
AAB8669	<0.1	6.95	1.57	0.284	0.955	<0.1	0.564	9.07	1.04	6.09	<0.1	3.64	<0.1	1.41	68
AAB8671	<0.1	5.6	1.48	0.262	0.937	<0.1	0.561	9.29	0.86	6.06	<0.1	3.73	<0.1	<0.1	22
AAB8672	<0.1	6.72	1.9	0.272	0.95	<0.1	0.56	9.3	0.366	6.27	<0.1	3.86	<0.1	<0.1	35
AAB8673	<0.1	4.88	0.934	0.307	0.839	<0.1	0.697	8.24	0.474	0.6	<0.1	2.96	<0.1	<0.1	13
AAB8675	<0.1	5.65	1.52	0.795	0.849	<0.1	0.487	8.38	0.588	5.77	<0.1	3.06	<0.1	<0.1	26
AAB8676	<0.1	4.03	<0.1	1.54	0.855	<0.1	<0.1	8.42	0.571	5.81	<0.1	3.18	<0.1	<0.1	15
AAB8677	<0.1	4.95	1.38	0.323	0.853	<0.1	0.526	8.45	0.473	5.61	<0.1	3.26	<0.1	<0.1	36
AAB8681	<0.1	4.37	1.22	1.5	0.9	<0.1	0.522	8.29	0.871	5.51	<0.1	3.11	<0.1	<0.1	18
AAB8682	<0.1	4.3	1.21	0.253	0.888	<0.1	1.43	8.15	0.519	5.57	<0.1	3.24	<0.1	<0.1	29
AAB8683	<0.1	5.32	1.56	0.283	0.884	<0.1	0.511	8.37	0.45	5.59	<0.1	2.75	<0.1	<0.1	16
AAB8684	<0.1	4.66	1.34	1.41	0.868	<0.1	0.452	8.12	0.415	5.69	<0.1	3.29	<0.1	<0.1	30
AAB8689	<0.1	4.34	1.24	0.244	0.843	<0.1	0.514	8.53	<0.1	5.42	<0.1	3.33	<0.1	<0.1	18
AAB8690	<0.1	0.124	<0.1	<0.1	0.692	0.577	0.647	0.411	<0.1	<0.1	7.37	<0.1	<0.1	<0.1	<5
AAB8692	0.14	<0.1	<0.1	<0.1	0.592	0.259	0.508	0.341	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8692D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB8693	<0.1	0.21	0.144	<0.1	0.413	0.18	0.412	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	10
AAB8694	<0.1	0.14	<0.1	<0.1	0.293	0.259	0.508	0.341	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8695	<0.1	0.151	<0.1	<0.1	0.578	0.472	0.611	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8696	0.153	0.127	<0.1	<0.1	0.66	0.205	0.239	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	71.1	18
AAB8698	<0.1	0.18	<0.1	<0.1	0.564	0.306	0.701	0.401	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8699	0.16	0.122	<0.1	<0.1	0.481	0.231	0.414	<0.1	<0.1	<0.1	0.119	0.21	<0.1	<0.1	6
AAB8700	<0.1	0.425	<0.1	<0.1	0.452	0.393	0.138	0.591	<0.1	<0.1	0.033	0.354	<0.1	<0.1	7
AAB8702	<0.1	0.147	<0.1	<0.1	0.292	<0.1	0.723	0.418	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8703	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8704	<0.1	0.2	<0.1	<0.1	0.508	0.515	0.741	0.433	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8705	<0.1	<0.1	<0.1	<0.1	0.589	0.434	0.629	0.406	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Fluoranthene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) (deno(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatile
AAB8706	<0.1	0.2	<0.1	<0.1	0.365	0.322	0.657	0.337	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8707	<0.1	<0.1	<0.1	<0.1	0.428	0.49	0.575	0.386	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8708	<0.1	1.33	3.38	0.125	<0.1	0.205	1.47	0.139	<0.1	0.483	<0.1	<0.1	<0.1	<0.1	175
AAB8710	<0.1	1.33	3.46	0.125	<0.1	0.24	1.47	0.133	<0.1	0.317	<0.1	<0.1	<0.1	<0.1	253
AAB8711	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11.4	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8713	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.66	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8716	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	13.41	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8717	<0.1	0.11	<0.1	<0.1	0.497	0.388	0.697	0.36	<0.1	<0.1	26.2	<0.1	<0.1	<0.1	<5
AAB8718	<0.1	0.14	<0.1	<0.1	0.618	0.348	0.643	0.445	<0.1	<0.1	7.89	<0.1	<0.1	<0.1	<5
AAB8720	<0.1	0.16	<0.1	<0.1	0.617	0.359	0.565	0.208	<0.1	<0.1	<0.1	0.105	<0.1	<0.1	<5
AAB8721	<0.1	0.148	<0.1	<0.1	0.701	0.509	0.756	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8723	<0.1	0.192	<0.1	<0.1	0.428	0.441	0.736	0.34	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB8726	<0.1	0.145	<0.1	<0.1	0.552	0.27	0.766	0.397	<0.1	<0.1	8.83	<0.1	<0.1	<0.1	<5
AAB9201	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6.27	<0.1	<0.1	<0.1	<0.1	<0.1	36
AAB9202	<0.1	1.211	2.73	0.165	<0.1	0.688	1.79	1.08	<0.1	0.657	4.7	10.6	<0.1	<0.1	58
AAB9203	<0.1	1.23	2.84	0.102	<0.1	0.266	1.45	0.531	<0.1	0.448	<0.1	31.2	<0.1	<0.1	250
AAB9206	<0.1	1.25	2.94	0.111	<0.1	0.53	1.41	0.347	<0.1	1.35	<0.1	<0.1	<0.1	<0.1	<5
AAB9207	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11.5	<0.1	<0.1	<0.1	<0.1	<0.1	52
AAB9208	<0.1	1.33	3.13	0.119	0.111	1.69	1.46	0.121	<0.1	0.387	<0.1	17.6	<0.1	<0.1	<5
AAB9212	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	9.29	<0.1	<0.1	<0.1	<0.1	<0.1	NA
AAB9213	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9214	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	7.62	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9215	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9217	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.72	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9220	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
AAB9221	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9225	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9228	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9229	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9230	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9232	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9233	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.68	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9237	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9238	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) (dano(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractab Semivolati
AAB9239	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9240	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9241	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9243	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9244	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11.3	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9245	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11.3	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9249	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9250	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9252	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9258	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9259	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9261	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9264	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.64	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9266	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9273	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9275	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9276	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9279	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9282	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9284	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9285	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9288	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9290	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9294	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9295	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	14.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9298	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9299	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9305	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9306	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9307	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9311	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9312	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) Ideno(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB9314	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9316	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9318	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9321	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9323	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9325	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5
AAB9328	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9329	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9331	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9332	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9334	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9335	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9337	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9345	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9346	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9348	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9349	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9352	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9353	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	0.9	<0.1	<0.1	<0.1	<0.1	<5
AAB9355	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<5
AAB9356	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9358	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9365	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9366	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9367	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9370	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9371	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9372	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9376	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9377	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9378	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9379	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9383	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9386	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) Ibenol(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB9387	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9391	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9393	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9398	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9421	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	9.57	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9423	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA	NA	NA	NA	NA	NA
AAB9425	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9426	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9430	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9431	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9432	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9434	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9435	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9436	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	12.4	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9437	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9444	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	9.72	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9445	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9446	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9447	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9449	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9452	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9453	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9456	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9457	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9460	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9462	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9463	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9467	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9468	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9470	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9471	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6.97	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9472	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9473	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Fluoran-thene	Anthracene	Pyrene	Benz(A) anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A) pyrene	Dibenz(A,H) idene(1,2,3) pyrene	Benzo (G,H,I) perylene	Total Extractable Semivolatiles
AAB9475	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9478	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	9.24	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9479	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9480	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9482	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9483	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9485	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.93	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9486	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9490	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9491	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	9.24	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9492	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9493	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9495	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9496	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9501	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9502	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9505	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9507	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9508	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9510	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9515	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9516	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9518	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9519	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9519D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9521	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9522	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9525	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9526	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9529	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9530	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9531	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9532	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9534	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.

Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-2
TA-10
Semi-Volatile Organic Compounds
Screening Results

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Fluoranthene	Anthracene	Pyrene	Benz(A)anthracene	Chrysene	Benzo (B and K) fluoranthene	Benzo(A)pyrene	Dibenz(A,H)idene(1,2,3)pyrene	Benzo (G,H,I)perylene	Total Extractable Semivolatiles
AAB9537	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9538	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9540	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9541	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.69	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9542	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9545	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9547	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9548	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9550	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9552	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9553	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9559	<0.1	<0.1	2.38	<0.1	<0.1	1.61	2.38	21.88	<0.1	3.33	3.45	<0.1	<0.1	<0.1	97
AAB9560	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.67	3.54	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11
AAB9564	<0.1	<0.1	0.63	<0.1	<0.1	<0.1	0.67	4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	9
AAB9565	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9566	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9569	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9570	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.84	3.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	14
AAB9574	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9575	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9577	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9578	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AAB9579	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5
AAB9581	<0.1	<0.1	<0.1	<0.1	<0.1	1.26	<0.1	1.14	12.8	12.7	9	7.2	<0.1	8.2	119
AAB9583	<0.1	<0.1	<0.1	<0.1	<0.1	0.96	<0.1	3.33	9.6	9.4	6.7	5.5	<0.1	7.3	87
AAB9584	<0.1	<0.1	<0.1	<0.1	<0.1	0.69	<0.1	1.07	5.7	4.1	1.8	<0.1	<0.1	<0.1	46
AAB9585	<0.1	<0.1	<0.1	<0.1	<0.1	1.99	<0.1	0.59	21	20.8	15	12.7	<0.1	14.7	212
AAB9586	<0.1	<0.1	<0.1	<0.1	<0.1	1.18	<0.1	1.16	12.9	12.2	8.7	7.1	<0.1	8.9	130
AAB9587	<0.1	<0.1	<0.1	<0.1	<0.1	0.83	<0.1	2.92	9.59	8.7	5.9	4.6	<0.1	5.7	81
AAB9588	<0.1	<0.1	<0.1	<0.1	<0.1	0.87	<0.1	2.9	10	9.2	6.2	4.8	<0.1	6.2	82
AAB9589	<0.1	<0.1	<0.1	<0.1	<0.1	1.8	<0.1	1.3	19.8	19.6	13.5	11.3	<0.1	13.5	195
AAB9590	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed
Detection Limits for all constituents except Total Extractable Semi-Volatile Organics is 0.1 mg/kg.
Total Extractable Semi-Volatile Organics detection limit is 5 mg/kg, and is quantitated as Naphthalene.

Table 7-3
TA-10
MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB2833	-7.34	98.79	-10.55	35.03	-0.86	2.15	pCi/g
AAB2834	-7.34	98.79	-1.51	35.03	1.59	2.15	pCi/g
AAB2835	-7.34	98.79	-7.53	35.03	3.49	2.15	pCi/g
AAB2836	-7.34	98.79	12.05	35.03	3	2.15	pCi/g
AAB2837	-14.7	98.79	1.51	35.03	2.01	2.15	pCi/g
AAB2838	0	98.79	13.56	35.03	1.05	2.15	pCi/g
AAB2839	-14.7	98.79	-9.04	35.03	3.99	2.15	pCi/g
AAB2840	-14.7	98.79	6.03	35.03	-0.65	2.15	pCi/g
AAB2841	-14.7	98.79	0	35.03	3.64	2.15	pCi/g
AAB2842	-14.7	98.79	13.56	35.03	7.17	2.15	pCi/g
AAB2843	-14.7	98.79	-1.51	35.03	7.44	2.15	pCi/g
AAB2844	-14.7	98.79	-19.58	36.18	1.86	2.15	pCi/g
AAB2845	7.34	98.79	3.77	35.03	-2.93	2.15	pCi/g
AAB2846	-7.34	98.79	18.83	35.47	-3.98	2.15	pCi/g
AAB2847	7.34	98.79	5.27	35.03	0.85	2.15	pCi/g
AAB2848	-7.34	98.79	-9.79	35.03	-0.23	2.15	pCi/g
AAB2849	7.34	98.79	14.31	35.03	-0.17	2.15	pCi/g
AAB2850	-7.34	98.79	-15.82	35.03	-5.36	2.15	pCi/g
AAB2851	-7.34	98.79	-2.26	35.03	0.51	2.15	pCi/g
AAB2852	-7.34	98.79	0.75	35.03	-0.31	2.15	pCi/g
AAB2853	7.34	98.79	5.27	35.03	-3.35	2.15	pCi/g
AAB2854	-7.34	98.79	-8.29	35.03	-3.86	2.15	pCi/g
AAB2855	-7.34	98.79	-3.77	35.03	2.39	2.15	pCi/g
AAB2856	7.34	98.79	-6.78	35.03	4.35	2.15	pCi/g
AAB2857	-7.34	98.79	8.29	35.03	5.84	2.15	pCi/g
AAB2861	-14.7	98.79	3.77	35.03	0.55	2.15	pCi/g
AAB2862	-29.35	138.2	9.79	35.03	1.64	2.15	pCi/g
AAB2863	-29.35	138.2	-8.29	35.03	2.59	2.15	pCi/g
AAB2864	-14.7	98.79	-8.29	35.03	-0.6	2.15	pCi/g
AAB2865	-29.35	138.2	-15.82	35.03	-1.76	2.15	pCi/g
AAB2866	-1.22	3.32	-2.23	4.86	-0.18	0.55	pCi/ml
AAB2867	-1.22	3.32	-2.53	4.86	0.23	0.55	pCi/ml
AAB2868	-29.35	138.2	0.75	35.03	3.28	2.15	pCi/g
AAB2869	-58.69	195.44	-18.83	35.47	-2.34	2.15	pCi/g
AAB2870	-58.69	195.44	-15.82	35.03	-1.23	2.15	pCi/g
AAB2871	-29.35	138.2	-3.77	35.03	-0.98	2.15	pCi/g
AAB2872	-58.69	195.44	-24.86	40.76	-3.37	2.15	pCi/g
AAB2873	-44.02	169.26	-11.3	35.03	-4.43	2.15	pCi/g
AAB2874	-44.02	169.26	-9.79	35.03	-6.91	2.15	pCi/g
AAB2875	-58.69	195.44	-20.34	36.87	-9.82	2.15	pCi/g
AAB2876	-29.35	138.2	-9.79	35.03	-1.72	2.15	pCi/g
AAB2877	-29.35	138.2	-11.3	35.03	0.07	2.15	pCi/g
AAB2878	-58.69	195.44	-11.3	35.03	-7.48	2.15	pCi/g
AAB2879	-58.69	195.44	-2.26	35.03	-12.26	2.15	pCi/g
AAB2880	-44.02	169.26	-14.31	35.03	-13.04	2.15	pCi/g
AAB2881	-44.02	169.26	-3.77	35.03	-5.82	2.15	pCi/g
AAB2882	-58.69	195.44	-12.81	35.03	-5.23	2.15	pCi/g
AAB2883	-58.69	195.44	-3.77	35.03	-11.72	2.15	pCi/g

Table 7-3
TA-10
MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB2884	-44.02	169.26	-18.83	35.47	-10.99	2.15	pCi/g
AAB2885	-22.01	119.68	-22.6	38.86	-0.1	2.15	pCi/g
AAB2886	-22.01	119.68	-13.56	35.03	0.97	2.15	pCi/g
AAB2887	22.01	119.68	7.53	35.03	3.6	2.15	pCi/g
AAB2888	-7.34	98.79	7.53	35.03	2.4	2.15	pCi/g
AAB2889	22.01	119.68	10.55	35.03	2.11	2.15	pCi/g
AAB2890	7.34	98.79	12.05	35.03	2.99	2.15	pCi/g
AAB2891	-7.34	98.79	25.61	41.37	4.5	2.15	pCi/g
AAB2892	-7.34	98.79	-9.04	35.03	-1.38	2.15	pCi/g
AAB2893	-58.69	195.44	-20.34	36.87	-12.56	2.15	pCi/g
AAB2894	-58.69	195.44	2.26	35.03	-13.21	2.15	pCi/g
AAB2895	-22.01	119.68	-19.58	36.18	-1.06	2.15	pCi/g
AAB2896	-22.01	119.68	-15.07	35.03	-1.6	2.15	pCi/g
AAB2897	-22.01	119.68	-13.56	35.03	2.01	2.15	pCi/g
AAB2898	-22.01	119.68	-22.6	38.86	-3.74	2.15	pCi/g
AAB2899	-22.01	119.68	-13.56	35.03	-2.57	2.15	pCi/g
AAB2900	-7.34	98.79	15.07	35.03	4.66	2.15	pCi/g
AAB2901	-22.01	119.68	3.01	35.03	7.71	2.15	pCi/g
AAB2902	36.68	154.51	3.01	35.03	10.4	2.15	pCi/g
AAB2903	-7.34	98.79	0	35.03	9.32	2.15	pCi/g
AAB2904	-22.01	119.68	-9.04	35.03	7.6	2.15	pCi/g
AAB2905	-22.01	119.68	-6.03	35.03	-0.37	2.15	pCi/g
AAB2906	7.34	98.79	3.01	35.03	-1.57	2.15	pCi/g
AAB2907	-7.34	98.79	15.07	35.03	1.9	2.15	pCi/g
AAB2908	-7.34	98.79	6.03	35.03	0.99	2.15	pCi/g
AAB2909	-7.34	98.79	1.51	35.03	0.6	2.15	pCi/g
AAB2910	-7.34	98.79	9.04	35.03	1.64	2.15	pCi/g
AAB2911	7.34	98.79	0	35.03	1.28	2.15	pCi/g
AAB2912	-7.34	98.79	0	35.03	4.62	2.15	pCi/g
AAB2913	-7.34	98.79	22.6	38.86	9.35	2.15	pCi/g
AAB2914	51.35	182.82	27.12	42.57	10.37	2.15	pCi/g
AAB2915	-7.34	98.79	21.09	37.54	7.59	2.15	pCi/g
AAB2916	-7.34	98.79	13.56	35.03	-1.5	2.15	pCi/g
AAB2917	-7.34	98.79	12.05	35.03	-1.26	2.15	pCi/g
AAB2918	0	2.02	0.15	4.86	-0.1	0.55	pCi/ml
AAB2919	0	2.02	-0.6	4.86	0.12	0.55	pCi/ml
AAB2920	0	98.79	-9.79	35.03	-2.31	2.15	pCi/g
AAB2921	0	98.79	-3.77	35.03	-1.69	2.15	pCi/g
AAB2922	0	98.79	2.26	35.03	-3.03	2.15	pCi/g
AAB2923	14.67	98.79	6.78	35.03	-3.24	2.15	pCi/g
AAB2924	14.67	98.79	12.81	35.03	-2.15	2.15	pCi/g
AAB2925	0	98.79	-0.75	35.03	-1.33	2.15	pCi/g
AAB2926	14.67	98.79	-0.75	35.03	-2.96	2.15	pCi/g
AAB2927	0	98.79	0.75	35.03	-4.82	2.15	pCi/g
AAB2928	0	98.79	-5.27	35.03	-2.2	2.15	pCi/ml
AAB2929	0	98.79	-8.29	35.03	-2.04	2.15	pCi/ml
AAB2930	-7.34	98.79	3.01	35.03	-3.24	2.15	pCi/g
AAB2931	-7.34	98.79	-7.53	35.03	6.37	2.15	pCi/g

Table 7-3
TA-10
MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB2932	7.34	98.79	13.56	35.03	4.74	2.15	pCi/g
AAB2933	7.34	98.79	3.01	35.03	5.66	2.15	pCi/g
AAB2934	7.34	98.79	4.52	35.03	1.45	2.15	pCi/g
AAB2935	-7.34	98.79	-13.56	35.03	-2.07	2.15	pCi/g
AAB2936	-7.3	98.79	-6.03	35.03	-1.17	2.15	pCi/g
AAB2937	-7.34	98.79	0	35.03	-1.29	2.15	pCi/g
AAB2938	-7.34	98.79	6.03	35.03	0.71	2.15	pCi/g
AAB2939	-7.34	98.79	-10.55	35.03	0.43	2.15	pCi/g
AAB2940	-7.34	98.79	-3.01	35.03	0.59	2.15	pCi/g
AAB2941	-7.34	98.79	10.55	35.03	-3	2.15	pCi/g
AAB2942	14.67	98.79	0.75	35.03	4.81	2.15	pCi/g
AAB2943	29.35	138.2	8.29	35.03	8.82	2.15	pCi/g
AAB2944	14.67	98.79	36.91	49.66	9.97	2.15	pCi/g
AAB2945	0	98.79	11.3	35.03	10.52	2.15	pCi/g
AAB2946	0	98.79	15.82	35.03	9.24	2.15	pCi/g
AAB2947	0	98.79	8.29	35.03	1.15	2.15	pCi/g
AAB2949	-14.67	98.79	5.27	35.03	1.1	2.15	pCi/g
AAB2950	-14.67	98.79	-12.81	35.03	0.84	2.15	pCi/g
AAB2951	-14.67	98.79	-11.3	35.03	0.32	2.15	pCi/g
AAB2952	0	98.79	2.26	35.03	0.52	2.15	pCi/g
AAB2953	-14.67	98.79	-12.81	35.03	2.57	2.15	pCi/g
AAB2954	-14.67	98.79	-20.34	36.87	-2.06	2.15	pCi/g
AAB2955	-14.67	98.79	-3.77	35.03	6.3	2.15	pCi/g
AAB2956	-14.67	98.79	-14.31	35.03	8.32	2.15	pCi/g
AAB2957	-14.67	98.79	-2.26	35.03	9.1	2.15	pCi/g
AAB2958	-14.67	98.79	-3.77	35.03	8.26	2.15	pCi/g
AAB2959	-14.67	98.79	-6.78	35.03	8.77	2.15	pCi/g
AAB2960	0.2	2.02	0.15	4.86	-0.12	0.55	pCi/ml
AAB2961	0	2.02	-0.3	4.86	-0.03	0.55	pCi/ml
AAB2962	-14.67	98.79	-14.31	35.03	-0.39	2.15	pCi/g
AAB2963	0	98.79	-2.26	35.03	-4.63	2.15	pCi/g
AAB2964	0	98.79	-6.78	35.03	-3.48	2.15	pCi/g
AAB2965	0	98.79	0.75	35.03	-1.93	2.15	pCi/g
AAB2966	0	98.79	3.77	35.03	-1.43	2.15	pCi/g
AAB2967	0	98.79	-8.29	35.03	-0.73	2.15	pCi/g
AAB2968	0	98.79	-5.27	35.03	2.32	2.15	pCi/g
AAB2969	0	98.79	-5.27	35.03	-3.42	2.15	pCi/g
AAB2970	0	98.79	-8.29	35.03	-3.82	2.15	pCi/g
AAB2971	0	98.79	-6.78	35.03	-3.07	2.15	pCi/g
AAB2972	0	98.79	-0.75	35.03	3.78	2.15	pCi/g
AAB2973	0	98.79	-8.29	35.03	2.51	2.15	pCi/g
AAB2974	0	2.02	-0.3	4.86	-0.42	0.55	pCi/ml
AAB2975	0	2.02	-0.3	4.86	-0.1	0.55	pCi/ml
AAB2976	0	98.79	29.38	44.31	5.83	2.15	pCi/g
AAB2977	0	98.79	-9.79	35.03	2.62	2.15	pCi/g
AAB2978	0	98.79	-9.79	35.03	-1.73	2.15	pCi/g
AAB2979	0	98.79	2.26	35.03	0.05	2.15	pCi/g
AAB2980	0	98.79	3.77	35.03	1.71	2.15	pCi/g

Table 7-3
TA-10
MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB2981	0	98.79	3.77	35.03	0.94	2.15	pCi/g
AAB2982	0	98.79	0.75	35.03	0.39	2.15	pCi/g
AAB2983	0	98.79	-0.75	35.03	1.46	2.15	pCi/g
AAB2984	14.67	98.79	2.26	35.03	2.84	2.15	pCi/g
AAB2985	0	98.79	5.27	35.03	3.31	2.15	pCi/g
AAB2986	0	98.79	33.14	47.06	-0.04	2.15	pCi/g
AAB2987	0	98.79	4.52	35.03	10.3	2.15	pCi/g
AAB2988	0	98.79	9.04	35.03	3.6	2.15	pCi/g
AAB2989	0	98.79	15.07	35.03	7.73	2.15	pCi/g
AAB2990	0	98.79	-9.04	35.03	-0.29	2.15	pCi/g
AAB2991	0	98.79	4.52	35.03	-0.26	2.15	pCi/g
AAB2992	0	98.79	-4.52	35.03	3.16	2.15	pCi/g
AAB2993	0	98.79	-4.52	35.03	1.45	2.15	pCi/g
AAB2994	0	98.79	-9.04	35.03	1.6	2.15	pCi/g
AAB2995	0	98.79	-12.05	35.03	1.44	2.15	pCi/g
AAB2996	0	98.79	-7.53	35.03	2.99	2.15	pCi/g
AAB2997	0	98.79	-1.51	35.03	0.93	2.15	pCi/g
AAB2998	0	98.79	6.03	35.03	5.03	2.15	pCi/g
AAB2999	14.67	98.79	9.04	35.03	8.54	2.15	pCi/g
AAB3000	0	98.79	-12.05	35.03	7.9	2.15	pCi/g
AAB3001	0	98.79	7.53	35.03	7.65	2.15	pCi/g
AAB3002	0	98.79	-6.03	35.03	0.55	2.15	pCi/g
AAB3003	29.35	138.2	-1.51	35.03	1.76	2.15	pCi/g
AAB3004	0	98.79	2.26	35.03	-0.86	2.15	pCi/g
AAB3005	0	98.79	-9.79	35.03	-2.09	2.15	pCi/g
AAB3006	0	98.79	17.33	35.03	-0.8	2.15	pCi/g
AAB3007	0	98.79	-6.78	35.03	-2.66	2.15	pCi/g
AAB3008	14.67	98.79	4.52	35.03	1.99	2.15	pCi/g
AAB3009	0	98.79	0	35.03	1.06	2.15	pCi/g
AAB3010	14.67	98.79	-9.04	35.03	1.16	2.15	pCi/g
AAB3011	0	98.79	-3.01	35.03	6.65	2.15	pCi/g
AAB3012	0	98.79	1.51	35.03	9.34	2.15	pCi/g
AAB3013	0	2.02	0	4.86	-0.99	2.15	pCi/ml
AAB3014	0	98.79	1.51	35.03	11.5	2.15	pCi/g
AAB3015	0	2.02	0.45	4.86	-0.95	2.15	pCi/ml
AAB3016	0	98.79	-15.07	35.03	20.14	2.15	pCi/g
AAB3017	0	98.79	-16.57	35.03	15.26	2.15	pCi/g
AAB3018	0	98.79	-15.07	35.03	10.36	2.15	pCi/g
AAB3019	7.34	98.79	3.77	35.03	3.3	2.15	pCi/g
AAB3021	7.34	98.79	80.6	73.39	4.16	2.15	pCi/g
AAB3022	36.68	154.51	89.64	77.39	2.73	2.15	pCi/g
AAB3023	7.34	98.79	51.98	58.93	0.17	2.15	pCi/g
AAB3024	7.34	98.79	35.4	48.64	3.51	2.15	pCi/g
AAB3025	66.03	207.3	18.83	35.47	5.6	2.15	pCi/g
AAB3026	36.68	154.51	11.3	35.03	3.65	2.15	pCi/g
AAB3027	80.7	229.17	56.49	61.44	10.18	2.15	pCi/g
AAB3028	66.03	207.3	41.43	52.62	12.69	2.15	pCi/g
AAB3029	51.35	182.82	70.05	68.42	11.38	2.15	pCi/g

Table 7-3
TA-10
MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB3030	51.35	182.82	86.63	76.08	10.77	2.15	pCi/g
AAB3032	-7.34	98.79	50.47	58.07	3.8	2.15	pCi/g
AAB3033	36.68	154.51	-12.81	35.03	3.31	2.15	pCi/g
AAB3034	7.34	98.79	-9.79	35.03	0.72	2.15	pCi/g
AAB3035	7.34	98.79	3.77	35.03	2.15	2.15	pCi/g
AAB3036	7.34	98.79	-18.83	35.47	0.94	2.15	pCi/g
AAB3037	7.34	98.79	17.33	35.03	3.35	2.15	pCi/g
AAB3038	-7.34	98.79	-2.26	35.03	1.58	2.15	pCi/g
AAB3039	-7.34	98.79	-18.83	35.47	-0.25	2.15	pCi/g
AAB3040	-7.34	98.79	26.36	41.97	-1.49	2.15	pCi/g
AAB3041	22.01	119.68	2.26	35.03	6.07	2.15	pCi/g
AAB3042	7.34	98.79	-14.31	35.03	2.67	2.15	pCi/g
AAB3043	22.01	119.68	23.35	39.5	9.7	2.15	pCi/g
AAB3044	22.01	119.68	0.75	35.03	8.09	2.15	pCi/g
AAB3045	7.34	98.79	-15.82	35.03	-1.85	2.15	pCi/g
AAB3046	44.02	169.26	-5.27	35.03	2.86	2.15	pCi/g
AAB3047	14.67	98.79	-5.27	35.03	2.2	2.15	pCi/g
AAB3048	0	98.79	-5.27	35.03	3.05	2.15	pCi/g
AAB3049	-22.01	119.68	-9.04	35.03	2.74	2.15	pCi/g
AAB3050	-14.67	98.79	-29.38	44.31	2.71	2.15	pCi/g
AAB3051	-14.67	98.79	-21.84	38.21	1.89	2.15	pCi/g
AAB3052	0	98.79	-2.26	35.03	4.65	2.15	pCi/g
AAB3053	-0.61	2.35	-0.89	4.86	0.47	0.55	pCi/ml
AAB3054	-14.67	98.79	-30.88	45.43	7.13	2.15	pCi/g
AAB3055	0.2	2.02	-1.49	4.86	0.11	0.55	pCi/ml
AAB3056	44.02	169.26	-11.3	35.03	8.81	2.15	pCi/g
AAB3057	0	98.79	-20.34	36.87	6.14	2.15	pCi/g
AAB3058	44.02	169.26	18.83	35.47	9.7	2.15	pCi/g
AAB3059	14.67	98.79	29.38	44.31	8.22	2.15	pCi/g
AAB3060	29.35	138.2	21.84	38.21	6.68	2.15	pCi/g
AAB3061	14.67	98.79	38.42	50.67	8.86	2.15	pCi/g
AAB3062	0	98.79	7.53	35.03	2.2	2.15	pCi/g
AAB3063	0	98.79	-25.61	41.37	-0.4	2.15	pCi/g
AAB3064	-14.67	98.79	-25.61	41.37	1.5	2.15	pCi/g
AAB3065	0	98.79	-39.17	51.16	0.75	2.15	pCi/g
AAB3066	-14.67	98.79	-30.13	44.87	3.75	2.15	pCi/g
AAB3067	-14.67	98.79	-28.62	43.73	6.82	2.15	pCi/g
AAB3068	0	98.79	-0.75	35.03	5.51	2.15	pCi/g
AAB3069	-14.67	98.79	-29.38	44.31	8.38	2.15	pCi/g
AAB3070	44.02	169.26	12.81	35.03	9.96	2.15	pCi/g
AAB3071	14.67	98.79	-2.26	35.03	9.51	2.15	pCi/g
AAB3072	14.67	98.79	3.77	35.03	8.08	2.15	pCi/g
AAB3073	-14.67	98.79	-44.44	54.5	2.19	2.15	pCi/g
AAB3074	-14.67	98.79	-26.36	41.97	0.12	2.15	pCi/g
AAB3075	14.67	98.79	-9.79	35.03	-1.6	2.15	pCi/g
AAB3076	-14.67	98.79	-30.88	45.43	1.1	2.15	pCi/g
AAB3077	-14.67	98.79	-5.27	35.03	-2.16	2.15	pCi/g
AAB3078	-14.67	98.79	-9.79	35.03	0.85	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB3079	-29.35	138.2	-17.33	35.03	0.38	2.15	pCi/g
AAB3080	-29.35	138.2	-8.29	35.03	3.82	2.15	pCi/g
AAB3081	-29.35	138.2	-39.92	51.65	4.54	2.15	pCi/g
AAB3082	0	98.79	20.34	36.87	8.87	2.15	pCi/g
AAB3083	0	98.79	29.38	44.31	9.44	2.15	pCi/g
AAB3084	-14.67	98.79	-2.26	35.03	8.19	2.15	pCi/g
AAB3085	0	98.79	14.31	35.03	7.7	2.15	pCi/g
AAB3086	0	98.79	0.75	35.03	7.5	2.15	pCi/g
AAB3087	-7.34	98.79	-14.31	35.03	0.71	2.15	pCi/g
AAB3088	-7.34	98.79	-2.26	35.03	-0.08	2.15	pCi/g
AAB3089	7.34	98.79	-18.83	35.47	2.04	2.15	pCi/g
AAB3090	-22.01	119.68	-12.81	35.03	1.22	2.15	pCi/g
AAB3091	-7.34	98.79	-29.38	44.31	0.91	2.15	pCi/g
AAB3092	0.2	2.02	0.74	4.86	0.05	0.55	pCi/ml
AAB6121	-22.01	119.68	-6.03	35.03	-1.96	2.15	pCi/g
AAB6122	7.34	98.79	10.55	35.03	4.73	2.15	pCi/g
AAB6123	-7.34	98.79	15.07	35.03	4.84	2.15	pCi/g
AAB6124	7.34	98.79	13.56	35.03	5.77	2.15	pCi/g
AAB6125	0	98.79	-3.77	35.03	0.28	2.15	pCi/g
AAB6126	0	98.79	3.77	35.03	-0.07	2.15	pCi/g
AAB6127	0	98.79	5.27	35.03	-0.61	2.15	pCi/g
AAB6128	-7.34	98.79	3.01	35.03	-0.58	2.15	pCi/g
AAB6129	-7.34	98.79	24.1	40.13	0.22	2.15	pCi/g
AAB6130	-7.34	98.79	6.03	35.03	-0.79	2.15	pCi/g
AAB6131	-7.34	98.79	9.04	35.03	0.58	2.15	pCi/g
AAB6132	-7.34	98.79	-3.01	35.03	-1.84	2.15	pCi/g
AAB6133	22.01	119.68	12.05	35.03	-0.33	2.15	pCi/g
AAB6134	-7.34	98.79	7.53	35.03	1.72	2.15	pCi/g
AAB6135	-7.34	98.79	1.51	35.03	0.37	2.15	pCi/g
AAB6136	-7.34	98.79	3.01	35.03	-2.61	2.15	pCi/g
AAB6137	-7.34	98.79	-9.04	35.03	-2.2	2.15	pCi/g
AAB6138	-7.34	98.79	15.07	35.03	-2.4	2.15	pCi/g
AAB6139	-7.34	98.79	15.07	35.03	1.46	2.15	pCi/g
AAB6140	-7.34	98.79	16.57	35.03	6.31	2.15	pCi/g
AAB6141	0	2.02	-1.04	4.86	4.9	2.15	pCi/g
AAB6142	7.34	98.79	9.04	35.03	0.06	0.55	pCi/ml
AAB6143	0	2.02	-0.3	4.86	-0.63	2.15	pCi/g
AAB6144	0	98.79	-2.26	35.03	0.26	0.55	pCi/ml
AAB6145	7.34	98.79	-5.27	35.03	-0.53	2.15	pCi/g
AAB6146	-7.34	98.79	-2.26	35.03	0.43	2.15	pCi/g
AAB6147	-0.41	2.02	-1.19	4.86	2.81	2.15	pCi/g
AAB6148	0.2	2.02	4728.43	176.77	0	0.55	pCi/ml
AAB6149	-7.34	98.79	-5.27	35.03	-0.09	0.55	pCi/ml
AAB6150	-22.01	119.68	-9.79	35.03	9.51	2.15	pCi/g
AAB6151	-22.01	119.68	-2.26	35.03	8.25	2.15	pCi/g
AAB6152	-7.34	98.79	-6.78	35.03	7.55	2.15	pCi/g
AAB6153	-7.34	98.79	-0.75	35.03	13.13	2.15	pCi/g
AAB6154	-22.01	119.68	-0.75	35.03	12.8	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6155	-7.34	98.79	8.29	35.03	11.16	2.15	pCi/g
AAB6156	-22.01	119.68	-15.82	35.03	12.18	2.15	pCi/g
AAB6157	7.34	98.79	2.26	35.03	-0.9	2.15	pCi/g
AAB6158	-7.34	98.79	0.75	35.03	4.89	2.15	pCi/g
AAB6159	-7.34	98.79	-18.83	35.47	4.07	2.15	pCi/g
AAB6160	-7.34	98.79	-14.31	35.03	4.96	2.15	pCi/g
AAB6161	-22.01	119.68	-9.79	35.03	2.96	2.15	pCi/g
AAB6162	7.34	98.79	-11.3	35.03	0.43	2.15	pCi/g
AAB6163	-7.34	98.79	2.26	35.03	4.52	2.15	pCi/g
AAB6164	-7.34	98.79	-9.79	35.03	8.02	2.15	pCi/g
AAB6165	-7.34	98.79	12.81	35.03	10.14	2.15	pCi/g
AAB6166	-7.34	98.79	-12.81	35.03	9.29	2.15	pCi/g
AAB6167	-22.01	119.68	3.77	35.03	9.45	2.15	pCi/g
AAB6168	-7.34	98.79	-26.36	41.97	7.83	2.15	pCi/g
AAB6169	7.34	98.79	-11.3	35.03	3.23	2.15	pCi/g
AAB6170	-7.34	98.79	-27.87	43.16	2.96	2.15	pCi/g
AAB6171	-7.34	98.79	-18.83	35.47	3.82	2.15	pCi/g
AAB6172	-7.34	98.79	-15.82	35.03	3.25	2.15	pCi/g
AAB6173	7.34	98.79	-17.33	35.03	2.8	2.15	pCi/g
AAB6174	-7.34	98.79	-14.31	35.03	3.74	2.15	pCi/g
AAB6175	-7.34	98.79	-24.86	40.76	4.68	2.15	pCi/g
AAB6176	7.34	98.79	-18.83	35.47	7.61	2.15	pCi/g
AAB6177	-7.34	98.79	-3.77	35.03	10.2	2.15	pCi/g
AAB6178	-7.34	98.79	6.78	35.03	11.16	2.15	pCi/g
AAB6179	-7.34	98.79	0.75	35.03	10.71	2.15	pCi/g
AAB6180	7.34	98.79	-9.79	35.03	11.34	2.15	pCi/g
AAB6181	0	98.79	-8.29	35.03	2.72	2.15	pCi/g
AAB6182	0	98.79	-5.27	35.03	-5.05	2.15	pCi/g
AAB6183	0	98.79	-8.29	35.03	-0.7	2.15	pCi/g
AAB6184	0	98.79	-5.27	35.03	-1.53	2.15	pCi/g
AAB6185	0	98.79	-6.78	35.03	-3.8	2.15	pCi/g
AAB6186	14.67	98.79	0.75	35.03	-6.96	2.15	pCi/g
AAB6187	0	98.79	-8.29	35.03	-2.88	2.15	pCi/g
AAB6188	0	98.79	-6.78	35.03	-1.78	2.15	pCi/g
AAB6189	0	2.02	-0.3	4.86	3.44	2.15	pCi/g
AAB6190	0	2.02	-0.3	4.86	0.1	0.55	pCi/ml
AAB6191	0	98.79	2.26	35.03	0.12	0.55	pCi/ml
AAB6192	0	98.79	5.27	35.03	6.4	2.15	pCi/g
AAB6193	14.67	98.79	5.27	35.03	3.4	2.15	pCi/g
AAB6194	0	98.79	-3.77	35.03	2.3	2.15	pCi/g
AAB6195	0	98.79	14.31	35.03	6.65	2.15	pCi/g
AAB6196	0	98.79	2.26	35.03	6.05	2.15	pCi/g
AAB6197	0	98.79	-8.29	35.03	3.43	2.15	pCi/g
AAB6198	0	98.79	8.29	35.03	-5.83	2.15	pCi/g
AAB6199	0	98.79	-0.75	35.03	-2.48	2.15	pCi/g
AAB6200	0	98.79	-2.26	35.03	-4.09	2.15	pCi/g
AAB6201	0	98.79	-2.26	35.03	-2.4	2.15	pCi/g
AAB6202	0	98.79	-5.27	35.03	-5.59	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6203	0	98.79	11.3	35.03	-5.25	2.15	pCi/g
AAB6204	0	98.79	-9.79	35.03	-2.34	2.15	pCi/g
AAB6205	0	2.02	-0.3	4.86	-6.32	2.15	pCi/g
AAB6206	0	2.02	-0.3	4.86	-0.07	0.55	pCi/ml
AAB6207	0	98.79	-5.27	35.03	-0.02	0.55	pCi/ml
AAB6209	0	98.79	2.26	35.03	-0.72	2.15	pCi/g
AAB6210	0	98.79	-2.26	35.03	5.11	2.15	pCi/g
AAB6211	0	98.79	29.38	44.31	2.42	2.15	pCi/g
AAB6212	0	98.79	0.75	35.03	3.81	2.15	pCi/g
AAB6213	0	98.79	-8.29	35.03	4.69	2.15	pCi/g
AAB6214	-7.34	98.79	2.26	35.03	2.59	2.15	pCi/g
AAB6215	-7.34	98.79	15.82	35.03	4.42	2.15	pCi/g
AAB6216	-7.34	98.79	3.77	35.03	3.7	2.15	pCi/g
AAB6217	-7.34	98.79	2.26	35.03	1.57	2.15	pCi/g
AAB6218	-7.34	98.79	2.26	35.03	0.83	2.15	pCi/g
AAB6219	22.01	119.68	6.78	35.03	1.18	2.15	pCi/g
AAB6220	-7.34	98.79	8.29	35.03	1.54	2.15	pCi/g
AAB6221	-7.34	98.79	2.26	35.03	4.3	2.15	pCi/g
AAB6222	-7.34	98.79	6.78	35.03	2.73	2.15	pCi/g
AAB6223	36.68	154.51	9.79	35.03	7.12	2.15	pCi/g
AAB6224	7.34	98.79	11.3	35.03	11.39	2.15	pCi/g
AAB6225	-7.34	98.79	9.79	35.03	11.04	2.15	pCi/g
AAB6226	7.34	98.79	12.81	35.03	11.21	2.15	pCi/g
AAB6227	22.01	119.68	5.27	35.03	10.63	2.15	pCi/g
AAB6228	0	98.79	-6.03	35.03	1	2.15	pCi/g
AAB6229	0	98.79	9.04	35.03	22.53	2.15	pCi/g
AAB6230	29.35	138.2	12.05	35.03	19.97	2.15	pCi/g
AAB6231	14.67	98.79	1.51	35.03	-3.54	2.15	pCi/g
AAB6232	0	98.79	6.03	35.03	-2.46	2.15	pCi/g
AAB6233	14.67	98.79	-1.51	35.03	16.94	2.15	pCi/g
AAB6234	0	98.79	-6.03	35.03	16.25	2.15	pCi/g
AAB6235	0	98.79	-4.52	35.03	12.6	2.15	pCi/g
AAB6236	0	98.79	-6.03	35.03	13.88	2.15	pCi/g
AAB6237	0	98.79	10.55	35.03	16.83	2.15	pCi/g
AAB6238	14.67	98.79	1.51	35.03	14.05	2.15	pCi/g
AAB6239	0.41	2.02	27.26	13.42	-0.15	0.55	pCi/ml
AAB6240	0	2.02	-0.3	4.86	-0.13	0.55	pCi/ml
AAB6241	0	98.79	6.03	35.03	5.33	2.15	pCi/g
AAB6242	14.67	98.79	0	35.03	12.79	2.15	pCi/g
AAB6243	0	98.79	4.52	35.03	5.34	2.15	pCi/g
AAB6244	0	98.79	-9.04	35.03	12.29	2.15	pCi/g
AAB6245	0	98.79	-6.03	35.03	2.64	2.15	pCi/g
AAB6246	0	98.79	0	35.03	4.25	2.15	pCi/g
AAB6247	0	98.79	-3.01	35.03	3.22	2.15	pCi/g
AAB6248	0	98.79	-18.08	35.03	4.48	2.15	pCi/g
AAB6249	0	98.79	-12.05	35.03	4.28	2.15	pCi/g
AAB6250	0	98.79	-10.55	35.03	7.61	2.15	pCi/g
AAB6251	0	98.79	-10.55	35.03	12.23	2.15	pCi/g

Table 7-3
TA-10
MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6252	0	98.79	-7.53	35.03	9.86	2.15	pCi/g
AAB6253	0	98.79	-3.01	35.03	17.44	2.15	pCi/g
AAB6254	0	98.79	-10.55	35.03	20.47	2.15	pCi/g
AAB6255	0	98.79	-13.56	35.03	18.02	2.15	pCi/g
AAB6256	0	98.79	0	35.03	16.37	2.15	pCi/g
AAB6257	0	98.79	-15.07	35.03	19.8	2.15	pCi/g
AAB6258	-7.34	98.79	-3.77	35.03	-1.31	2.15	pCi/g
AAB6259	7.34	97.79	-8.29	35.03	-1.19	2.15	pCi/g
AAB6260	22.01	119.68	6.78	35.03	-0.49	2.15	pCi/g
AAB6261	7.34	98.79	-21.84	38.21	-0.27	2.15	pCi/g
AAB6262	-7.34	98.79	-17.33	35.03	1.17	2.15	pCi/g
AAB6263	-7.34	98.79	-8.29	35.03	1.11	2.15	pCi/g
AAB6264	36.68	154.51	23.35	39.5	15.07	2.15	pCi/g
AAB6265	-7.34	98.79	-2.26	35.03	1.74	2.15	pCi/g
AAB6266	22.01	119.68	-14.31	35.03	1.34	2.15	pCi/g
AAB6267	22.01	119.68	17.33	35.03	7.53	2.15	pCi/g
AAB6268	36.68	154.51	-6.78	35.03	30.91	2.15	pCi/g
AAB6269	66.03	207.3	11.3	35.03	8.01	2.15	pCi/g
AAB6270	-7.34	98.79	9.79	35.03	29.56	2.15	pCi/g
AAB6271	7.34	98.79	29.38	44.31	24.66	2.15	pCi/g
AAB6272	7.34	98.79	-4.52	35.03	27.02	2.15	pCi/g
AAB6273	7.34	97.79	-11.3	35.03	1.53	2.15	pCi/g
AAB6274	-7.34	98.79	5.27	35.03	-0.47	2.15	pCi/g
AAB6275	22.01	119.68	-8.29	35.03	-3.95	2.15	pCi/g
AAB6276	-22.01	119.68	-28.62	43.73	-1.68	2.15	pCi/g
AAB6277	7.34	98.79	-12.05	35.03	-0.47	2.15	pCi/g
AAB6278	-0.2	2.02	-0.45	4.86	0.03	0.55	pCi/ml
AAB6279	-0.61	2.35	0.74	4.86	0.37	0.55	pCi/ml
AAB6280	7.34	98.79	-18.08	35.03	-2.22	2.15	pCi/g
AAB6281	-7.34	98.79	-20.34	36.87	26.51	2.15	pCi/g
AAB6282	-0.41	2.02	0.15	4.86	0.52	0.55	pCi/ml
AAB6283	-0.81	2.71	0.15	4.86	0.42	0.55	pCi/ml
AAB6284	22.01	119.68	4.52	35.03	3.55	2.15	pCi/g
AAB6285	7.34	98.79	1.51	35.03	8.47	2.15	pCi/g
AAB6286	66.03	207.3	12.05	35.03	-6.74	2.15	pCi/g
AAB6287	7.34	98.79	-12.81	35.03	8.73	2.15	pCi/g
AAB6288	7.34	98.79	15.82	35.03	33.12	2.15	pCi/g
AAB6289	7.34	98.79	-15.82	35.03	37.68	2.15	pCi/g
AAB6291	-14.67	98.79	27.87	43.16	9.99	2.15	pCi/g
AAB6292	0	98.79	26.36	41.97	2.27	2.15	pCi/g
AAB6293	-14.67	98.79	-3.01	35.03	-19.25	3.28	pCi/g
AAB6294	-14.67	98.79	-15.07	35.03	-31.82	4.21	pCi/g
AAB6295	-14.67	98.79	-13.56	35.03	-36.41	5.68	pCi/g
AAB6296	-14.67	98.79	88.88	77.07	-39.42	6.71	pCi/g
AAB6297	44.02	169.26	6809.49	674.56	132.23	3.38	pCi/g
AAB6298	0	98.79	726.14	220.28	41.3	2.15	pCi/g
AAB6299	0	98.79	1520.08	318.71	49.05	2.15	pCi/g
AAB6300	0	98.79	-24.1	40.13	-0.13	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6301	0	98.79	9.04	35.03	2.9	2.15	pCi/g
AAB6302	-14.67	98.79	-12.05	35.03	3.86	2.15	pCi/g
AAB6303	0	98.79	1.51	35.03	9.84	2.15	pCi/g
AAB6304	14.67	98.79	16.57	35.03	11.04	2.15	pCi/g
AAB6305	0	98.79	3.01	35.03	9.06	2.15	pCi/g
AAB6306	29.35	138.2	27.12	42.57	10.47	2.15	pCi/g
AAB6307	44.02	169.26	3156.17	459.24	74.6	2.54	pCi/g
AAB6308	0	98.79	5.27	35.03	-0.32	2.15	pCi/g
AAB6309	-14.67	98.79	6.78	35.03	-0.57	2.15	pCi/g
AAB6310	-29.35	138.2	-11.3	35.03	0.85	2.15	pCi/g
AAB6311	-29.35	138.2	-39.92	51.65	0.43	2.15	pCi/g
AAB6312	7.34	98.79	-24.86	40.76	-0.83	2.15	pCi/g
AAB6313	-22.01	119.68	-42.94	53.56	1.63	2.15	pCi/g
AAB6314	-7.34	98.79	2.26	35.03	3.33	2.15	pCi/g
AAB6316	22.01	119.68	-3.77	35.03	8.5	2.15	pCi/g
AAB6317	-22.01	119.68	-8.29	35.03	6.32	2.15	pCi/g
AAB6318	-7.34	98.79	-8.29	35.03	8.2	2.15	pCi/g
AAB6319	7.34	98.79	6.78	35.03	10.09	2.15	pCi/g
AAB6320	-7.34	98.79	12.81	35.03	6.9	2.15	pCi/g
AAB6321	-58.69	195.44	-4.52	35.03	-0.74	2.15	pCi/g
AAB6322	-29.35	138.2	0	35.03	-1.51	2.15	pCi/g
AAB6323	-58.69	195.44	25.61	41.37	1.74	2.15	pCi/g
AAB6324	-44.02	169.26	15.07	35.03	1.43	2.15	pCi/g
AAB6325	-14.67	98.79	10.55	35.03	3.41	2.15	pCi/g
AAB6326	-29.35	138.2	12.05	35.03	3.39	2.15	pCi/g
AAB6327	-0.2	2.02	1.04	4.86	-0.92	0.55	pCi/ml
AAB6328	-0.2	2.02	0.45	4.86	-0.59	0.55	pCi/ml
AAB6329	0	98.79	21.09	37.54	4.56	2.15	pCi/g
AAB6330	-29.35	138.2	7.53	35.03	-1.12	2.15	pCi/g
AAB6331	-29.35	138.2	21.09	37.54	4.91	2.15	pCi/g
AAB6332	29.35	138.2	49.72	57.64	11.48	2.15	pCi/g
AAB6333	44.02	169.26	55.74	61.03	11.36	2.15	pCi/g
AAB6334	-29.35	138.2	39.17	51.16	11.69	2.15	pCi/g
AAB6335	14.67	98.79	55.74	61.03	6.02	2.15	pCi/g
AAB6336	-58.69	195.44	-7.53	35.03	-1.87	2.15	pCi/g
AAB6337	-14.67	98.79	116	88.04	6.44	2.15	pCi/g
AAB6338	-14.67	98.79	-1.51	35.03	0.71	2.15	pCi/g
AAB6339	0	98.79	185.3	111.28	9.88	2.15	pCi/g
AAB6340	14.67	98.79	69.3	68.05	3.29	2.15	pCi/g
AAB6341	-14.67	98.79	-18.08	35.03	3.13	2.15	pCi/g
AAB6342	0	98.79	0	35.03	5.04	2.15	pCi/g
AAB6343	-14.67	98.79	-27.12	42.57	3.89	2.15	pCi/g
AAB6344	-14.67	98.79	-21.09	37.54	11.11	2.15	pCi/g
AAB6345	-14.67	98.79	-24.1	40.13	12.38	2.15	pCi/g
AAB6346	14.67	98.79	7.53	35.03	11.31	2.15	pCi/g
AAB6347	14.67	98.79	9.04	35.03	12.36	2.15	pCi/g
AAB6348	29.35	138.2	-13.56	35.03	9.89	2.15	pCi/g
AAB6349	-14.67	98.79	673.42	212.13	16.03	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6350	44.02	169.26	9.04	35.03	1.61	2.15	pCi/g
AAB6351	14.67	98.79	24.1	40.13	-0.98	2.15	pCi/g
AAB6352	29.35	138.2	13.56	35.03	-0.95	2.15	pCi/g
AAB6353	0	98.79	24.1	40.13	1.41	2.15	pCi/g
AAB6354	0.2	2.02	-0.89	4.86	0.23	0.55	pCi/ml
AAB6355	0	2.02	-1.49	4.86	0.54	0.55	pCi/ml
AAB6356	14.67	98.79	-7.53	35.03	-0.4	2.15	pCi/g
AAB6357	29.35	138.2	18.08	35.03	0.92	2.15	pCi/g
AAB6358	29.35	138.2	13.56	35.03	0.81	2.15	pCi/g
AAB6359	117.38	276.39	43.69	54.03	5.64	2.15	pCi/g
AAB6360	58.69	195.44	49.72	57.64	8.61	2.15	pCi/g
AAB6361	44.02	169.26	72.31	69.51	8.5	2.15	pCi/g
AAB6362	44.02	169.26	64.78	65.79	7.16	2.15	pCi/g
AAB6363	36.68	154.51	18.08	35.03	3.84	2.15	pCi/g
AAB6364	22.01	119.68	25.61	41.37	4.36	2.15	pCi/g
AAB6365	22.01	119.68	36.16	49.15	4.34	2.15	pCi/g
AAB6366	51.35	182.82	0	35.03	2.29	2.15	pCi/g
AAB6367	-0.41	2.02	0.45	4.86	-0.27	0.55	pCi/ml
AAB6368	-0.41	2.02	-4.32	5.34	-0.3	0.55	pCi/ml
AAB6369	7.34	98.79	12.05	35.03	2.47	2.15	pCi/g
AAB6370	7.34	98.79	6.03	35.03	1.48	2.15	pCi/g
AAB6371	80.7	229.17	28.62	43.73	4.77	2.15	pCi/g
AAB6372	22.01	119.68	19.58	36.18	5.65	2.15	pCi/g
AAB6373	36.68	154.51	16.57	35.03	4.01	2.15	pCi/g
AAB6374	66.03	207.3	48.21	56.76	8.11	2.15	pCi/g
AAB6375	110.04	267.62	57.25	61.85	9.44	2.15	pCi/g
AAB6376	51.35	182.82	22.6	38.86	8.04	2.15	pCi/g
AAB6377	7.34	98.79	9.04	35.03	8.81	2.15	pCi/g
AAB6378	51.35	182.82	25.61	41.37	11.12	2.15	pCi/g
AAB6379	29.35	138.2	0.75	35.03	4.34	2.15	pCi/g
AAB6380	29.35	138.2	61.01	63.85	2.36	2.15	pCi/g
AAB6381	14.67	98.79	11.3	35.03	1.37	2.15	pCi/g
AAB6382	14.67	98.79	26.36	41.97	1.02	2.15	pCi/g
AAB6383	14.67	98.79	38.42	50.67	1.79	2.15	pCi/g
AAB6384	-29.35	138.2	32.39	46.52	4.35	2.15	pCi/g
AAB6385	29.35	138.2	11.3	35.03	2.6	2.15	pCi/g
AAB6386	14.67	98.79	24.86	40.76	4.12	2.15	pCi/g
AAB6387	-14.67	98.79	14.31	35.03	4.49	2.15	pCi/g
AAB6388	0	98.79	30.88	45.43	11.04	2.15	pCi/g
AAB6389	14.67	98.79	26.36	41.97	11.82	2.15	pCi/g
AAB6390	0	98.79	18.83	35.47	13.15	2.15	pCi/g
AAB6391	14.67	98.79	-5.27	35.03	2.07	2.15	pCi/g
AAB6392	14.67	98.79	3.77	35.03	3.63	2.15	pCi/g
AAB6393	0	98.79	-11.3	35.03	0.56	2.15	pCi/g
AAB6394	29.35	138.2	-23.35	39.5	-0.13	2.15	pCi/g
AAB6395	14.67	98.79	-9.79	35.03	2.94	2.15	pCi/g
AAB6396	14.67	98.79	14.31	35.03	2.59	2.15	pCi/g
AAB6397	29.35	138.2	113.74	87.18	4.26	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6398	29.35	138.2	9.79	35.03	2.87	2.15	pCi/g
AAB6399	58.69	195.44	18.83	35.47	4.61	2.15	pCi/g
AAB6400	0	98.79	-18.83	35.47	7.84	2.15	pCi/g
AAB6401	14.67	98.79	9.79	35.03	7.52	2.15	pCi/g
AAB6402	0	98.79	23.35	39.5	10.53	2.15	pCi/g
AAB6403	73.36	216.51	12.81	35.03	10.18	2.15	pCi/g
AAB6404	14.67	98.79	18.83	35.47	9.6	2.15	pCi/g
AAB6405	58.69	195.44	18.08	35.03	4.8	2.15	pCi/g
AAB6406	14.67	98.79	-3.01	35.03	0.31	2.15	pCi/g
AAB6407	-14.67	98.79	314.86	145.05	9.74	2.15	pCi/g
AAB6408	0	98.79	438.4	171.16	16.34	2.15	pCi/g
AAB6409	29.35	138.2	183.8	110.82	7.94	2.15	pCi/g
AAB6410	58.69	195.44	216.94	120.4	6.91	2.15	pCi/g
AAB6411	14.67	98.79	260.63	131.97	7.24	2.15	pCi/g
AAB6412	14.67	98.79	2056.4	370.69	32.6	2.15	pCi/g
AAB6413	0	2.02	0.15	4.86	0.02	0.55	pCi/ml
AAB6414	-22.01	119.68	-42.94	53.56	0.65	2.15	pCi/g
AAB6417	-22.01	119.68	-26.36	41.97	6.03	2.15	pCi/g
AAB6418	22.01	119.68	-0.75	35.03	10.01	2.15	pCi/g
AAB6419	-7.34	98.79	-14.31	35.03	7.36	2.15	pCi/g
AAB6420	-7.34	98.79	-15.82	35.03	5.23	2.15	pCi/g
AAB6421	7.34	98.79	-7.53	35.03	9.52	2.15	pCi/g
AAB6422	7.34	98.79	-19.58	36.18	9.7	2.15	pCi/g
AAB6423	-7.34	98.79	-24.1	40.13	2.24	2.15	pCi/g
AAB6424	-7.34	98.79	-37.66	50.17	0.29	2.15	pCi/g
AAB6425	51.35	182.82	3.01	35.03	0.39	2.15	pCi/g
AAB6426	7.34	98.79	-3.01	35.03	3.24	2.15	pCi/g
AAB6427	7.34	98.79	-15.07	35.03	1.97	2.15	pCi/g
AAB6428	7.34	98.79	-21.09	37.54	2.64	2.15	pCi/g
AAB6429	7.34	98.79	-19.58	36.18	10.91	2.15	pCi/g
AAB6430	51.35	182.82	13.56	35.03	10.3	2.15	pCi/g
AAB6431	22.01	119.68	-3.01	35.03	10.94	2.15	pCi/g
AAB6432	22.01	119.68	24.1	40.13	6.3	2.15	pCi/g
AAB6433	66.03	207.3	1.51	35.03	8.61	2.15	pCi/g
AAB6434	22.01	119.68	48.21	56.76	1.94	2.15	pCi/g
AAB6435	-14.67	98.79	12.05	35.03	3.12	2.15	pCi/g
AAB6436	-58.69	195.44	7.53	35.03	2.45	2.15	pCi/g
AAB6437	-58.69	195.44	15.07	35.03	2.18	2.15	pCi/g
AAB6438	-14.67	98.79	-9.04	35.03	1.42	2.15	pCi/g
AAB6439	22.01	119.68	-15.07	35.03	5.13	2.15	pCi/g
AAB6440	0	98.79	42.18	53.09	7.55	2.15	pCi/g
AAB6441	0	98.79	24.1	40.13	6.99	2.15	pCi/g
AAB6442	14.67	98.79	22.6	38.86	6.26	2.15	pCi/g
AAB6443	29.35	138.2	75.33	70.95	5.34	2.15	pCi/g
AAB6444	-7.34	98.79	18.08	35.03	8.15	2.15	pCi/g
AAB6445	51.35	182.82	25.61	41.37	7.21	2.15	pCi/g
AAB6446	51.35	182.82	30.13	44.87	9.34	2.15	pCi/g
AAB6447	-7.34	98.79	-19.58	36.18	-1.4	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6448	-22.01	119.68	10.55	35.03	-1.63	2.15	pCi/g
AAB6449	-7.34	98.79	-4.52	35.03	-0.75	2.15	pCi/g
AAB6450	36.68	154.51	-9.04	35.03	-3.52	2.15	pCi/g
AAB6451	0	98.79	21.84	38.21	1.86	2.15	pCi/g
AAB6452	-0.61	2.35	-0.74	4.86	-0.43	0.55	pCi/ml
AAB6453	-0.41	2.02	0	4.86	-0.2	0.55	pCi/ml
AAB6454	102.71	258.54	11.3	35.03	6.88	2.15	pCi/g
AAB6455	73.36	218.51	29.38	44.31	8.1	2.15	pCi/g
AAB6456	29.35	138.2	27.87	43.16	11.6	2.15	pCi/g
AAB6457	58.69	195.44	30.88	45.43	10.72	2.15	pCi/g
AAB6458	73.36	218.51	12.81	35.03	9.89	2.15	pCi/g
AAB6458D	14.67	98.79	27.87	43.16	6.99	2.15	pCi/g
AAB6459	14.67	98.79	27.87	43.16	9.04	2.15	pCi/g
AAB6460	88.04	239.36	41.43	52.62	9.21	2.15	pCi/g
AAB6461	-14.67	98.79	-9.04	35.03	0.96	2.15	pCi/g
AAB6462	0	98.79	-27.12	42.57	2.15	2.15	pCi/g
AAB6463	29.35	138.2	-18.08	35.03	0.01	2.15	pCi/g
AAB6464	0	98.79	-28.62	43.73	2.85	2.15	pCi/g
AAB6465	14.67	98.79	0	35.03	-1.8	2.15	pCi/g
AAB6466	0	98.79	-4.52	35.03	4.04	2.15	pCi/g
AAB6467	0	98.79	-30.13	44.87	1.97	2.15	pCi/g
AAB6468	0	98.79	-45.2	54.96	5.33	2.15	pCi/g
AAB6469	14.67	98.79	-12.05	35.03	9.94	2.15	pCi/g
AAB6470	-14.67	98.79	-1.51	35.03	9.34	2.15	pCi/g
AAB6471	0	98.79	-25.61	41.37	7.81	2.15	pCi/g
AAB6472	14.67	98.79	-19.58	36.18	-0.04	2.15	pCi/g
AAB6473	-7.34	98.79	-14.31	35.03	2.28	2.15	pCi/g
AAB6474	36.68	154.51	6.78	35.03	3.02	2.15	pCi/g
AAB6475	7.34	98.79	-14.31	35.03	1.09	2.15	pCi/g
AAB6476	36.68	154.51	6.78	35.03	4.68	2.15	pCi/g
AAB6477	66.03	207.3	18.83	35.47	2.38	2.15	pCi/g
AAB6478	22.01	119.68	8.29	35.03	4.98	2.15	pCi/g
AAB6479	36.68	154.51	15.82	35.03	8.66	2.15	pCi/g
AAB6480	36.68	154.51	18.83	35.47	12.6	2.15	pCi/g
AAB6481	80.7	229.17	86.63	76.08	10.22	2.15	pCi/g
AAB6482	51.35	182.82	77.59	72	8.15	2.15	pCi/g
AAB6483	36.68	154.51	14.31	35.03	7.28	2.15	pCi/g
AAB6484	7.3	98.79	59.51	63.06	3.86	2.15	pCi/g
AAB6485	29.35	138.2	8.29	35.03	-0.79	2.15	pCi/g
AAB6486	-14.67	98.79	14.31	35.03	-0.27	2.15	pCi/g
AAB6487	-14.67	98.79	17.33	35.03	-2.33	2.15	pCi/g
AAB6488	14.67	98.79	6.78	35.03	0.55	2.15	pCi/g
AAB6489	-14.67	98.79	14.31	35.03	1.94	2.15	pCi/g
AAB6490	44.02	169.26	23.35	39.5	1.04	2.15	pCi/g
AAB6491	-29.35	138.2	-32.39	46.52	0.43	2.15	pCi/g
AAB6492	73.36	218.51	17.33	35.03	6.96	2.15	pCi/g
AAB6493	0	2.02	-1.49	4.86	-0.29	0.55	pCi/ml
AAB6494	0.2	2.02	0.6	4.86	-0.74	0.55	pCi/ml

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6495	44.02	169.26	47.46	56.31	7.41	2.15	pCi/g
AAB6496	44.02	169.26	71.56	69.15	9.13	2.15	pCi/g
AAB6497	14.67	98.79	62.52	64.64	9.37	2.15	pCi/g
AAB6498	0	98.79	41.43	52.62	5.02	2.15	pCi/g
AAB6499	14.67	98.79	59.51	63.06	6.17	2.15	pCi/g
AAB6500	29.35	138.2	36.91	49.66	6.23	2.15	pCi/g
AAB6501	-14.67	98.79	11.3	35.03	1.65	2.15	pCi/g
AAB6502	29.35	138.2	17.33	35.03	2.29	2.15	pCi/g
AAB6503	73.36	218.51	3.77	35.03	2.31	2.15	pCi/g
AAB6504	-29.35	138.2	-14.31	35.03	3.02	2.15	pCi/g
AAB6505	0	98.79	-9.79	35.03	1.69	2.15	pCi/g
AAB6506	29.35	138.2	8.29	35.03	4.5	2.15	pCi/g
AAB6507	29.35	138.2	-12.81	35.03	1.36	2.15	pCi/g
AAB6508	-14.67	98.79	20.34	36.87	3.78	2.15	pCi/g
AAB6509	-29.35	138.2	30.88	45.43	1.97	2.15	pCi/g
AAB6510	-29.35	138.2	51.98	58.93	5.25	2.15	pCi/g
AAB6511	-14.67	98.79	23.35	39.5	3.29	2.15	pCi/g
AAB6512	0	98.79	15.82	35.03	-2	2.15	pCi/g
AAB6513	-29.35	138.2	3.77	35.03	0.81	2.15	pCi/g
AAB6516	-29.35	138.2	-5.27	35.03	0.18	2.15	pCi/g
AAB6517	14.67	98.79	21.84	38.21	2.24	2.15	pCi/g
AAB6518	-14.67	98.79	20.34	36.87	-0.03	2.15	pCi/g
AAB6519	14.67	98.79	36.91	49.66	0.41	2.15	pCi/g
AAB6520	0	98.79	-8.29	35.03	1.33	2.15	pCi/g
AAB6521	-14.67	98.79	11.3	35.03	1.93	2.15	pCi/g
AAB6522	0	98.79	12.81	35.03	3.06	2.15	pCi/g
AAB6523	0	98.79	9.79	35.03	2.55	2.15	pCi/g
AAB6524	0	98.79	-0.75	35.03	3.93	2.15	pCi/g
AAB6525	-14.67	98.79	12.81	35.03	0.38	2.15	pCi/g
AAB6526	14.67	98.79	-4.52	35.03	4.12	2.15	pCi/g
AAB6527	29.35	138.2	-22.6	38.86	3.36	2.15	pCi/g
AAB6528	0	98.79	15.07	35.03	4.6	2.15	pCi/g
AAB6529	14.67	98.79	4.52	35.03	4.46	2.15	pCi/g
AAB6530	14.67	98.79	7.53	35.03	4.85	2.15	pCi/g
AAB6531	-14.67	98.79	-21.09	37.54	3.62	2.15	pCi/g
AAB6532	-14.67	98.79	-10.55	35.03	2.25	2.15	pCi/g
AAB6533	29.35	138.2	12.05	35.03	4.3	2.15	pCi/g
AAB6534	0	98.79	9.04	35.03	4.19	2.15	pCi/g
AAB6535	29.35	138.2	9.04	35.03	2.81	2.15	pCi/g
AAB6536	44.02	169.26	28.62	43.73	1.51	2.15	pCi/g
AAB6537	22.01	119.68	-6.78	35.03	3.43	2.15	pCi/g
AAB6538	-0.41	2.02	-2.23	4.86	-0.64	0.55	pCi/ml
AAB6539	0.2	2.02	-1.79	4.86	-0.62	0.55	pCi/ml
AAB6540	22.01	119.68	24.86	40.76	8.52	2.15	pCi/g
AAB6541	7.34	98.79	26.36	41.97	7.63	2.15	pCi/g
AAB6542	-0.41	2.02	-2.38	4.86	-0.72	0.55	pCi/ml
AAB6543	0.2	2.02	0.74	4.86	-0.9	0.55	pCi/ml
AAB6544	66.03	207.3	9.79	35.03	8.07	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6545	7.34	98.79	9.79	35.03	8.81	2.15	pCi/g
AAB6546	36.68	154.51	21.84	38.21	8.14	2.15	pCi/g
AAB6547	51.35	182.82	36.91	49.66	7.91	2.15	pCi/g
AAB6548	7.34	98.79	24.86	40.76	8.63	2.15	pCi/g
AAB6549	51.35	182.82	11.3	35.03	6.13	2.15	pCi/g
AAB6550	22.01	119.68	45.95	55.41	10.19	2.15	pCi/g
AAB6551	22.01	119.68	29.38	44.31	5.24	2.15	pCi/g
AAB6552	-66.03	207.3	6.03	35.03	1.5	2.15	pCi/g
AAB6553	-36.68	154.51	-22.6	38.86	3.23	2.15	pCi/g
AAB6554	-7.34	98.79	-31.64	45.98	3.33	2.15	pCi/g
AAB6555	-66.03	207.3	-45.2	54.96	5.08	2.15	pCi/g
AAB6556	-66.03	207.3	-30.13	44.87	7.88	2.15	pCi/g
AAB6557	-36.68	154.51	-1.51	35.03	7.81	2.15	pCi/g
AAB6558	-66.03	207.3	-13.56	35.03	7.16	2.15	pCi/g
AAB6559	7.34	98.79	-1.51	35.03	6.67	2.15	pCi/g
AAB6560	-7.34	98.79	-7.53	35.03	7.15	2.15	pCi/g
AAB6561	-66.03	207.3	-21.09	37.54	6.97	2.15	pCi/g
AAB6562	-36.68	154.51	18.08	35.03	8.9	2.15	pCi/g
AAB6563	-22.01	119.68	-12.05	35.03	4.23	2.15	pCi/g
AAB6565	-80.7	229.17	-51.22	58.5	-0.46	2.15	pCi/g
AAB6566	-22.01	119.68	-37.66	50.17	3.16	2.15	pCi/g
AAB6567	-80.7	229.17	-40.68	52.14	5.53	2.15	pCi/g
AAB6568	-66.03	207.3	-28.62	43.73	6.22	2.15	pCi/g
AAB6569	14.67	98.79	1764.14	343.34	53.45	2.15	pCi/g
AAB6570	73.36	218.51	2121.18	376.49	67.96	2.4	pCi/g
AAB6571	-0.2	2.02	-0.74	4.86	-0.29	0.55	pCi/ml
AAB6572	0	2.02	0.45	4.86	-0.57	0.55	pCi/ml
AAB6573	14.67	98.79	2041.34	369.33	148.45	3.54	pCi/g
AAB6574	44.02	169.26	1752.09	342.17	57.89	2.21	pCi/g
AAB6575	44.02	169.26	305.82	142.95	11.71	2.15	pCi/g
AAB6576	29.35	138.2	43.69	54.03	9.16	2.15	pCi/g
AAB6577	88.04	239.36	13.56	35.03	9.88	2.15	pCi/g
AAB6578	44.02	169.26	13.56	35.03	9.4	2.15	pCi/g
AAB6579	132.05	293.16	61.77	64.25	9.17	2.15	pCi/g
AAB6580	29.35	138.2	4188.13	529.02	90.98	2.77	pCi/g
AAB6582	51.35	182.82	11.3	35.03	2.22	2.15	pCi/g
AAB6583	7.34	98.79	109.22	85.43	1478.07	11.41	pCi/g
AAB6584	22.01	119.68	27996.47	1367.77	822.52	8.51	pCi/g
AAB6586	44.02	169.26	95.66	79.95	1.51	2.15	pCi/g
AAB6587	29.35	138.2	41.43	52.62	6.87	2.15	pCi/g
AAB6588	6.31	7.55	9.53	7.94	-0.03	0.55	pCi/ml
AAB6589	-0.2	2.02	-1.34	4.86	-0.73	0.55	pCi/ml
AAB6590	44.02	169.26	48.96	57.2	11.96	2.15	pCi/g
AAB6591	-14.67	98.79	54.99	60.62	11.34	2.15	pCi/g
AAB6592	14.67	98.79	24.86	40.76	17.32	2.15	pCi/g
AAB6593	29.35	138.2	38.42	50.67	16.42	2.15	pCi/g
AAB6594	0	98.79	51.98	58.93	27.39	2.15	pCi/g
AAB6595	212.75	372.11	34466.99	1517.62	4.32	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB6596	36.68	154.51	67.04	66.93	5.14	2.15	pCi/g
AAB6597	7.34	98.79	-11.3	35.03	4.57	2.15	pCi/g
AAB6598	7.34	98.79	29.38	44.31	3.21	2.15	pCi/g
AAB6599	22.01	119.68	-8.29	35.03	5.13	2.15	pCi/g
AAB6600	36.68	154.51	18.83	35.47	2.81	2.15	pCi/g
AAB6601	36.68	154.51	12.81	35.03	4.95	2.15	pCi/g
AAB6602	22.01	119.68	3.77	35.03	4.2	2.15	pCi/g
AAB6603	110.04	267.62	62.52	64.64	4.34	2.15	pCi/g
AAB6603D	7.34	98.79	59.51	63.06	N/A		pCi/g
AAB6604	22.01	119.68	689.99	214.73	15.23	2.15	pCi/g
AAB6605	22.01	119.68	49.72	57.64	1.82	2.15	pCi/g
AAB6606	7.34	98.79	37.66	50.17	0.93	2.15	pCi/g
AAB6607	51.35	182.82	1003.34	258.93	22.41	2.15	pCi/g
AAB6608	7.34	98.79	82.86	74.41	4.43	2.15	pCi/g
AAB6609	22.01	119.68	30.13	44.87	-0.4	2.15	pCi/g
AAB6610	-7.34	98.79	12.05	35.03	2.26	2.15	pCi/g
AAB6611	22.01	119.68	13.56	35.03	3.04	2.15	pCi/g
AAB6612	36.67	207.3	24.1	40.13	7.14	2.15	pCi/g
AAB6613	51.35	182.82	-1.51	35.03	5.38	2.15	pCi/g
AAB6614	44.02	267.62	49.72	57.64	7.83	2.15	pCi/g
AAB6615	-22.01	119.68	-16.57	35.03	1.3	2.15	pCi/g
AAB6616	-7.34	98.79	43.69	54.03	13.71	2.15	pCi/g
AAB6617	-22.01	119.68	1.51	35.03	8.73	2.15	pCi/g
AAB6618	-7.34	98.79	12.05	35.03	19.36	2.15	pCi/g
AAB6619	-7.34	98.79	31.64	45.98	10.75	2.15	pCi/g
AAB6620	-0.61	2.35	-2.53	4.86	-0.58	0.55	pCi/ml
AAB6621	-0.61	2.35	0	4.86	-0.5	0.55	pCi/ml
AAB6622	-22.01	119.68	-27.12	42.57	1.86	2.15	pCi/g
AAB6623	7.34	98.79	27.12	42.57	9.74	2.15	pCi/g
AAB6624	-7.34	98.79	37.66	50.17	9.86	2.15	pCi/g
AAB8641	36.68	154.51	39.17	51.16	10.16	2.15	pCi/g
AAB8642	7.34	98.79	3.01	35.03	1.03	2.15	pCi/g
AAB8643	7.34	98.79	66.29	66.55	0.6	2.15	pCi/g
AAB8644	-7.34	98.79	3.01	35.03	1.55	2.15	pCi/g
AAB8645	-80.7	229.17	-33.14	47.06	6.47	2.15	pCi/g
AAB8646	-51.35	182.82	-13.56	35.03	6.84	2.15	pCi/g
AAB8647	-51.35	182.82	-28.62	43.73	5.05	2.15	pCi/g
AAB8648	-66.03	207.3	-21.09	37.54	5.49	2.15	pCi/g
AAB8649	-80.7	229.17	-40.68	52.14	5.55	2.15	pCi/g
AAB8650	-51.35	182.82	-7.53	35.03	5.73	2.15	pCi/g
AAB8651	7.34	98.79	18.08	35.03	6.44	2.15	pCi/g
AAB8652	-66.03	207.3	-7.53	35.03	4.44	2.15	pCi/g
AAB8653	14.67	98.79	20.34	36.87	22.1	2.15	pCi/g
AAB8654	0	98.79	32.39	46.52	12.9	2.15	pCi/g
AAB8655	-0.2	2.02	-3.43	4.86	-0.79	0.55	pCi/ml
AAB8656	-0.2	2.02	-3.43	4.86	-0.51	0.55	pCi/ml
AAB8657	-14.67	98.79	-3.77	35.03	15.39	2.15	pCi/g
AAB8658	-14.67	98.79	20.34	36.87	10.3	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB8659	-14.67	98.79	26.36	41.97	9.63	2.15	pCi/g
AAB8660	-14.67	98.79	42.94	53.56	7.99	2.15	pCi/g
AAB8661	0	98.79	56.49	61.44	5.13	2.15	pCi/g
AAB8662	0	98.79	20.34	36.87	4.79	2.15	pCi/g
AAB8663	-29.35	138.2	24.86	40.76	4.59	2.15	pCi/g
AAB8664	-14.67	98.79	27.87	43.16	9.1	2.15	pCi/g
AAB8665	14.67	98.79	33.9	47.59	6.6	2.15	pCi/g
AAB8666	14.67	98.79	18.83	35.47	1.61	2.15	pCi/g
AAB8668	-7.34	98.79	-19.58	36.16	5.09	2.15	pCi/g
AAB8669	7.34	98.79	4.52	35.03	5.35	2.15	pCi/g
AAB8671	-7.34	98.79	9.04	35.03	5.23	2.15	pCi/g
AAB8672	-7.34	98.79	-30.13	44.87	4.38	2.15	pCi/g
AAB8673	66.03	207.3	21.09	37.54	5.06	2.15	pCi/g
AAB8674	51.35	182.82	16.57	35.03	4.32	2.15	pCi/g
AAB8675	22.01	119.68	22.6	38.86	5.56	2.15	pCi/g
AAB8676	36.68	154.51	33.14	47.06	3.61	2.15	pCi/g
AAB8677	7.34	98.79	-1.51	35.03	4.2	2.15	pCi/g
AAB8678	36.68	154.51	69.3	68.05	4.53	2.15	pCi/g
AAB8679	7.34	98.79	22.6	38.86	1.69	2.15	pCi/g
AAB8680	29.35	138.2	5.27	35.03	2.65	2.15	pCi/g
AAB8681	29.35	138.2	20.34	36.87	5.52	2.15	pCi/g
AAB8682	29.35	138.2	24.86	40.76	7.38	2.15	pCi/g
AAB8683	0	98.79	-30.86	45.43	5.79	2.15	pCi/g
AAB8684	14.67	98.79	-20.34	36.87	5.95	2.15	pCi/g
AAB8685	14.67	98.79	-0.75	35.03	5.65	2.15	pCi/g
AAB8686	14.67	98.79	-3.77	35.03	4.99	2.15	pCi/g
AAB8687	0	2.02	-3.58	4.86	0.42	0.55	pCi/ml
AAB8688	0	2.02	-3.87	5.06	-0.11	0.55	pCi/ml
AAB8689	44.02	169.26	12.81	35.03	6.21	2.15	pCi/g
AAB8690	44.02	169.26	21.84	38.21	2.85	2.15	pCi/g
AAB8691	0	98.79	9.79	35.03	1.14	2.15	pCi/g
AAB8692	0	98.79	29.38	44.31	2.22	2.15	pCi/g
AAB8693	14.67	98.79	6.78	35.03	2.64	2.15	pCi/g
AAB8694	0	98.79	30.88	45.43	-1.57	2.15	pCi/g
AAB8695	14.67	98.79	5.27	35.03	-0.14	2.15	pCi/g
AAB8696	-14.67	98.79	15.82	35.03	-1.9	2.15	pCi/g
AAB8697	-14.67	98.79	20.34	36.87	-1.79	2.15	pCi/g
AAB8698	29.35	138.2	35.4	48.64	-1.17	2.15	pCi/g
AAB8699	73.36	218.51	23.35	39.5	-1.05	2.15	pCi/g
AAB8700	22.01	119.68	-32.39	46.52	-0.54	2.15	pCi/g
AAB8701	7.34	98.79	-20.34	36.87	-0.53	2.15	pCi/g
AAB8702	-7.34	98.79	-15.82	35.03	2.46	2.15	pCi/g
AAB8703	22.01	119.68	12.81	35.03	1.11	2.15	pCi/g
AAB8704	7.34	98.79	-14.31	35.03	1.11	2.15	pCi/g
AAB8705	7.34	98.79	-12.81	35.03	1.95	2.15	pCi/g
AAB8706	36.68	154.51	2.26	35.03	2.39	2.15	pCi/g
AAB8707	7.34	98.79	-9.79	35.03	2.64	2.15	pCi/g
AAB8708	58.69	195.44	18.08	35.03	1.05	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB8709	7.34	98.79	12.81	35.03	1.19	2.15	pCi/g
AAB8710	-29.35	138.2	9.04	35.03	4.31	2.15	pCi/g
AAB8711	0	98.79	13.56	35.03	3.62	2.15	pCi/g
AAB8712	0	98.79	10.55	35.03	7.19	2.15	pCi/g
AAB8713	-14.67	98.79	-10.55	35.03	8.52	2.15	pCi/g
AAB8714	-14.67	98.79	-4.52	35.03	1.73	2.15	pCi/g
AAB8715	-14.67	98.79	-10.55	35.03	2.45	2.15	pCi/g
AAB8716	14.67	98.79	-4.52	35.03	3.49	2.15	pCi/g
AAB8717	14.67	98.79	20.34	36.87	2	2.15	pCi/g
AAB8718	0	98.79	9.79	35.03	4.13	2.15	pCi/g
AAB8719	-14.67	98.79	27.87	43.16	4.82	2.15	pCi/g
AAB8720	14.67	98.79	-15.82	35.03	4.65	2.15	pCi/g
AAB8721	0	98.79	20.34	36.87	7.66	2.15	pCi/g
AAB8722	14.67	98.79	-11.3	35.03	2.21	2.15	pCi/g
AAB8723	14.67	98.79	20.34	36.87	-0.41	2.15	pCi/g
AAB8724	0	2.02	-2.98	4.86	-0.29	0.55	pCi/ml
AAB8725	1.42	3.59	5.81	6.2	-0.21	0.55	pCi/ml
AAB8726	58.69	195.44	51.98	58.93	2.01	2.15	pCi/g
AAB8727	29.35	138.2	41.43	52.62	0.97	2.15	pCi/g
AAB8728	0	98.79	11.3	35.03	-2.49	2.15	pCi/g
AAB9201	14.67	98.79	10.55	35.03	4.07	2.15	pCi/g
AAB9202	-14.67	98.79	-4.52	35.03	4.58	2.15	pCi/g
AAB9203	-14.67	98.79	-4.52	35.03	5.04	2.15	pCi/g
AAB9204	14.67	98.79	33.14	47.06	5.4	2.15	pCi/g
AAB9205	-14.67	98.79	10.55	35.03	5.53	2.15	pCi/g
AAB9206	-29.35	138.2	27.12	42.57	8.83	2.15	pCi/g
AAB9207	-29.35	138.2	18.08	35.03	9.15	2.15	pCi/g
AAB9208	-29.35	138.2	22.6	38.86	9.53	2.15	pCi/g
AAB9209	14.67	98.79	42.18	53.09	8.77	2.15	pCi/g
AAB9210	14.67	98.79	22.6	38.86	6.49	2.15	pCi/g
AAB9211	7.34	98.79	18.83	35.47	0.38	2.15	pCi/g
AAB9212	-22.01	119.68	0.75	35.03	3.12	2.15	pCi/g
AAB9213	7.34	98.79	14.31	35.03	3.78	2.15	pCi/g
AAB9214	22.01	119.68	0.75	35.03	3.58	2.15	pCi/g
AAB9215	36.68	154.51	29.36	44.31	4.49	2.15	pCi/g
AAB9216	-22.01	119.68	21.84	38.21	3.73	2.15	pCi/g
AAB9217	22.01	119.68	33.9	47.59	5.57	2.15	pCi/g
AAB9218	0	2.02	-0.74	4.86	-0.31	0.55	pCi/ml
AAB9219	0	2.02	-2.23	4.86	-0.25	0.55	pCi/ml
AAB9220	22.01	119.68	12.81	35.03	5.27	2.15	pCi/g
AAB9221	7.34	98.79	58	62.26	6.32	2.15	pCi/g
AAB9222	7.34	98.79	44.44	54.5	6.73	2.15	pCi/g
AAB9223	58.69	207.3	38.42	50.67	3.31	2.15	pCi/g
AAB9224	-22.01	119.68	30.88	45.43	3.67	2.15	pCi/g
AAB9225	7.34	98.79	20.34	36.87	3.98	2.15	pCi/g
AAB9226	-22.01	119.68	291.51	139.57	12.47	2.15	pCi/g
AAB9227	22.01	119.68	586.79	198.02	15.49	2.15	pCi/g
AAB9228	-22.01	119.68	14.31	35.03	5.79	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB9229	7.34	98.79	30.88	45.43	5.47	2.15	pCi/g
AAB9230	22.01	119.68	33.9	47.59	6.64	2.15	pCi/g
AAB9231	22.01	119.68	15.82	35.03	4.15	2.15	pCi/g
AAB9232	-7.34	98.79	36.91	49.66	5.26	2.15	pCi/g
AAB9233	22.01	119.68	30.88	45.43	5.75	2.15	pCi/g
AAB9234	7.34	98.79	58	62.26	6.18	2.15	pCi/g
AAB9235	0	98.79	13.56	35.03	4.29	2.15	pCi/g
AAB9236	44.02	169.26	-3.01	35.03	5.74	2.15	pCi/g
AAB9237	0	98.79	-19.58	36.18	7.38	2.15	pCi/g
AAB9238	14.67	98.79	19.58	36.18	5.61	2.15	pCi/g
AAB9239	0	98.79	64.78	65.79	8.56	2.15	pCi/g
AAB9240	14.67	98.79	19.58	36.18	6.08	2.15	pCi/g
AAB9241	14.67	98.79	36.16	49.15	4.79	2.15	pCi/g
AAB9242	14.67	98.79	28.62	43.73	4.27	2.15	pCi/g
AAB9243	14.67	98.79	16.57	35.03	6.38	2.15	pCi/g
AAB9244	14.67	98.79	60.26	63.46	7.99	2.15	pCi/g
AAB9245	0	98.79	18.08	35.03	7.72	2.15	pCi/g
AAB9246	58.69	195.44	138.6	96.24	8.27	2.15	pCi/g
AAB9247	14.67	98.79	-9.04	35.03	1.04	2.15	pCi/g
AAB9248	14.67	98.79	33.14	47.06	1.41	2.15	pCi/g
AAB9249	0	98.79	40.66	52.14	3.27	2.15	pCi/g
AAB9250	0	98.79	4.52	35.03	7.53	2.15	pCi/g
AAB9251	14.67	98.79	18.08	35.03	3.26	2.15	pCi/g
AAB9252	-14.67	98.79	-1.51	35.03	6.37	2.15	pCi/g
AAB9253	58.69	195.44	97.92	80.89	8.59	2.15	pCi/g
AAB9254	-0.41	2.02	-2.83	4.86	-0.37	0.55	pCi/ml
AAB9255	-0.41	2.02	-2.23	4.86	-0.01	0.55	pCi/ml
AAB9256	29.35	138.2	58.75	62.66	6.97	2.15	pCi/g
AAB9257	-44.02	169.26	2.26	35.03	3.09	2.15	pCi/g
AAB9258	0	98.79	-32.39	46.52	0.79	2.15	pCi/g
AAB9259	0	98.79	-3.77	35.03	1.13	2.15	pCi/g
AAB9260	0	98.79	9.79	35.03	4.46	2.15	pCi/g
AAB9261	-44.02	169.26	-50.47	58.07	7.28	2.15	pCi/g
AAB9262	0	2.02	0.15	4.86	-0.16	0.55	pCi/ml
AAB9263	0.61	2.35	0.45	4.86	-0.24	0.55	pCi/ml
AAB9264	-44.02	169.26	-47.46	56.31	6.22	2.15	pCi/g
AAB9265	-14.67	98.79	-9.79	35.03	12.87	2.15	pCi/g
AAB9266	-44.02	169.26	3.77	35.03	13.28	2.15	pCi/g
AAB9267	-44.02	169.26	-14.31	35.03	13.46	2.15	pCi/g
AAB9269	0	98.79	-18.83	35.47	3.71	2.15	pCi/g
AAB9270	0	98.79	-6.78	35.03	0.87	2.15	pCi/g
AAB9271	14.67	98.79	9.79	35.03	5.17	2.15	pCi/g
AAB9272	44.02	169.26	45.95	55.41	11.17	2.15	pCi/g
AAB9273	0	98.79	8.29	35.03	-0.01	2.15	pCi/g
AAB9274	0	98.79	-12.81	35.03	3.48	2.15	pCi/g
AAB9275	29.35	138.2	35.4	48.64	10.84	2.15	pCi/g
AAB9276	29.35	138.2	17.33	35.03	12	2.15	pCi/g
AAB9277	0	98.79	5.27	35.03	10.3	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB9278	-3.69	83.28	26.69	90.73	2.5	2.15	pCi/g
AAB9279	-3.69	83.28	116.37	104.98	1.26	2.15	pCi/g
AAB9280	3.69	83.28	60.85	90.73	-0.32	2.15	pCi/g
AAB9281	-3.69	83.28	-11.74	90.73	0.7	2.15	pCi/g
AAB9282	-3.69	83.28	41.64	90.73	0.64	2.15	pCi/g
AAB9283	11.07	83.28	43.77	90.73	6.09	2.15	pCi/g
AAB9284	18.45	83.28	30.96	90.73	4.92	2.15	pCi/g
AAB9285	-3.69	83.28	28.83	90.73	5.23	2.15	pCi/g
AAB9286	3.69	83.28	13.88	90.73	4.02	2.15	pCi/g
AAB9287	-3.69	83.28	-9.61	90.73	0.65	2.15	pCi/g
AAB9288	3.69	83.28	39.5	90.73	-3.06	2.15	pCi/g
AAB9289	3.69	83.28	28.83	90.73	1.47	2.15	pCi/g
AAB9290	11.07	83.28	86.48	90.73	2.26	2.15	pCi/g
AAB9291	0.41	2.02	-0.15	4.86	-0.1	0.55	pCi/ml
AAB9292	0	2.02	0.15	4.86	0.1	0.55	pCi/ml
AAB9293	3.69	83.28	50.18	90.73	8.45	2.15	pCi/g
AAB9294	40.59	115.27	575.44	233.45	6.33	2.15	pCi/g
AAB9295	-3.69	83.28	124.91	108.77	5.6	2.15	pCi/g
AAB9296	18.45	83.28	131.32	111.52	7.07	2.15	pCi/g
AAB9297	-22.01	119.68	-9.04	35.03	2.14	2.15	pCi/g
AAB9298	7.34	98.79	-4.52	35.03	-0.67	2.15	pCi/g
AAB9299	36.68	154.51	3.01	35.03	0.99	2.15	pCi/g
AAB9300	-7.34	98.79	49.72	57.64	5.9	2.15	pCi/g
AAB9301	7.34	98.79	21.09	37.54	2.58	2.15	pCi/g
AAB9302	7.34	98.79	4.52	35.03	6.58	2.15	pCi/g
AAB9303	0.2	2.02	-0.74	4.86	0.22	0.55	pCi/ml
AAB9304	0.2	2.02	1.19	4.86	0.35	0.55	pCi/ml
AAB9305	-22.01	119.68	25.61	41.37	2.33	2.15	pCi/g
AAB9306	22.01	119.68	27.12	42.57	8.2	2.15	pCi/g
AAB9307	22.01	119.68	30.13	44.67	5.69	2.15	pCi/g
AAB9308	36.68	154.51	39.17	51.16	8.28	2.15	pCi/g
AAB9309	22.01	119.68	4914.28	573.05	136.29	3.26	pCi/g
AAB9310	95.37	249.14	55.74	61.03	5.82	2.15	pCi/g
AAB9311	7.34	98.79	1012.38	260.1	33.86	2.15	pCi/g
AAB9312	7.34	98.79	842.15	237.22	26.53	2.15	pCi/g
AAB9313	-7.34	98.79	-6.03	35.03	-2.21	2.15	pCi/g
AAB9314	7.34	98.79	15.07	35.03	-2.27	2.15	pCi/g
AAB9315	7.34	98.79	7.53	35.03	-2.86	2.15	pCi/g
AAB9316	-7.34	98.79	27.12	42.57	4.43	2.15	pCi/g
AAB9317	29.35	138.2	36.16	49.15	4.45	2.15	pCi/g
AAB9318	-14.67	98.79	21.09	37.54	2.14	2.15	pCi/g
AAB9319	-0.81	2.71	-3.87	5.06	0.01	0.55	pCi/ml
AAB9320	-0.81	2.71	-3.72	4.96	-0.06	0.55	pCi/ml
AAB9321	14.67	98.79	31.64	45.98	5.91	2.15	pCi/g
AAB9322	29.35	138.2	24.1	40.13	4.44	2.15	pCi/g
AAB9323	0	98.79	34.65	48.12	4.79	2.15	pCi/g
AAB9324	0	98.79	16.57	35.03	4.42	2.15	pCi/g
AAB9325	29.35	138.2	49.72	57.64	8.7	2.15	pCi/g

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB9326	44.02	169.26	30.13	44.87	8.45	2.15	pCi/g
AAB9327	22.01	119.68	36.16	49.15	1.97	2.15	pCi/g
AAB9328	51.35	182.82	30.13	44.87	3.07	2.15	pCi/g
AAB9329	-7.34	98.79	6.03	35.03	2.5	2.15	pCi/g
AAB9330	-7.34	98.79	75.33	70.95	1.15	2.15	pCi/g
AAB9331	22.01	119.68	32.39	46.52	2.28	2.15	pCi/g
AAB9332	51.35	182.82	29.38	44.31	0.69	2.15	pCi/g
AAB9333	-7.34	98.79	24.86	40.76	7.75	2.15	pCi/g
AAB9334	66.03	207.3	32.39	46.52	9.95	2.15	pCi/g
AAB9335	-22.01	119.68	59.51	63.06	9.42	2.15	pCi/g
AAB9336	7.34	98.79	23.35	39.5	8.99	2.15	pCi/g
AAB9337	-7.34	98.79	622.19	203.9	12.34	2.15	pCi/g
AAB9338	0	2.02	-0.62	4.86	0.52	0.55	pCi/ml
AAB9339	0.41	2.02	8.42	7.46	0.83	0.55	pCi/ml
AAB9340	36.68	154.51	100.94	82.13	11.81	2.15	pCi/g
AAB9341	51.35	182.82	9668.87	803.8	251.7	5.64	pCi/g
AAB9342	22.01	119.68	30758.69	1433.66	893.01	10.62	pCi/g
AAB9343	29.35	138.2	90562.39	2460.01	764	8.53	pCi/g
AAB9344	14.67	98.79	1831.18	349.81	72.72	2.63	pCi/g
AAB9345	0	98.79	133.33	94.39	0.51	2.15	pCi/g
AAB9346	-14.67	98.79	-8.29	35.03	-0.43	2.15	pCi/g
AAB9347	14.67	98.79	42.94	53.56	0.19	2.15	pCi/g
AAB9348	44.02	169.26	33.9	47.59	10.69	2.15	pCi/g
AAB9349	58.69	195.44	77.59	72	18.86	2.15	pCi/g
AAB9350	73.36	218.51	29.38	44.31	18.01	2.15	pCi/g
AAB9351	-7.34	98.79	-31.64	45.98	2.12	2.15	pCi/g
AAB9352	36.68	154.51	4.52	35.03	5.37	2.15	pCi/g
AAB9353	7.34	98.79	-13.56	35.03	4.37	2.15	pCi/g
AAB9354	-7.34	98.79	-21.09	37.54	4.26	2.15	pCi/g
AAB9355	7.34	98.79	-4.52	35.03	2.82	2.15	pCi/g
AAB9356	7.34	98.79	6.03	35.03	4.04	2.15	pCi/g
AAB9357	22.01	119.68	10.55	35.03	2.23	2.15	pCi/g
AAB9358	7.34	98.79	0	35.03	10.42	2.15	pCi/g
AAB9359	22.01	119.68	-3.01	35.03	12.73	2.15	pCi/g
AAB9360	6.89	101.39	51	67.93	3.46	2.15	pCi/g
AAB9361	20.66	112.36	6801.64	784.52	329.48	5.54	pCi/g
AAB9362	-6.89	101.39	12544.47	1065.43	237.06	4.7	pCi/g
AAB9363	-6.89	101.39	79.56	84.85	491.36	6.76	pCi/g
AAB9364	-6.89	101.39	3400.82	554.74	417.84	6.23	pCi/g
AAB9365	20.66	112.36	128.53	107.84	21.04	2.15	pCi/g
AAB9366	-6.89	101.39	-2.04	58.69	19.74	2.15	pCi/g
AAB9367	-6.89	101.39	8.16	58.69	6.47	2.15	pCi/g
AAB9368	20.66	112.36	-6.12	58.69	19.21	2.15	pCi/g
AAB9369	0	98.79	27.87	43.16	6.66	2.15	pCi/g
AAB9370	14.67	98.79	53.48	59.78	4.43	2.15	pCi/g
AAB9371	73.36	218.51	41.43	52.62	4.28	2.15	pCi/g
AAB9372	14.67	98.79	23.35	39.5	4.08	2.15	pCi/g
AAB9373	-0.2	2.02	-1.04	4.86	-0.04	0.55	pCi/ml

Table 7-3
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MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB9374	0.2	2.02	8.49	7.49	-0.42	0.55	pCi/ml
AAB9375	22.01	119.68	-16.57	35.03	1.56	2.15	pCi/g
AAB9376	7.34	98.79	-6.03	35.03	2.98	2.15	pCi/g
AAB9377	7.34	98.79	-28.62	43.73	4.72	2.15	pCi/g
AAB9378	13.78	101.39	25.5	58.69	3.61	2.15	pCi/g
AAB9379	0	101.39	-5.1	58.69	7.74	2.15	pCi/g
AAB9380	13.78	101.39	11.22	58.69	9.45	2.15	pCi/g
AAB9381	-13.78	101.39	-7.14	58.69	6.27	2.15	pCi/g
AAB9382	22.01	119.68	33.14	47.06	4.73	2.15	pCi/g
AAB9383	-7.34	98.79	4.52	35.03	4.06	2.15	pCi/g
AAB9384	7.34	98.79	16.57	35.03	3.16	2.15	pCi/g
AAB9385	0	101.39	19.38	58.69	4.77	2.15	pCi/g
AAB9386	41.33	158.9	13.26	58.69	5.23	2.15	pCi/g
AAB9387	-13.78	101.39	-21.42	58.69	4.26	2.15	pCi/g
AAB9388	-13.78	101.39	-7.14	58.69	4.49	2.15	pCi/g
AAB9389	0	101.39	9.18	58.69	6.3	2.15	pCi/g
AAB9390	55.1	183.49	37.74	58.69	11.22	2.15	pCi/g
AAB9391	13.78	101.39	-11.22	58.69	4.01	2.15	pCi/g
AAB9392	55.1	183.49	27.54	58.69	10.24	2.15	pCi/g
AAB9393	27.55	129.74	25.5	58.69	9.39	2.15	pCi/g
AAB9394	0	101.39	-17.34	58.69	10.63	2.15	pCi/g
AAB9397	-6.89	101.39	-14.28	58.69	15.32	2.15	pCi/g
AAB9398	20.66	112.36	16.32	58.69	15.78	2.15	pCi/g
AAB9399	20.66	112.36	-8.15	58.69	11.14	2.15	pCi/g
AAB9421	-7.34	98.79	-27.12	42.57	0.01	2.15	pCi/g
AAB9422	14.67	98.79	33.14	47.06	2.82	2.15	pCi/g
AAB9423	44.02	169.26	198.86	115.28	0.57	2.15	pCi/g
AAB9424	44.02	169.26	64.78	65.79	8.18	2.15	pCi/g
AAB9425	58.69	195.44	75.33	70.95	8.75	2.15	pCi/g
AAB9426	58.69	195.44	76.83	71.65	9.32	2.15	pCi/g
AAB9427	14.67	98.79	9.04	35.03	7.53	2.15	pCi/g
AAB9428	29.35	138.2	40421.53	1643.5	791.83	8.46	pCi/g
AAB9429	-7.34	98.79	14.31	35.03	3.51	2.15	pCi/g
AAB9430	7.34	98.79	11.3	35.03	2.1	2.15	pCi/g
AAB9431	-7.34	98.79	5.27	35.03	1.26	2.15	pCi/g
AAB9432	7.34	98.79	14.31	35.03	3.66	2.15	pCi/g
AAB9433	7.34	98.79	20.34	36.87	3.74	2.15	pCi/g
AAB9434	22.01	119.68	47.46	56.31	2.14	2.15	pCi/g
AAB9435	14.67	98.79	49.72	57.64	1.93	2.15	pCi/g
AAB9436	14.67	98.79	24.1	40.13	1.71	2.15	pCi/g
AAB9437	0	98.79	18.08	35.03	0.4	2.15	pCi/g
AAB9438	29.35	138.2	25.61	41.37	-0.01	2.15	pCi/g
AAB9439	88.04	239.36	61.77	64.25	3.85	2.15	pCi/g
AAB9440	-0.41	2.02	-2.83	4.86	-0.1	0.55	pCi/ml
AAB9441	-0.2	2.02	-2.23	4.86	0.26	0.55	pCi/ml
AAB9442	-29.35	138.2	2.26	35.03	3.6	2.15	pCi/g
AAB9443	0	98.79	9.79	35.03	3.95	2.15	pCi/g
AAB9444	-14.67	98.79	-2.26	35.03	-0.48	2.15	pCi/g

Table 7-3
TA-10
MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB9445	-14.67	98.79	-11.3	35.03	-0.84	2.15	pCi/g
AAB9446	-44.02	169.26	-33.9	47.59	-0.15	2.15	pCi/g
AAB9447	58.69	195.44	32.39	46.52	-0.47	2.15	pCi/g
AAB9448	-44.02	169.26	-53.48	59.78	1.78	2.15	pCi/g
AAB9449	-44.02	169.26	-29.38	44.31	-0.34	2.15	pCi/g
AAB9450	44.02	169.26	15.82	35.03	1.96	2.15	pCi/g
AAB9451	14.67	98.79	-8.29	35.03	5.39	2.15	pCi/g
AAB9452	-14.67	98.79	-38.42	50.67	6.18	2.15	pCi/g
AAB9453	0	101.39	-6.12	58.69	2.37	2.15	pCi/g
AAB9454	-14.67	98.79	21.84	38.21	5.43	2.15	pCi/g
AAB9455	0	101.39	28.56	58.69	2.77	2.15	pCi/g
AAB9456	0	101.39	8.16	58.69	3.09	2.15	pCi/g
AAB9457	0	101.39	-10.2	58.69	3	2.15	pCi/g
AAB9458	0.2	2.02	-0.89	4.86	-0.18	0.55	pCi/ml
AAB9459	0.41	2.02	1.79	4.86	-0.59	0.55	pCi/ml
AAB9460	27.55	129.74	28.56	58.69	3.38	2.15	pCi/g
AAB9461	0	101.39	24.48	58.69	5.96	2.15	pCi/g
AAB9462	27.55	129.74	36.72	58.69	5.15	2.15	pCi/g
AAB9463	13.78	101.39	-6.12	58.69	8.86	2.15	pCi/g
AAB9464	0	101.39	-12.24	58.69	6.07	2.15	pCi/g
AAB9465	27.55	129.74	-12.24	58.69	10.32	2.15	pCi/g
AAB9466	-3.69	83.28	56.58	90.73	-3.41	2.15	pCi/g
AAB9467	3.69	83.28	75.8	90.73	-2.95	2.15	pCi/g
AAB9468	-3.69	83.28	84.34	90.73	-4.41	2.15	pCi/g
AAB9469	-3.69	83.28	50.18	90.73	-4.26	2.15	pCi/g
AAB9470	-3.69	83.28	39.5	90.73	-2.79	2.15	pCi/g
AAB9471	33.21	83.28	67.26	90.73	-5.08	2.15	pCi/g
AAB9472	11.07	83.28	37.37	90.73	-1.23	2.15	pCi/g
AAB9473	-3.69	83.28	45.91	90.73	5.82	2.15	pCi/g
AAB9474	3.69	83.28	52.31	90.73	-1.45	2.15	pCi/g
AAB9475	-3.69	83.28	67.26	90.73	5.41	2.15	pCi/g
AAB9476	-3.69	83.28	67.26	90.73	3.76	2.15	pCi/g
AAB9477	3.69	83.28	71.53	90.73	-4.52	2.15	pCi/g
AAB9478	3.69	83.28	54.45	90.73	-4.22	2.15	pCi/g
AAB9479	-3.69	83.28	-5.34	90.73	-4.09	2.15	pCi/g
AAB9480	-3.69	83.28	67.26	90.73	-0.62	2.15	pCi/g
AAB9481	-3.69	83.28	62.99	90.73	5.59	2.15	pCi/g
AAB9482	3.69	83.28	11.74	90.73	-1.88	2.15	pCi/g
AAB9483	3.69	83.28	52.31	90.73	-3.31	2.15	pCi/g
AAB9484	3.69	83.28	71.53	90.73	0.21	2.15	pCi/g
AAB9485	11.07	83.28	73.66	90.73	5.01	2.15	pCi/g
AAB9486	-3.69	83.28	3.2	90.73	2.67	2.15	pCi/g
AAB9487	-3.69	83.28	37.37	90.73	11.46	2.15	pCi/g
AAB9488	3.69	83.28	28.83	90.73	2.76	2.15	pCi/g
AAB9489	-3.69	83.28	48.04	90.73	2.69	2.15	pCi/g
AAB9490	3.69	83.28	24.55	90.73	6.31	2.15	pCi/g
AAB9491	-3.69	83.28	-5.34	90.73	5.17	2.15	pCi/g
AAB9492	-3.69	83.28	11.74	90.73	1.34	2.15	pCi/g

Table 7-3
TA-10
MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB9493	3.69	83.28	11.74	90.73	4.31	2.15	pCi/g
AAB9494	36.68	154.51	10.55	35.03	2.73	2.15	pCi/g
AAB9495	7.34	98.79	-10.55	35.03	6.62	2.15	pCi/g
AAB9496	-7.34	98.79	10.55	35.03	8.47	2.15	pCi/g
AAB9497	-7.34	98.79	22.6	38.86	8.34	2.15	pCi/g
AAB9498	14.67	98.79	3.77	35.03	1.49	2.15	pCi/g
AAB9501	44.02	169.26	18.83	35.47	1.52	2.15	pCi/g
AAB9502	14.67	98.79	-15.82	35.03	0.45	2.15	pCi/g
AAB9503	0	2.02	0.89	4.86	0.22	0.55	pCi/ml
AAB9504	0.41	2.02	0.45	4.86	0.07	0.55	pCi/ml
AAB9505	0	98.79	-29.38	44.31	2.96	2.15	pCi/g
AAB9506	14.67	98.79	-2.26	35.03	2.66	2.15	pCi/g
AAB9507	0	98.79	-20.34	36.87	4.93	2.15	pCi/g
AAB9508	0	98.79	8.29	35.03	7.25	2.15	pCi/g
AAB9509	14.67	98.79	11.3	35.03	7.97	2.15	pCi/g
AAB9510	73.36	218.51	35.4	48.64	9.72	2.15	pCi/g
AAB9511	58.69	195.44	24.86	40.76	4.72	2.15	pCi/g
AAB9512	51.35	182.82	6.03	35.03	-1.6	2.15	pCi/g
AAB9513	-0.41	2.02	-1.42	4.86	0.4	0.55	pCi/ml
AAB9514	-0.61	2.35	-1.42	4.86	-2.33	0.55	pCi/ml
AAB9515	22.01	119.68	18.08	35.03	-1.95	2.15	pCi/g
AAB9516	22.01	119.68	7.53	35.03	-5.46	2.15	pCi/g
AAB9517	-7.34	98.79	13.56	35.03	-1.17	2.15	pCi/g
AAB9518	22.01	119.68	12.05	35.03	0.23	2.15	pCi/g
AAB9519	-7.34	98.79	4.52	35.03	2.73	2.15	pCi/g
AAB9520	36.68	154.51	12.05	35.03	3.37	2.15	pCi/g
AAB9521	36.68	154.51	0	35.03	1.98	2.15	pCi/g
AAB9522	36.68	154.51	43.69	54.03	5.56	2.15	pCi/g
AAB9523	7.34	98.79	12.05	35.03	5.66	2.15	pCi/g
AAB9524	66.03	207.3	35.4	48.64	0.49	2.15	pCi/g
AAB9525	-7.34	98.79	29.38	44.31	0.85	2.15	pCi/g
AAB9526	-22.01	119.68	-9.79	35.03	0.21	2.15	pCi/g
AAB9527	22.01	119.68	29.38	44.31	-1.84	2.15	pCi/g
AAB9528	-22.01	119.68	36.91	49.66	-1.36	2.15	pCi/g
AAB9529	-7.34	98.79	17.33	35.03	-0.52	2.15	pCi/g
AAB9530	-7.34	98.79	32.39	46.52	1.13	2.15	pCi/g
AAB9531	7.34	98.79	9.79	35.03	0.24	2.15	pCi/g
AAB9532	-7.34	98.79	33.9	47.59	-1.53	2.15	pCi/g
AAB9533	22.01	119.68	38.42	50.67	1.82	2.15	pCi/g
AAB9534	-7.34	98.79	50.47	58.07	4.95	2.15	pCi/g
AAB9535	-22.01	119.68	27.87	43.16	5.99	2.15	pCi/g
AAB9537	7.34	98.79	13.56	35.03	3.14	2.15	pCi/g
AAB9538	22.01	119.68	12.05	35.03	4.7	2.15	pCi/g
AAB9539	-7.34	98.79	16.57	35.03	2.8	2.15	pCi/g
AAB9540	-14.67	98.79	-27.12	42.57	1.49	2.15	pCi/g
AAB9541	0	98.79	30.13	44.87	2.45	2.15	pCi/g
AAB9542	29.35	138.2	51.22	58.5	2.03	2.15	pCi/g
AAB9543	0	98.79	10.55	35.03	3.73	2.15	pCi/g

Table 7-3
TA-10
MRAL Screening Results

Sample ID	Gross Alpha	Uncertainty (+/-)	Gross Beta	Uncertainty (+/-)	Gross Gamma	Uncertainty (+/-)	Units
AAB9544	-44.02	169.26	-0.75	35.03	8.12	2.15	pCi/g
AAB9545	-14.67	98.79	6.78	35.03	-0.21	2.15	pCi/g
AAB9546	-44.02	169.26	-8.29	35.03	-3.99	2.15	pCi/g
AAB9547	0	98.79	2.26	35.03	-3.59	2.15	pCi/g
AAB9548	-44.02	169.26	6.78	35.03	-3.66	2.15	pCi/g
AAB9549	-44.02	169.26	-11.3	35.03	-4.36	2.15	pCi/g
AAB9550	-14.67	98.79	12.81	35.03	-4.86	2.15	pCi/g
AAB9551	44.02	169.26	45.95	55.41	-4.64	2.15	pCi/g
AAB9552	-14.67	98.79	3.77	35.03	-5.61	2.15	pCi/g
AAB9553	-29.35	138.2	29.36	44.31	-4.1	2.15	pCi/g
AAB9554	-14.67	98.79	-9.79	35.03	-4.32	2.15	pCi/g
AAB9555	29.35	138.2	3.77	35.03	-4.24	2.15	pCi/g
AAB9556	51.35	182.82	10.55	35.03	1.31	2.15	pCi/g
AAB9557	36.68	154.51	-19.58	36.18	2.07	2.15	pCi/g
AAB9558	-7.34	98.79	0	35.03	4.38	2.15	pCi/g
AAB9559	36.68	154.51	18.08	35.03	3.16	2.15	pCi/g
AAB9560	6.89	101.39	10.2	58.69	2.98	2.15	pCi/g
AAB9561	1.93	6.43	-13.12	22.56	-0.17	0.49	pCi/ml
AAB9562	0	2.73	-5.25	14.3	0.63	0.49	pCi/ml
AAB9563	-6.89	101.39	-12.24	58.69	4.62	2.15	pCi/g
AAB9564	-6.89	101.39	-16.32	58.69	3.89	2.15	pCi/g
AAB9565	6.89	101.39	22.44	58.69	4.46	2.15	pCi/g
AAB9566	6.89	101.39	-2.04	58.69	3.97	2.15	pCi/g
AAB9567	-6.89	101.39	-24.48	58.69	2.26	2.15	pCi/g
AAB9568	-6.89	101.39	4.08	58.69	1.7	2.15	pCi/g
AAB9569	34.44	145.06	4.08	58.69	1.57	2.15	pCi/g
AAB9570	6.89	101.39	-4.08	58.69	2.86	2.15	pCi/g
AAB9571	20.66	112.36	-24.48	58.69	3.71	2.15	pCi/g
AAB9572	-0.97	4.55	-9.62	19.32	0.12	0.49	pCi/ml
AAB9573	-0.97	4.55	11.37	21	0.17	0.49	pCi/ml
AAB9574	-6.89	101.39	0	58.69	3.92	2.15	pCi/g
AAB9575	-6.89	101.39	-4.08	58.69	2.88	2.15	pCi/g
AAB9576	6.89	101.39	-10.2	58.69	4.48	2.15	pCi/g
AAB9577	-6.89	101.39	0	58.69	5.67	2.15	pCi/g
AAB9578	6.89	101.39	4.08	58.69	6.49	2.15	pCi/g
AAB9579	20.66	112.36	-4.08	58.69	4.12	2.15	pCi/g
AAB9580	20.66	112.36	12.24	58.69	5.05	2.15	pCi/g
AAB9581	-3.69	83.28	40.57	90.73	1.79	2.16	pCi/g
AAB9582	-3.69	83.28	27.76	90.73	-0.73	2.16	pCi/g
AAB9583	3.69	83.28	61.92	90.73	1.41	2.16	pCi/g
AAB9584	3.69	83.28	74.73	90.73	2.38	2.16	pCi/g
AAB9585	-3.69	83.28	87.54	91.06	2.9	2.16	pCi/g
AAB9586	-3.69	83.28	87.54	91.06	1.72	2.16	pCi/g
AAB9587	-11.07	83.28	29.89	90.73	-4.5	2.16	pCi/g
AAB9588	-3.69	83.28	87.54	91.06	3.62	2.16	pCi/g
AAB9589	3.69	83.28	81.14	90.73	1.76	2.16	pCi/g
AAB9590	25.83	91.95	98.22	96.45	7.03	2.16	pCi/g

Table 7-4
TA-10
Boreholes with Elevated Radioactivity

Borehole ID	Sample ID	MRAL Screening Result (pCi/g)	MRAL Screening Uncertainty (+/- pCi/g)
10-1200	AAB 9279	116.37 β	104.98 β
10-1201	AAB 9337	622.19 β	203.9 β
	AAB 9340	100.94 β	82.13 β
	AAB 9341	9668.87 β 251.7 γ	803.8 β 5.64 γ
	AAB 9342	30758.69 β 893.01 γ	1433.66 β 10.62 γ
	AAB 9343	90562.39 β 764 γ	2460.01 β 8.53 γ
	AAB 9344	1831.18 β 72.72 γ	349.81 β 2.63 γ
	AAB 9345	133.33 β	94.39 β
	AAB 9349	77.59 β	72.00 β
10-1202	AAB 9294	575.44 β	233.45 β
	AAB 9295	124.91 β	108.77 β
	AAB 9296	131.32 β	111.52 β
10-1204	AAB 9309	4914.28 β 136.29 γ	573.05 β 3.26 γ
	AAB 9311	1012.38 β 33.86 γ	260.10 β 2.15 γ
	AAB 9312	842.15 β 26.53 γ	237.22 β 2.15 γ
10-1205	AAB 9361	6801.64 β 329.48 γ	784.52 β 5.54 γ
	AAB 9362	12544.47 β 237.06 γ	1065.43 β 4.7 γ
	AAB 9363	79.56 β 491.36 γ	84.85 β 6.76 γ
	AAB 9364	3400.82 β 417.84 γ	554.74 β 6.23 γ
	AAB 9365	128.53 β	107.84 β
10-2210	AAB 6297	6809.49 β 132.23 γ	674.56 β 3.38 γ
	AAB 6298	726.14 β	220.28 β
	AAB 6299	1520.08 β 49.05 γ	318.71 β 2.15 γ
	AAB 6307	3156.17 β 74.60 γ	459.24 β 2.54 γ
10-2211	AAB 6337	116.00 β	88.04 β
	AAB 6339	185.30 β	111.28 β
	AAB 6340	69.30 β	86.05 β
	AAB 6349	673.42 β	212.13 β
10-1213	AAB 6397	113.74 β	87.18 β
10-1215	AAB 6407	314.86 β	145.05 β
	AAB 6408	438.40 β	171.16 β
	AAB 6409	183.80 β	110.82 β
	AAB 6410	216.94 β	120.40 β

TABLE 7-4 (continued)

Borehole ID	Sample ID	MRAL Screening Result (pCi/g)	MRAL Screening Uncertainty (+/- pCi/g)
	AAB 6411	260.63 β	131.97 β
	AAB 6412	2056.40 β 32.6 γ	370.69 β 2.15 γ
	AAB 6569	1764.14 β 53.45 γ	343.34 β 2.15 γ
	AAB 6570	2121.18 β 67.96 γ	376.49 β 2.40 γ
	AAB 6573	2041.34 β 148.45 γ	369.33 β 3.54 γ
	AAB 6574	1752.09 β 57.89 γ	342.17 β 2.21 γ
	AAB 6575	305.82 β	142.95 β
	AAB 6580	4188.13 β 90.98 γ	529.02 β 90.98 γ
10-2219	AAB 6586	95.66 β	79.95 β
10-2220	AAB 6583	109.22 β 1478.07 γ	85.43 β 11.41 γ
	AAB 6584	27996.47 β 822.52 γ	1367.77 β 8.51 γ
	AAB 6595	34466.99 β	1517.62 β
	AAB 9428	40421.53 β 791.83 γ	1643.50 β 8.46 γ
10-2221	AAB 9423	198.86 β	115.28 β
10-1222F	AAB 9253	97.92 β	80.89 β
10-1223	AAB 6604	689.99 β	214.73 β
	AAB 6607	1003.34 β	258.93 β
	AAB 6608	82.86 β	74.41 β
10-1289	AAB 9226	291.51 β	139.57 β
	AAB 9227	586.79 β	198.02 β
10-1293	AAB 9246	138.60 β	96.24 β