Environmental
Restoration
University of California
Environmental Science and Waste Technology (E)
Environmental Restoration, MS M992
Los Alamos, New Mexico 87545
505-667-0808/FAX 505-665-4747

U.S. Department of Energy
Los Alamos Area Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
505-667-7203/FAX 505-665-4504

Date: April 19, 2000
Symbol #: ER2000-0192

Mr. John Kieling
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

HSWA LANL G/P/66

SUBJECT: SUBMITTAL OF SUPPLEMENTAL INFORMATION IN SUPPORT OF NOD RESPONSES FOR MARCH 1995, SEPTEMBER 1995, AND SEPTEMBER 1996 REQUESTS FOR PERMIT MODIFICATION

Dear Mr. Kieling:

Enclosed are three copies of Supplemental Information in Support of NOD Responses for March 1995, September 1995, and September 1996 Requests for Permit Modification. This document is the result of the Permit Modification High Performance Team effort to successfully conclude the proposal for no further action (NFA) for 88 potential release sites (PRSs) that had previously been proposed for permit modification, but that had received notices of deficiency from the New Mexico Environment Department (NMED). Of these 88 PRSs, NMED concurred with 30 for removal from the Laboratory's Hazardous Waste Facility Permit via a Class III modification of the permit. Text for public notice for these 30 PRSs was finalized with NMED in February of this year. The remaining 58 PRSs are still undergoing evaluation.

Of the 30 PRSs with which NMED concurred,

- 13 were approved on the clarification of previously submitted documents and/or a site visit (no additional submittal of documentation is required for these PRSs);
- 13 require supplemental documentation (provided in enclosed document);
- 2 require supplemental documentation (provided in enclosed document) and a provisional statement (provided in this letter); and
- 2 require a provisional statement only (provided in this letter).

The enclosed document also includes a table that provides information on the document submittals requested by your staff.

The following provisional statements are provided here per the request of your staff:

PRS 3-032. Potential contamination associated with the drainlines for Building TA-3-38 will be addressed when that building is decontaminated and decommissioned.

15842

PRS 3-043(e). Former underground storage tank TA-3-36-1 is the same unit designated as PRS 3-043(e).

PRS 3-052(c). Any potential residual TPH contamination from PRS 3-052(c) will be investigated as part of PRS 3-045(a).

PRS 35-006. Former RCRA unit TA 35, TSL 85 is the same unit designated as PRS 35-006.

Please call Dave McInroy at (505) 667-0819 if you have any questions.

Sincerely,

Julie A. Canepa, Program Manager
Los Alamos National Laboratory
Environmental Restoration

Sincerely,

for Joseph H. Mose

Theodore J. Taylor, Program Manager
Department of Energy
Los Alamos Area Office

JC/TT/LN/vm

Enclosure: Supplemental Information in Support of NOD Responses for March 1995, September 1995, and September 1996 Requests for Permit Modification

Cy (w/encl)

M. Bertino, E/ER, MS M992
M. Boettner, E/ER, MS M992
M. Buksa, E/ET, MS M992
M. Kirsch, E/ER, MS M992
J. Mose, LAAO, MS A316
L. Nonno, E/ER, MS M992
T. Taylor, LAAO, MS A316
T. Trujillo, DOE-AL, MS A906
RPF, MS M707

Cy (w/o enc.):
M. Baker, E/ER, MS J591
J. Bearzi, NMED-HRMB
J. Davis, NMED-SWQB, MS J993
R. Dinwiddie, NMED-HRMB
T. Longo, DOE-HQ, EM 453
D. McInroy, E/ER, MS M992
D. Neleigh, EPA R.6, 6PD-N (2 copies)
J. Parker, NMED-AIP, MS J993
L. Soholt, E/ER, MS M992
J. Vozella, LAAO, MS A316
S. Yanicek, NMED-AIP, MS J993
J. White, ESH-19, MS K498
E/ER File, MS M992

w F

environmental restoration project

A Department of Energy
Environmental Cleanup Program

LA-UR-00-1923
April 2000
ER2000-0169

Supplemental Information in Support of NOD Responses for March 1995, September 1995, and September 1996, Requests for Permit Modification

Los Alamos
NATIONAL LABORATORY
Los Alamos, NM 87545

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Produced by the Regulatory Compliance Focus Area

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Additional Documention for NFAs For April 2000 Public Notice

PRS No.	Permit Mod. Request	Documentation Submittal (if any)
3-002(a)	9/96	NMED approved the NFA proposal at the 6/15/99 meeting based on the fact that this <90-day area has been decommissioned. The text for public notice was approved at the 7/7/99 meeting. **SUBMITTING** a copy of the decommissioning form for the satellite accumulation area.
3-002(d)	9/96	NMED approved the NFA proposal at the 6/15/99 meeting based on clarification of previously submitted documents. The text for public notice was approved at the 7/7/99 meeting. **No further documentation required.**
3-009(c)	3/95	NMED approved the NFA proposal based on a 7/28/99 site visit. **No further documentation required.**
3-009(g)	3/95	NMED approved the NFA proposal at the 6/15/99 meeting based on clarification of previously submitted documents. The text for public notice was approved at the 7/7/99 meeting. **No further documentation required.**
3-019	9/96	NMED approved the NFA proposal at the 7/7/99 meeting based on engineering drawing ENG-R 458 (sheet 14 of 15). The text for public notice was approved in August, 1999. ENG-R 458, dated 1955, shows the as-built drawing which indicates that the facility was tied into both the Laboratory's sanitary sewer and acid waste systems at the time of construction. **SUBMITTING** a copy of ENG-R 458.
3-025(a)	9/96	NMED approved the NFA proposal based on a 7/28/99 site visit. **No further documentation required.**
3-026(b)	9/96	NMED approved the NFA proposal based on a 7/28/99 site visit. **No further documentation required.**
3-032	9/96	NMED approved the NFA proposal based on an 11/9/99 site visit. Paint booth use is minimal and waste is generated only every few years. **SUBMITTING** one year of waste management records for the two waste streams (paint booth sediment and the wastewater from the paint booth) to confirm proper waste management. Also including a certificate of analysis for air filters on door confirming non-hazardous status. **Providing a statement in submittal cover letter** that D&D of building will address potential contamination associated with the building drainlines.
3-043(e)	3/95	NMED approved the NFA proposal at a 6/15/99 meeting based on UST closure. The text for public notice was approved at the 7/7/99 meeting. **SUBMITTING** a copy of the December 1998 closure letter from the UST Bureau. Also providing a copy of relevant page from SWMU report, which ties SWMU number 3-043(e) to structure number 3-36-1 per UST Bureau closure letter. **Providing a statement in submittal cover letter** that cross references SWMU number to the structure number.
3-044(a)	9/96	NMED approved the NFA proposal based on a 7/28/99 site visit. **SUBMITTING** a copy of the 5/28/93 letter requesting closure and noting removal from database 6/3/93. Also providing satellite storage area inspection checklist and January 5, 2000, print-out of current ESH-19 database showing removed status.
3-045(i)	9/96	NMED approved the NFA proposal at the 6/15/99 meeting based on engineering drawings previously submitted, but then requested a site visit to confirm. Final approval was based on a 7/28/99 site visit, and the text for public notice was subsequently approved. **No further documentation required.**
3-049(c)	9/96	NMED approved the NFA proposal at the 6/15/99 meeting based on clarification of previously submitted information. The text for public notice was subsequently approved. **No further documentation required.**
3-049(d)	9/96	NMED approved the NFA proposal at a 6/15/99 meeting based on previously submitted information. The text for public notice was subsequently approved. **No further documentation required.**

Additional Documention for NFAs For April 2000 Public Notice

PRS No.	Permit Mod. Request	Documentation Submittal (if any)
3-050(e)	9/96	NMED approved the NFA proposal at July/August 1999 meetings based on clarification of previously submitted information. **No further documentation required.**
3-052(c)	9/96	NMED approved the NFA proposal at a 7/14/99 meeting based on previously submitted information. **Providing a statement in submittal cover letter** that any potential residual TPH contamination associated with hydraulic oil from 3-052(c) will be investigated as part of PRS 3-045(a). **No further documentation required.**
3-055(d)	9/96	NMED approved the NFA proposal at July/August 1999 meetings. **SUBMITTING** copies of as-built engineering drawing ENG-R 79 (sheet 1 of 1), dated 1955. This drawing shows that TA-3-41 was always a fire station (see remarks) and was tied into the Laboratory's sanitary sewer system from time of construction. Also submitting a copy of engineering drawing ENG-R 491 (sheet 2 of 15), dated 1955, which shows the relationship of the sanitary lift station (TA-3-59) and the storm drainage system in the vicinity of the fire station and clearly shows that the lift station is not connected to the storm drain.
3-056(m)	9/96	Approved at July/August 1999 meetings based on clarification of previously submitted information. **No further documentation required.**
3-056(n)	9/96	NMED approved the NFA proposal based on a 7/28/99 site visit. **No further documentation required.**
11-011(c)	3/95	NMED approved the NFA proposal based on a 7/28/99 site visit. **SUBMITTING** engineering drawing ENG-C 44959 (sheet 3 of 9), dated 1987, which shows that prior to system upgrades in 1992, the hot water boiler had a relief line that went through the east wall of the building and was subsequently plugged in 1992. Also submitting as-built engineering drawing ENG- 27313 (sheet 3 of 4) that shows the presence of the natural gas line on the east wall of the building. This gas line was incorrectly identified as the PRS in our NOD response to the March 1995 permit modification request.
16-005(b)	9/95	NMED approved the NFA proposal at the 7/7/99 meeting based on newly acquired engineering drawings and structure list information. The text for public notice was also approved at the 7/7/99 meeting. **SUBMITTING** structure list and structure book pages which document that building TA-16-142, a fire house, was built in 1944 and removed in 1955, and operated only as a fire house during that period. Providing memoranda dated November 1983 and March 1960 that state when the septic tank (TA-16-174) was removed and confirming that no hazardous or radioactive materials were used. Also providing engineering drawings: ENG-C 1565 (sheet 2 of 4), dated 1945, showing the floor plan of the fire house; ENG-R 134 (sheet 3 of 4), dated 1951, showing the relationship between the fire station, the septic tank, and the steam plant; ENG-C 1564 (sheet 1 of 4), dated 1958, showing no connection between the steam plant and the septic tank and showing that the steam plant provided steam to the fire house; ENG-R 860 (sheet 7 of 38), dated 1959, showing that septic tank 174 was not connected to Building 502, the steamplant (the line from 174 to 502 is merely a distance line designating 197 feet between the two structures) and also showing an abandoned 4" VCP connection from septic tank 174 to an abandoned building (the fire house); and ENG-R 5111 (sheet 6 of 7), dated 1985, showing that all three structures have been removed. Lastly, providing EM/ER Telephone log that clarifies why the septic tank was screened for HE prior to removal.
18-007	9/96	NMED approved the NFA proposal at a 7/14/99 meeting based on results of an electromagnetic survey conducted by Spectrum Geophysics and described in a Nov. 1997 report, "Electromagnetic Investigation of SWMU 18-007 and SWMU 27-001, Los Alamos National Laboratory, Los Alamos, New Mexico." **SUBMITTING** a copy of the electomagnetic investigation report.

Additional Documention for NFAs For April 2000 Public Notice

PRS No.	Permit Mod. Request	Documentation Submittal (if any)
27-001	9/96	NMED approved the NFA proposal at a 7/14/99 meeting based on results of an electromagnetic survey conducted by Spectrum Geophysics and described in a Nov. 1997 report, "Electromagnetic Investigation of SWMU 18-007 and SWMU 27-001, Los Alamos National Laboratory, Los Alamos, New Mexico." **SUBMITTING** a copy of the electomagnetic investigation report.
35-004(e)	3/95	NMED approved the NFA proposal based on a 7/28/99 site visit. **No further documentation required.**
35-006	3/95	NMED approved the NFA proposal at the 6/15/99 meeting based on RCRA closure. The text for public notice was approved at the 7/7/99 meeting. Including copy of closure letter from NMED **and providing a statement in submittal cover letter** that cross references the SWMU No. with the impoundment description because the closure letter does not reference the site by SWMU number.
35-011(a)	3/95	NMED approved the NFA proposal based on an 11/9/99 site visit. **SUBMITTING** Santa Fe Engineering Drawing labeled Fig. 4, dated 1993 (from Wastestream Characterization Study) which shows the location of the two surge tanks and the line used to pump the tanks for disposal at the TA-50 Radioactive Liquid Waste Facility. Also providing Table 3 from the Wastestream Char. Study which recommends removal of tanks and plugging of assoc. drainlines which was subsequently performed in 1997. Also providing a copy of a telephone log describing tanks.
35-013(d)	3/95	NMED approved the NFA proposal based on an 11/9/99 site visit. **SUBMITTING** a copy of relevant excerpt from 12/19/91 closure certification report, which confirms that the 4 drains and associated drainlines were grouted in place when the tank was removed. Also providing engineering drawing ENG-C 43117(sheet 58 of 87), dated 1974, that shows that the 4 floor drains in question discharged to the Laboratory's acid waste line. Also providing ENG-C 43117 (sheet 4 of 87) that shows the acid waste lines from the floor drains discharging to a proposed 1000-gal. tank. The drawing indicates that the proposed location of the tank was to be adjacent to the northeast corner of the building; however, the tank was actually installed adjacent to the northwest corner of the building.
54-007(b)	3/95	NMED approved the NFA proposal at July/August 1999 meetings based on clarification of information already provided. **No further documentation required.**
54-015(h)	3/95	NMED approved the NFA proposal based on an 11/9/99 site visit and requested clarification about the stand-down. **SUBMITTING** a copy of telephone log documenting stand-down.
59-001	3/95	NMED approved the NFA proposal based on a 7/28/99 site visit. **SUBMITTING** engineering drawing ENG-C 43442 (sheet 8 of 66), dated 1978, showing the former location of the septic tank. Also providing an aerial photograph showing the newly excavated parking lot which was the former location of the septic tank and providing three photographs of the excavated parking lot that indicate the large amount of soil removed during the construction of Building TA-59-03 and its associated parking lot.
61-004(a)	3/95	NMED approved the NFA proposal at July/August 1999 meetings based on engineering drawings. **SUBMITTING** engineering drawings: ENG-R 5103 (sheet 6), dated 1970, showing that septic tank TA-3-689 served only the radio repair shop (TA-3-282); ENG-C 41463 (sheet 2 of 38), dated 1971, showing the radio repair shop connected to the new sanitary sewer system within TA-3 and indicating that the septic tank is no longer present; and ENG-R 5103 (sheet 12 of 17), dated 1986, also confirming that the septic tank is no longer present.

3-002(a)

HAZARDOUS WASTE STORAGE AREA

DECOMMISSIONING FORM (DF)

○ Satellite	Site ID # _____	⊗ < 90 day	Site ID # 138
TA: 03	BLDG: 66	ROOM: N/A	DATE: 06-06-95
OTHER LOCATION INFORMATION: Outside P100 Area			
CONTACT: Darryl C. Garcia	GROUP: MST/FAC	MAILSTOP: 6752	PHONE: 7-2410

WERE ALL HAZARDOUS WASTE SPILLS OR RELEASES CLEANED UP AND THE RESULTING MATERIAL HANDLED APPROPRIATELY?

⊗ YES ○ NO

WAS ALL HAZARDOUS AND MIXED WASTE BEEN PROPERLY DISPOSED OF AND DOCUMENTED?

⊗ YES ○ NO

DATE WHEN WASTE WAS DISPOSED OF _____

WPF # _____

WASTE COORDINATOR'S SIGNATURE	GROUP	MAILSTOP	PHONE	DATE
Darryl Garcia	MST/FAC	6752	7-2410	06-06-95

DATE REMOVED FROM DATABASE BY ESH-19 7/5/95

RETURN TO: GERI RODRIGUEZ or MICHELLE CASH, ESH-19, MS K498

REMINDER:

BEFORE DECOMMISSIONING A HAZARDOUS WASTE STORAGE AREA YOU MUST:

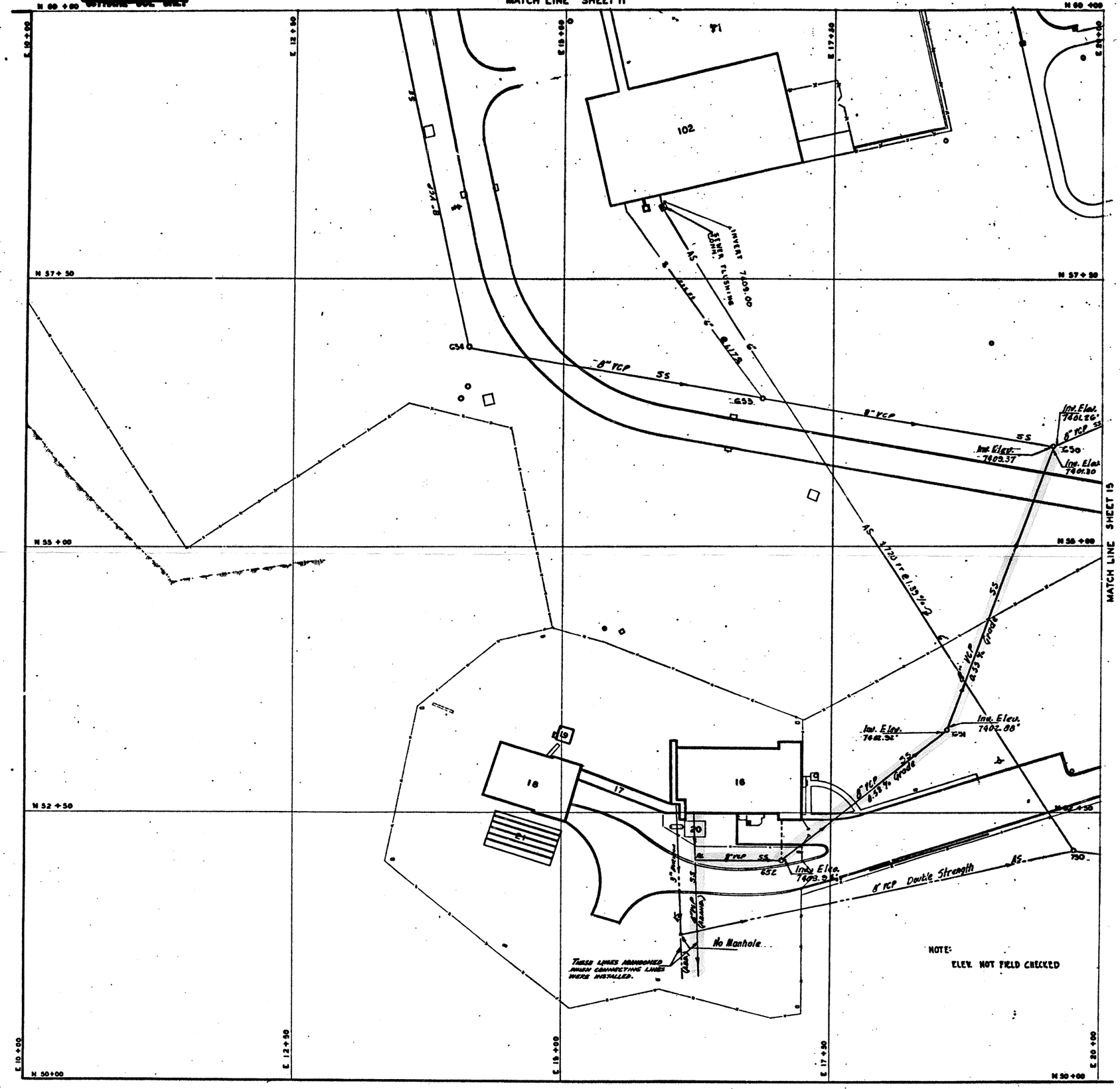
- *ENSURE ALL HAZARDOUS WASTE SPILLS OR RELEASES HAVE BEEN CLEANED UP AND THE RESULTING MATERIAL HANDLED APPROPRIATELY.*
- *ENSURE THAT ALL HAZARDOUS AND MIXED WASTE HAS BEEN PROPERLY DISPOSED OF AND DOCUMENTED.*

If you have any questions please call Geri Rodriguez, 7-6259 or Michelle Cash, 5-0223.

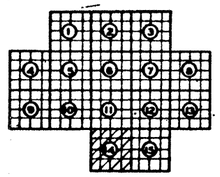
3-019

~~OFFICIAL USE ONLY~~

MATCH LINE SHEET 11



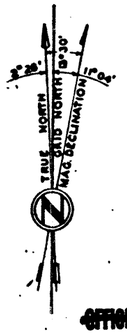
MATCH LINE SHEET 15



INDEX TO SHEETS
NO SCALE

LEGEND
—SS— SANITARY SEWER
—AS— ACID SEWER
REFERENCE DRAWINGS
ENG. C-7389, ENG. C-7400

15842-A



~~OFFICIAL USE ONLY~~

NO.	DATE	REVISIONS	BY	CHKD	CHF. ENG.	ENG. DIV.
2	4-13-59	REVISED TO FIELD CHECK STATUS 9-9-58	GHF	BPW	ER	DJS
1	3-14-55	REVISED TO FIELD CHECK STATUS	DM		ER	DJS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

UTILITY LOCATION PLAN
TA-3 SOUTH MESA SITE
SEWER SYSTEM

CHECKED	RECOMMENDED	APPROVED
DESIGNER	GROUP LEADER	ENG. DEPT. OFFICE

DRAWN	DATE	DRAWING NO.
D.M.	1-14-55	ENG- R 458
SCALE 1 IN. = 50 FT.	SHEET 14 OF 15	

INFORMATION SHOWN CURRENT AS OF 9-9-58

LAB. JOB NO. 1045

Los Alamos Environmental Restoration Records Processing Facility
ER Record I.D.# 0023666

VERIFIED UNCLASSIFIED
PUBLICLY RELEASABLE

3-032

Los Alamos National Laboratory

COPY

Chemical Waste Disposal Request

#1681 RECEIVED MAR 30 1998

ORIGINAL

Waste Services Use Only 3005999

This form is used to request disposal of chemical **and** radioactive wastes. Mail completed form to Waste Services Group at **MS J579**

Account Information	Name (Print)	Telephone	Z Number	Date
9932/U816/0063/0000	EARL BOOKWALTER	7-4231	070052	3/25/98

Item Id	Waste Profile Number	Process ID	Shipping Container Information					Waste Information				Description
			Type	Volume	Unit	Tare Weight	Unit	Volume	Unit	Weight	Unit	
2087015	28309		02	10	G	5	P	9	G	75	P	PAINT BOOTH SEDIMENT
2087016	28309		02	10	G	5	P	9	G	75	P	PAINT BOOTH SEDIMENT
2087017	28309		02	10	G	5	P	9	G	75	P	PAINT BOOTH SEDIMENT
2087018	28155		04	1	Q	2	O	0.5	Q	1.5	P	BLUE LIQUID - ORPHAN WASTE
2087019	28151		13	1	G	5	O	0.5	G	6.0	P	ONE GALLON METAL CAN WITH LID CONTAINING BLACK SLUDGE & WATER (NON HAZARDOUS)
												WASTE MUST BE REMOVED FROM <90 DAY STORAGE AREA BY APRIL 24, 1998.

Container Types
01 - Bulk (unpackaged)
02 - Metal Drum
03 - Fiber or Plastic Drum
04 - Plastic Bottle or Container
05 - Glass Bottle or Container
06 - Plastic Bag
07 - Fiber or Plastic Box
08 - Wooden Box
09 - Metal Box
10 - Portable Tank
11 - Cylinder
12 - Shield Cask
13 - Other (Specify in Description)

Units for Volume
G - Gallons
L - Liters
F - Cubic Feet
M - Cubic Meters
O - Fluid Ounce
P - Pint
Q - Quart

Units for Weight
P - Pound
K - Kilograms
G - Grams
O - Ounce
T - Tons

Waste Accumulation *(Check all that apply)*
- [x] < 90 Day Storage Area (Start Date: 1/26/98)
- [ ] Satellite Storage Area (Approximate Volume: _____)
- [ ] Rad Dumpster No: _____
- [ ] Security Area

TA 3
Building 38
Room 103

CERTIFICATION STATEMENT: To the best of my knowledge, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Printed Name	Signature	Z Number	Date
CONNIE J. GERTH	Connie J. Gerth PH 7-0104 PG 667 104-3390	117806	3/26/98

Form 1541 (03/95)

WASTE MANAGEMENT RECORDS FOR PAINT BOOTH SEDIMENT & WASTE WATER

3-032

Item Id	C/NC	Health Physics Information				Radionuclide	Amount		Unit	Uncertainty	
		Container Surface (mrem/hr)	1 Meter Dose (mrem/hr)	Package Surface Contamination (DPM/100 sq. cm)							
				Alpha	Beta-Gamma						
								E + -			E + -
								E + -			E + -
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C - Compactible NC - Non-compactible

Units for Activity

C - Curie M - Grams - Curies/liter

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. [illegible]

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NM0890010515 — Manifest Document No. 05999

2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Los Alamos National Laboratory
GERTH CORBIN TA03 RS, A199 LOS ALAMOS, NM87545

4. Generator's Phone (505) 667-4104

5. Transporter 1 Company Name — Los Alamos National Laboratory

6. US EPA ID Number — NM0890010515

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address
Los Alamos National Laboratory
Mesita Del Buey Rd. TA-54
Los Alamos, NM 87545

10. US EPA ID Number — NM0890010515

A. State Manifest Document Number
B. State Generator's ID
C. State Transporter's ID
D. Transporter's Phone
E. State Transporter's ID
F. Transporter's Phone
G. State Facility's ID
H. Facility's Phone

GENERATOR

	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a.	NON-REGULATED WASTE, LIQUID		4	DF	231	P
b.	WASTE FLAMMABLE LIQUIDS, N.O.S., 3, UN1993, III, (CONTAINS BENZENE)	X	1	DF	2	P
c.						
d.						

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY PHONE NO. (505) 667-6211
11a. EPCRA; 11b. EPCRA; 24

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled; and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name — Signature — Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Brady K. Mann — Signature — Month Day Year

Style CF 17 LABELMASTER, AN AMERICAN LABELMARK CO., CHICAGO, IL 60646 (800)621-5808

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

PRINTED ON RECYCLED PAPER USING SOYBEAN INK — PRINTED WITH SOY INK

FILE COPY OR STATE COPY

Best Available Copy

National Laboratory

NOTIFICATIONS FORM

1 of 1

Uniform Hazardous Waste Manifest Number 05999 | Date 4/17/95

Treatability Group:
- [x] Non-wastewater
- [ ] Wastewater (as defined by 40 CFR 268.2(f))
- [ ] Lab Pack (Appendix IV)
- [ ] Lab Pack (40 CFR 268.42[c])**

Notification of California List Applicability - Check all that apply.

- [ ] Liquid hazardous waste containing PCBs at a concetration of 50 ppm or greater.
- [ ] A D001 thru D017 liquid waste containing 134 mg/L or greater of nickel and/or 130 mg/L or greater of thallium.
- [ ] A D001 thru D011 waste containing Halogenated Organic Coumpounds (HOCs) listed in 40 CFR 268, Appendix III, at 1000 ppm or greater

Notification of "D" Characteristic EPA Waste Codes - Check all that apply.

EPA Code	Waste Description and/or Subcategory
[ ] D001*	Ignitable Characteristic Wastes - non-CWA
[ ] D001*	Ignitable Characteristic Wastes - CWA
[x] D001	High TOC Ignitable Characteristic Liquids (NWW - ≥10%)
[ ] D002*	Corrosive Characteristic Wastes - non-CWA
[ ] D002*	Corrosive Characteristic Wastes - CWA
[ ] D003*	Reactive Sulfides [261.23(a)(5)]
[ ] D003*	Explosives [261.23(a)(6), (7), & (8)]
[ ] D003*	Other Reactives [261.23(a)(1)]
[ ] D003*	Water Reactive [261.23(a)(2), (3), & (4)]
[ ] D003	Reactive Cyanides [261.23(a)(5)]
D004	Arsenic (containing) Wastes
D005	Barium (containing) Wastes
[ ] D006	Cadmium (containing) Wastes
[ ] D006	Cadmium containing batteries (NWW)
[ ] D007	Chromium (Total) Wastes
[ ] D008	Lead (containing) Wastes
[ ] D008	Lead Acid Batteries (NWW)
[ ] D008	Radioactive Lead Solids (NWW)
[ ] D009	High Mercury Organic (NWW - ≥ 260 mg/kg)
[ ] D009	High Mercury Inorganic (NWW - ≥ 260mg/kg)
[ ] D009	Low Mercury (NWW - < 260 mg/kg)
[ ] D009	Mercury (containing) Wastewater
[ ] D009	Radioactive Elemental Mercury (NWW)
[ ] D009	Hydraulic Oil contaminated with Mercury Radioactive Materials (NWW)
[ ] D010	Selenium (containing) Wastes
[ ] D011	Silver (containing) Wastes
[ ] D012*	Endrin (containing) Wastes
[ ] D013*	Lindane (containing) Wastes
[ ] D014*	Methoxychlor (containing) Wastes
[ ] D015*	Toxaphene (containing) Wastes
[ ] D016*	2,4-D (containing) Wastes
[ ] D017*	2,4,5-TP [Silvex] (containing) Wastes
[ ] D018*	Benzene (containing) Wastes
[ ] D019*	Carbon tetrachloride (containing) Wastes
[ ] D020*	Chlordane (containing) Wastes
[ ] D021*	Chlorobenzene (containing) Wastes
[ ] D022*	Chloroform (containing) Wastes
[ ] D023*	o-Cersol (containing) Wastes
[ ] D024*	m-Cersol (containing) Wastes
[ ] D025*	p-Cersol (containing) Wastes
[ ] D026*	Cersol - mixed (containing) Wastes
[ ] D027*	p-Dichlorobenzene (containing) Wastes
[ ] D028*	1,2-Dichloroethane (containing) Wastes
[ ] D029*	1,1-Dichloroethane (containing) Wastes
[ ] D030*	2,4-Dinitrotoluene (containing) Wastes
[ ] D031*	Heptachlor (containing) Wastes
[ ] D032*	Hexachlorobenzene (containing) Wastes
[ ] D033*	Hexachlorobutadiene (containing) Wastes
[ ] D034*	Hexachloroethane (containing) Wastes
[ ] D035*	Methly ethyl ketone (containing) Wastes
[ ] D036*	Nitrobenzene (containing) Wastes
[ ] D037*	Pentachlorophenol (containing) Wastes
[ ] D038*	Pyridine (containing) Wastes
[ ] D039*	Tetrachloroethylene (containing) Wastes
[ ] D040*	Trichloroethylene (containing) Wastes
[ ] D041*	2,4,5-Trichlorophenol (containing) Wastes
[ ] D042*	2,4,6-Trichlorophenol (containing) Wastes
[ ] D043*	Vinyl chloride (containing) Wastes

* Require Identification of UHCs

Los Alamos
National Laboratory

LAND DISPOSAL RESTRICTIONS NOTIFICATIONS FORM

Notification for F001 - F005 EPA Spent Solvent Waste Codes - Check all that apply.

EPA Code ☐ F001 ☐ F002 ☐ F003 ☐ F004 ☐ F005

Constituents in the waste:

- ☐ Acetone
- ☐ Benzene
- ☐ n-Butyl alcohol
- ☐ Carbon disulfide
- ☐ Carbon tetrachloride
- ☐ Chlorobenzene
- ☐ o-Cresol
- ☐ m-Cresol
- ☐ p-Cresol
- ☐ Cresol mixed isomers (Cresylic acid)
- ☐ Cyclohexanone
- ☐ o-Dichlorobenzene
- ☐ Ethyl acetate
- ☐ Ethyl benzene
- ☐ Ethyl ether
- ☐ 2-Ethoxyethanol
- ☐ Isobutyl alcohol
- ☐ Methanol
- ☐ Methylene chloride
- ☐ Methyl ethyl ketone
- ☐ Methyl isobutyl ketone
- ☐ Nitrobenzene
- ☐ 2-Nitropropane
- ☐ Pyridine
- ☐ Tetrachloroethylene
- ☐ Toluene
- ☐ 1,1,1-Trichloroethane
- ☐ 1,1,2-Trichloroethane
- ☐ 1,1,2-Trichloro - 1,2,2-trifloroethane
- ☐ Trichloroethylene
- ☐ Trichloromonofluoromethane
- ☐ Xylenes - mixed ismoers

EPA Code ☐ F003 ☐ F005

Note: Treatment standards for these constituents apply to F001 - F005 wastes which contain only one, two, or all three of these constituents.

Constituents in the waste: ☐ Carbon disulfide ☐ Cyclohexanone ☐ Methanol

Check only one, if applicable.

EPA Code ☐ F005

Constituents in the waste:

- ○ Containing 2-Nitropropane as the only listed F001 - F005 solvent
- ○ Containing 2-Ethoxyethanol as the only listed F001 - F005 solvent

Notification for other "F" EPA Waste Codes - Check only one, if applicable.

○ F006 ○ F007 ○ F008 ○ F009 ○ F027 ○ F039

Notification of "P & U" EPA Waste Codes - Check all that apply.

☐ P001	☐ P011	☐ P022	☐ P034	☐ P045	☐ P058	☐ P069	☐ P081	☐ P095	☐ P106	☐ P118				
☐ P002	☐ P012	☐ P023	☐ P035	☐ P046	☐ P059	☐ P070	☐ P082	☐ P096	☐ P108	☐ P119				
☐ P003	☐ P013	☐ P024	☐ P037	☐ P047	☐ P060	☐ P071	☐ P084	☐ P097	☐ P109	☐ P120				
☐ P004	☐ P014	☐ P026	☐ P038	☐ P048	☐ P062	☐ P072	☐ P085	☐ P098	☐ P110	☐ P121				
☐ P005	☐ P015	☐ P027	☐ P039	☐ P049	☐ P063	☐ P073	☐ P087	☐ P099	☐ P111	☐ P122				
☐ P006	☐ P016	☐ P028	☐ P040	☐ P050	☐ P064	☐ P074	☐ P088	☐ P101	☐ P112	☐ P123				
☐ P007	☐ P017	☐ P029	☐ P041	☐ P051	☐ P065 *	☐ P075	☐ P089	☐ P102	☐ P113					
☐ P008	☐ P018	☐ P030	☐ P042	☐ P054	☐ P066	☐ P076	☐ P092 *	☐ P103	☐ P114					
☐ P009	☐ P020	☐ P031	☐ P043	☐ P056	☐ P067	☐ P077	☐ P093	☐ P104	☐ P115					
☐ P010	☐ P021	☐ P033	☐ P044	☐ P057	☐ P068	☐ P078	☐ P094	☐ P105	☐ P116					

☐ U001	☐ U023	☐ U045	☐ U068	☐ U089	☐ U112	☐ U133	☐ U155	☐ U177	☐ U201	☐ U223				
☐ U002	☐ U024	☐ U046	☐ U069	☐ U090	☐ U113	☐ U134	☐ U156	☐ U178	☐ U202	☐ U225				
☐ U003	☐ U025	☐ U047	☐ U070	☐ U091	☐ U114	☐ U135	☐ U157	☐ U179	☐ U203	☐ U226				
☐ U004	☐ U026	☐ U048	☐ U071	☐ U092	☐ U115	☐ U136	☐ U158	☐ U180	☐ U204	☐ U227				
☐ U005	☐ U027	☐ U049	☐ U072	☐ U093	☐ U116	☐ U137	☐ U159	☐ U181	☐ U205	☐ U228				
☐ U006	☐ U028	☐ U050	☐ U073	☐ U094	☐ U117	☐ U138	☐ U160	☐ U182	☐ U206	☐ U234				
☐ U007	☐ U029	☐ U051	☐ U074	☐ U095	☐ U118	☐ U140	☐ U161	☐ U183	☐ U207	☐ U235				
☐ U008	☐ U030	☐ U052	☐ U075	☐ U096	☐ U119	☐ U141	☐ U162	☐ U184	☐ U208	☐ U236				
☐ U009	☐ U031	☐ U053	☐ U076	☐ U097	☐ U120	☐ U142	☐ U163	☐ U185	☐ U209	☐ U237				
☐ U010	☐ U032	☐ U055	☐ U077	☐ U098	☐ U121	☐ U143	☐ U164	☐ U186	☐ U210	☐ U238				
☐ U011	☐ U033	☐ U056	☐ U078	☐ U099	☐ U122	☐ U144	☐ U165	☐ U187	☐ U211	☐ U239				
☐ U012	☐ U034	☐ U057	☐ U079	☐ U101	☐ U123	☐ U145	☐ U166	☐ U188	☐ U213	☐ U240				
☐ U014	☐ U035	☐ U058	☐ U080	☐ U102	☐ U124	☐ U146	☐ U167	☐ U189	☐ U214	☐ U243				
☐ U015	☐ U036	☐ U059	☐ U081	☐ U103	☐ U125	☐ U147	☐ U168	☐ U190	☐ U215	☐ U244				
☐ U016	☐ U037	☐ U060	☐ U082	☐ U105	☐ U126	☐ U148	☐ U169	☐ U191	☐ U216	☐ U246				
☐ U017	☐ U038	☐ U061	☐ U083	☐ U106	☐ U127	☐ U149	☐ U170	☐ U192	☐ U217	☐ U247				
☐ U018	☐ U039	☐ U062	☐ U084	☐ U107	☐ U128	☐ U150	☐ U171	☐ U193	☐ U218	☐ U248				
☐ U019	☐ U041	☐ U063	☐ U085	☐ U108	☐ U129	☐ U151 *	☐ U172	☐ U194	☐ U219	☐ U249				
☐ U020	☐ U042	☐ U064	☐ U086	☐ U109	☐ U130	☐ U152	☐ U173	☐ U196	☐ U220	☐ U328				
☐ U021	☐ U043	☐ U066	☐ U087	☐ U110	☐ U131	☐ U153	☐ U174	☐ U197	☐ U221	☐ U353				
☐ U022	☐ U044	☐ U067	☐ U088	☐ U111	☐ U132	☐ U154	☐ U176	☐ U200	☐ U222	☐ U359				

* Indicate the Subcategory

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM
WPF #: 28309

Generator :	BOOKWALTER, EARL C	MS :	A199	PH :	74231	Z#:	070052
WMC :	GERTH, CONNIE	MS :	A199	PH :	70104	Z#:	117806
Contact :							
CSR :	RIVERA, ROBERT	MS :	J595	PH :	54000	Z#:	122062
Status :	ACTIVE	Activation Date :	20-MAR-98		Expiration Date:		20-MAR-99
Group :	JCNNM	TA :	03	Bldg :	000038	Room:	103

You are required to keep a copy of the WPF(s) in your files for at least three years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, please submit a new WPF to EM-SWO Customer Service, and attach a copy of the WPF which is being replaced.

Waste Accumu : **Less-than-90-days Storage Area Site ID# 63**
Method of Char : **Analysis/Documents Attached**
Chemical/Physical Analysis **Number: 98.0029**

Waste Type : **Process Waste/Spent Chemical/Other**
Waste Classes: RCA Waste - **Not RCA Waste**
RAD Waste - **Non-rad**
Classif/Sensi - **N**

Waste Category: **Volatile Organics < 500 ppm**
Other

Waste Sources : **Scheduled Maintenance**

Waste Matrix : **Suspended Solids / Aqueous**

Matrix Type : **Heterogeneous**

Waste/Proc Desc : SEDIMENT, RESIDUE & WATER REMOVED FROM CATCH BASIN OF PAINT BOOTH WATER CURTAIN AIR SCRUBBER. MATERIAL CONSISTS OF DIRT, FINE PAINT PARTICLES, AND PAINT RESIDUE IN AN AQUEOUS SUSPENSION. ASSAIGAI ANALYTICAL LABORATORIES PROJECT 98 02042, JENV SAMPLE NO. 98.0029.

Ignitability : **Not ignitable**

Corrosivity : **6.1 - 9.0**

Reactivity : **Non-reactive**

Boiling Point : **> 95 F** **> 35 C**

Toxicity Characteristic Metals :

Contaminant	Method	Limit	Min	Max	Unit
BARIUM	**TCLP**	**Y**			**PPM**
CHROMIUM	**TCLP**	**Y**			**PPM**

Toxicity Characteristic Organic Compounds: N/A

Additional Chemical Constituents and Contaminants :

CAS NO	Constituent	MIN	MAX	UOM
	DIRT	**0**	**5**	**%**
	PAINT PARTICLES	**65**	**75**	**%**
	WATER WITH SOLUBLE PAINT RESIDUE	**20**	**30**	**%**

Additional Information: CAS.NO. CONSTITUENT CONC.

100-41-4 ETHYL BENZENE .41PPM
95-47-6 0-XYLENE .59PPM
1330-20-7 P/M-XYLENES 1.7PPM
108-88-3 TOLUENE 2.4PPM
------ 1,2,3-TRIMETHYLCYCLOHEXANE 8.9PPM
------ 1,3,5-TRIMETHYLCYCLOHEXANE 5.1PPM
------ 3,4,4-TRIMETHYL-2-HEXENE 4.3PPM
------ BUTYL-CYCLOHEXANE 5.4PPM
91-17-8 DECAHYDRONAPTHALENE 5.5PPM
112-40-3 DODECANE 4.9PPM
111-84-2 NONANE 12PPM
------ PENTYLCYCLOHEXANE 5.3PPM
1120-21-4 UNDECANE 12PPM

SEE ORIGINAL FOR REMAINING CONSTITUENTS

WASTE CHARACTERIZATION INFORMATION

Radioactivity Category : **NON-RAD**

RCRA Category : **NON-HAZARDOUS WASTE**

Misc. Category : **FOR DISPOSAL AT TA-54 AREA L**

Waste Classification : **FOR DISPOSAL AT TA-54 AREA L**

EPA Hazardous Waste Code : N/A

Los Alamos National Laboratory

Chemical Waste Disposal Request

#1652 COPY ORIGINAL

This form is used to request disposal of chemical **and** radioactive wastes. Mail completed form to Waste Services Group at **MS J579**

Waste Services Use Only 3005705

Account Information	Name (Print)	Telephone	Z Number	Date
9932/U816/0063	ANTHONY VALLEJOS	7-4231	107152	01/30/98

Item Id	Waste Profile Number	Process ID	Shipping Container Information					Waste Information				Description
			Type	Volume	Unit	Tare Weight	Unit	Volume	Unit	Weight	Unit	
2086991	24209		02	55	G	50	P	50	G	420	P	WASTEWATER FROM PAINT BOOTH
												AIR SCRUBBER
2086992	24209		02	55	G	50	P	50	G	420	P	" " " " "
2086993	24209		02	55	G	50	P	50	G	420	P	" " " " "
2086994	24209		02	55	G	50	P	50	G	420	P	" " " " "
2086995	24209		02	55	G	50	P	50	G	420	P	" " " " "
2086996	24209		02	55	G	50	P	50	G	420	P	" " " " "
2086997	24209		02	55	G	50	P	50	G	420	P	" " " " "
2086998	24209		02	55	G	50	P	50	G	420	P	" " " " "

Container Types
01 - Bulk (unpackaged)
02 - Metal Drum
03 - Fiber or Plastic Drum
04 - Plastic Bottle or Container
05 - Glass Bottle or Container
06 - Plastic Bag
07 - Fiber or Plastic Box
08 - Wooden Box
09 - Metal Box
10 - Portable Tank
11 - Cylinder
12 - Shield Cask
13 - Other (Specify in Description)

Units for Volume
G - Gallons
L - Liters
F - Cubic Feet
M - Cubic Meters
O - Fluid Ounce
P - Pint
Q - Quart

Units for Weight
P - Pound
K - Kilograms
G - Grams
O - Ounce
T - Tons

Waste Accumulation *(Check all that apply)* NONE APPLY

- ☐ < 90 Day Storage Area (Start Date: _____)
- ☐ Satellite Storage Area (Approximate Volume: _____)
- ☐ Rad Dumpster No: _____
- ☐ Security Area

TA 3
Building 38
Room 103

CERTIFICATION STATEMENT: To the best of my knowledge, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Printed Name	Signature		Z Number	Date
CONNIE J. GERTH	Connie J. Gerth	7-0104 pH 104-3390 pg	117806	01/30/98

Form 1541 (03/9

C98101421-C98101428

WASTE MANIFEST

*** IN CASE OF EMERGENCY CALL 505-667-6211 ***

EPA ID #: NM0890010515
S H I P T O
EM-SWO PHONE 505-665-6158
CHEMICAL AND MIXED WASTE MANAGEMENT
LOS ALAMOS NATIONAL LABORATORY
LOCATION
TA-54 ___ AREA L ___ AREA G ___
TA-50 ___ BLDG 1 ___ BLDG 37 ___
TRANSPORTER LAIDLAW ENV

WDR #: 3005705
S H I P F R O M
Requestor: GERTH CONNIE
Z #: 117806
Phone: 70104

TA: 03
Building: 38
Room: 103

ITEM	HM	DOT SHIPPING DESCRIPTION	CONTAINERS NO./TYPE	TOTAL QUANTITY	UNIT WT/VOL
1		NON-REGULATED WASTE, LIQUID ERG#:	8 DM	3361	p

ADDITIONAL DESCRIPTIONS FOR MATERIALS LISTED ABOVE

SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT AND THAT THIS TRANSFER CONTAINS NO HAZARDOUS MATERIALS OTHER THAN THOSE LISTED.

PRINTED/TYPED NAME: CONNIE J. GERTH
SIGNATURE: X Connie J. Gerth
DATE: 2/20/98

TRANSPORTER ACKNOWLEDGEMENT OF RECEIPT OF MATERIALS

PRINTED/TYPED NAME: COREY CAMPBELL
SIGNATURE: X Corey Campbell
DATE: 2-20-98

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM
WPF #: 24209

Generator :	GARCIA, ALEX	MS :	A199	PH :	74231	Z#:	107152
WMC :	RICHARDSON, JOSEPH	MS :	C920	PH :	54844	Z#:	110653
CSR :	HARRIS, GORDON	MS :	J595	PH :	75144	Z#:	111580
Status :	ACTIVE	Activation Date :	27-MAR-97	Expiration Date:	27-MAR-98		
Group :	JCIMDSS	TA :	03	Bldg :	000038	Room:	103

RMMA : N/A
Waste Accumu : **None of the Above Site ID#**
Method of Char : **Analysis/Documents Attached**

Waste Type : **Process Waste/Spent Chemical/Other**
Waste Classes: **NON-RADIOACTIVE**
ON-GOING GENERATION
Assoc Docum: N/A

Waste Category: **Not Applicable**

Waste Sources : **MAINTENANCE**

Waste Matrix : **AQUEOUS LIQUID**

Matrix Type : **Homogeneous**

Waste/Proc Desc : WASTEWATER GENERATED FROM PAINT BOOTH AIR SCRUBBER.

Ignitability : **Not ignitable**

Corrosivity : **6.1 - 9.0**

Reactivity : **Non-reactive**

Boiling Point : **> 95 F > 35 C**

Toxicity Characteristic Metals :

Contaminant	LTR	Min	Max	Unit	Method
ARSENIC	Y				
BARIUM	Y				
CHROMIUM	Y				
SELENIUM	Y				

Toxicity Characteristic Organic Compounds: N/A

Additional Chemical Constituents and Contaminants :

Constituent	CAS NO	MIN	MAX	UOM
WATER		**99**	**100**	**%**
PAINT PARTICLES & DIRT		**0**	**1**	**%**

Radiological Characteristics: N/A

Waste Water Contaminants: N/A

Additional Information: WASTEWATER HAS BEEN CENTRIFUGALLY FILTERED TO REMOVE PAINT PARTICLES, DIRT, AND OTHER SOLIDS. ANALYTICAL DATA, INCLUDING MICROTOX SCREEN, SHOWS WASTEWATER MEETS WAC FOR SWCS (TA 46 SANITARY PLANT). PLEASE CODE AS ACCEPTABLE FOR INTRODUCTION INTO SANITARY WASTEWATER SYSTEM.

WASTE CHARACTERIZATION INFORMATION

Radioactivity Category :	**Non-rad Waste**
RCRA Category :	**Non-hazardous Waste**
Misc. Category :	**NOT ACCEPTABLE FOR SWISC DISPOSAL**
Waste Classification :	**NON-HAZARDOUS WASTE**
EPA Hazardous Waste Code :	N/A

ORIGINAL

LOS ALAMOS
National Laboratory

RECEIVED MAR 1 2 1998

WASTE PROFILE FORM

#1670

Contact (if other than given below)	For rapid processing, complete all sections in black or blue ink and mail to: EM-SWO at MS J595. For assistance with completing this form, call EM-SWO at 5-4000.	Reference Number: 28309 (For EM-SWO use only.)

Generator's Z Number	Waste Generator's Name (print)	WMC's Z Number	WMC's Name (print)
070052	EARL BOOKWALTER	117806	CONNIE GERTH

Generator's Telephone	Generator's Mail Stop	Waste Generating Group	Waste Stream Technical Area	Building	Room
7-4231	A199/MDSS	JCNNM	3	38	103

Waste Accumulation (Check only one.)
- ☐ Satellite Accumulation Area — Site no: _____
- ☒ Less-than-90-days Storage Area — Site no: 0063
- ☐ TSDF — Site no: _____
- ☐ Universal Waste Storage Area — Site no: _____
- ☐ None of the Above

ER Use Only ☐ ER Site — PRS #: _____

Method of Characterization (Check as many as apply.)
- ■ Analysis/Documents Attached
- ■ Chemical/Physical Analysis — Sample #: 98.0029
- ☐ Radiological Analysis — Sample #: _____
- ☐ PCB Analysis — Sample #: _____
- ☐ Acceptable Knowledge Documentation — Documentation #: _____
- ☐ MSDS

Section 1 - Chemical and Physical Information

Waste Type (Check only one.)
- ☐ Unused/Unspent Chemical (Complete all sections as appropriate.)
- ■ Process Waste/Spent Chemical/ other (Complete all sections.)
- Green is Clean Waste (Complete all sections as appropriate.)

Waste Classes

Radiological Information
Was Waste Generated in a RCA? ☐ Yes ■ No
- ■ Non-radioactive
- ☐ Radioactive
  - ☐ Low-Level
  - ☐ Transuranic

Wastewater Information
- ☐ Wastewater for SWSC (TA-46) (Complete Attachment 1)
- ☐ Wastewater for RLWTF (TA-50/TA-21) (Complete Attachment 2)
- ☐ Wastewater for TA-16 (HE)

Classification Information
- ■ Unclassified
- ☐ Classified/Sensitive

Waste Category (Check as many as apply.)
- ☐ Inorganic
- ~~■ Organic~~ NO CHG
- Volatile Organics ■ < 500 ppm ☐ ≥ 500 ppm
- ☐ Solvent *
- ☐ Degreaser *
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated Hazardous waste residue
- ☐ Explosive process
- ☐ Infectious/Medical
- ☐ Biological
- ☐ Beryllium
- ☐ Empty Container (See instructions)
- ☐ Battery (See instructions)
- Asbestos ☐ friable ☐ non-friable
- PCB Source Concentration
  - ☐ PCB < 50 ppm
  - ☐ PCB ≥ 50 - < 500 ppm
  - ☐ PCB ≥ 500 ppm
- ■ Other (Describe below)

* Concentrations 10% or greater before use.

Waste Source (Check only one.)

Routine Waste
- ☐ Decon
- ☐ Materials Processing/Production
- ☐ Research/Development/Testing
- ■ Scheduled Maintenance
- ☐ Housekeeping - Routine
- ☐ Spill Cleanup - Routine
- ☐ Sampling - Routine Monitoring
- ☐ Other (Describe below)

Non-routine Waste
- ☐ Abatement
- ☐ Construction/Upgrades
- ■ Demolition
- ■ Decon/Decom
- ☐ Investigative Derived
- ☐ Orphan/Legacy
- ☐ Remediation/Restoration
- ☐ Repacking (Secondary)
- ☐ Unscheduled Maintenance
- ☐ Housekeeping - Non-routine
- ☐ Spill Cleanup - Non-routine
- ☐ UST - Non-petroleum
- ☐ UST - Petroleum
- ☐ Other (Describe below)

Waste Matrix (Check only one.)

Gas
- ☐ ≤ 1.5 Atmospheres pressure
- ☐ > 1.5 Atmospheres pressure
- ☐ Liquefied compressed gas

Liquid
- ☐ Aqueous
- ☐ Non-aqueous
- ■ Suspended Solids/ Aqueous
- ☐ Suspended Solids/ Non-aqueous

Solid
- ☐ Powder/Ash
- ☐ Solid
- ☐ Sludge
- ☐ Absorbed liquid

Matrix Type (Check only one.)
- ☐ Homogeneous
- ■ Heterogeneous (Describe below)

Waste/Process Description (Chemical formulas may be used in this field.)

SEDIMENT, RESIDUE, & WATER REMOVED FROM CATCH BASIN OF PAINT BOOTH WATER CURTAIN AIR SCRUBBER. MATERIAL CONSISTS OF DIRT, ~~AND~~ CHG FINE PAINT PARTICLES, ~~PA~~ CHG AND PAINT RESIDUE IN AN AQUEOUS SUSPENSION. ASSAIGAI ANALYTICAL LABORATORIES PROJECT 98 02042, JENV SAMPLE NO. 98.0029.

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WASTE PROFILE FORM

Section 2 - Characteristics

Ignitability (Check only one.) (°F)	(°C)	Corrosivity (Check only one.) (pH)	Reactivity (Check as many as apply.)	Boiling Point (Check only one.) (°F)	(°C)
☐ < 73	< 22.8	☐ ≤ 2.0	☐ RCRA Unstable	☐ ≤ 95	≤ 35
☐ 73 - 99	22.8 - 37.2	☐ 2.1 - 4.0	☐ Water Reactive	■ > 95	> 35
☐ 100 - 139	37.8 - 59.4	☐ 4.1 - 6.0	☐ Cyanide Bearing (> 250 ppm)		
☐ 140 -200	60.0 - 99.3	■ 6.1 - 9.0	☐ Sulfide Bearing (> 500 ppm)		
☐ > 200	> 99.3	☐ 9.1 - 12.4	☐ Pyrophoric		
☐ EPA Ignitable - Non-liquid		☐ ≥ 12.5	☐ Shock Sensitive		
☐ DOT Flammable Gas		☐ Liquid corrosive to steel	☐ Explosive - DOT Div. _____		
☐ DOT Oxidizer					
■ Not ignitable		☐ Non-aqueous	■ Non-reactive	☐ Not applicable	

Identify for all contaminants listed.	Characterization Method: AK	TCLP	Total	Concentration of Contaminants: None or Non-detect	Present Below Regulatory Limit	Above Regulatory Limit (Concentration in ppm only.) Minimum	Maximum
Toxicity Characteristic Metals							
Arsenic	☐	☐	☐	■	☐ < 5.0 ppm	_____ to	_____ ppm
Barium	☐	☐	☐	☐	■ < 100.0 ppm	_____ to	_____ ppm
Cadmium	☐	☐	☐	■	☐ < 1.0 ppm	_____ to	_____ ppm
Chromium (Total)	☐	☐	☐	☐	■ < 5.0 ppm	_____ to	_____ ppm
Lead	☐	☐	☐	■	☐ < 5.0 ppm	_____ to	_____ ppm
Mercury	☐	☐	☐	■	☐ < 0.2 ppm	_____ to	_____ ppm
Selenium	☐	☐	☐	■	☐ < 1.0 ppm	_____ to	_____ ppm
Silver	☐	☐	☐	■	☐ < 5.0 ppm	_____ to	_____ ppm
Toxicity Characteristic Organics							
Benzene	☐	☐	☑	■	☐ < 0.5 ppm	_____ to	_____ ppm
Carbon tetrachloride	☐	☐	☐	■	☐ < 0.5 ppm	_____ to	_____ ppm
Chlorodane	☐	☐	☐	■	☐ < 0.03 ppm	_____ to	_____ ppm
Chlorobenzene	☐	☐	☐	■	☐ < 100.0 ppm	_____ to	_____ ppm
Chloroform	☐	☐	☐	■	☐ < 6.0 ppm	_____ to	_____ ppm
o - cresol	☐	☐	☐	■	☐ < 200.0 ppm	_____ to	_____ ppm
m - cresol	☐	☐	☐	■	☐ < 200.0 ppm	_____ to	_____ ppm
p - cresol	☐	☐	☐	■	☐ < 200.0 ppm	_____ to	_____ ppm
Cresol - mixed	☐	☐	☐	■	☐ < 200.0 ppm	_____ to	_____ ppm
2,4-D	☐	☐	☐	■	☐ < 10.0 ppm	_____ to	_____ ppm
1,4-Dichlorobenzene	☐	☐	☐	■	☐ < 7.5 ppm	_____ to	_____ ppm
1,2-Dichloroethane	☐	☐	☐	■	☐ < 0.5 ppm	_____ to	_____ ppm
1,1-Dichloroethylene	☐	☐	☐	■	☐ < 0.7 ppm	_____ to	_____ ppm
2,4-Dinitrotoluene	☐	☐	☐	■	☐ < 0.13 ppm	_____ to	_____ ppm
Endrin	☐	☐	☐	■	☐ < 0.02 ppm	_____ to	_____ ppm
Heptachlor (& its epoxide)	☐	☐	☐	■	☐ < 0.008 ppm	_____ to	_____ ppm
Hexchlorobenzene	☐	☐	☐	■	☐ < 0.13 ppm	_____ to	_____ ppm
Hexchlorobutadiene	☐	☐	☐	■	☐ < 0.5 ppm	_____ to	_____ ppm
Hexchloroethane	☐	☐	☐	■	☐ < 3.0 ppm	_____ to	_____ ppm
Lindane	☐	☐	☐	■	☐ < 0.4 ppm	_____ to	_____ ppm
Methoxychlor	☐	☐	☐	■	☐ < 10.0 ppm	_____ to	_____ ppm
Methyl ethyl ketone	☐	☐	☐	■	☐ < 200.0 ppm	_____ to	_____ ppm
Nitrobenzene	☐	☐	☐	■	☐ < 2.0 ppm	_____ to	_____ ppm
Pentachlorophenol	☐	☐	☐	■	☐ < 100.0 ppm	_____ to	_____ ppm
Pyridine	☐	☐	☐	■	☐ < 5.0 ppm	_____ to	_____ ppm
Tetrachloroethylene	☐	☐	☐	■	☐ < 0.7 ppm	_____ to	_____ ppm
Toxaphene	☐	☐	☐	■	☐ < 0.5 ppm	_____ to	_____ ppm
Trichloroethylene	☐	☐	☐	■	☐ < 0.5 ppm	_____ to	_____ ppm
2,4,5-Trichlorophenol	☐	☐	☐	■	☐ < 400.0 ppm	_____ to	_____ ppm
2,4,6-Trichlorophenol	☐	☐	☐	■	☐ < 2.0 ppm	_____ to	_____ ppm
2,4,5-TP (Silvex)	☐	☐	☐	■	☐ < 1.0 ppm	_____ to	_____ ppm
Vinyl chloride	☐	☐	☑	■	☐ < 0.2 ppm	_____ to	_____ ppm

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WASTE PROFILE FORM

Section 3 - Additional Constituents

Additional Constituents and Contaminates. Please account for 100% of waste. Ranges should be given within guidelines of LIG 404-00-03 of individual constituents. List all other constituents (including inerts) not identified above and attach any applicable analysis. No chemical formulas allowed in this field. Continue in Section 3 Additional Information as necessary. CAS Numbers are needed for all chemical constituents, for material without a CAS Number enter "No CAS Number." Contact Waste Services at 5-4000 for assistance.

CAS No.	Name of constituent	Minimum		Maximum	
NO NUMBER	DIRT	0	to	5	%
NO NUMBER	PAINT PARTICLES	65	to	75	%
NO NUMBER	WATER WITH SOLUBLE PAINT RESIDUE	20	to	30	%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
	Total of max. ranges of this section	110			in %
	Total of max. ranges from page 2.				in ppm

Additional Information (Use additional sheet if necessary.)

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

CAS. NO.	CONSTITUENT	CONC.
100-41-4	ETHYLBENZENE	0.41 ppm
95-47-6	O-XYLENE	0.59 ppm
1330-20-7	p/m-XYLENES (MIXTURE)	1.70 ppm
108-88-3	TOLUENE	2.4 ppm
- - -	1,2,3-TRIMETHYL CYCLOHEXANE	8.9 ppm
- - -	1,3,5-TRIMETHYL CYCLOHEXANE	5.1 ppm
- - -	3,4,4-TRIMETHYL-2-HEXENE	4.3 ppm
- - -	BUTYL-CYCLOHEXANE	5.4 ppm
91-17-8	DECAHYDRO-NAPHTHALENE	5.5 ppm
112-40-3	DODECANE	4.9 ppm
111-84-2	NONANE	12 ppm
- - -	PENTYL-CYCLOHEXANE	5.3 ppm
1120-21-4	UNDECANE	12 ppm

(Continued on next sheet)

WASTE GENERATOR [illegible] on this form is correct. I understand [illegible] information, including the [illegible]

Signature: Earl Bookwalter — Date: 3-11-98

WASTE MANAGER

Signature: Bonnie J. Gerth — Date: 3/11/98

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National Laboratory

WASTE PROFILE FORM

Section 3 – Additional Constituents

itional Constituents and Contaminates. Please account for 100% of waste. Ranges should be given within guidelines of LIG 404-00-03 of individual constituents. List all other constituents (including inerts) not identified above and attach any applicable analysis. No chemical formulas allowed in this field. Continue in Section 3 Additional Information as necessary. CAS Numbers are needed for all chemical constituents, for material without a CAS Number enter "No CAS Number." Contact Waste Services at 5-4000 for assistance.

CAS No.	Name of constituent	Minimum	Maximum
			to %
			to %
			to %
			to %
			to %
			to %
			to %
			to %
			to %
			to %
			to %
			to %
	Total of max. ranges of this section		in %
	Total of max. ranges from page 2.		in ppm

Additional Information (Use additional sheet if necessary.)

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

CAS. NO.	CONSTITUENT	CONC.
117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE	66 ppm
85-68-7	BUTYLBENZYLPHTHALATE	6.6 ppm
- - - -	1-ISOCYANATO-2-METHOXY-BENZENE	28 ppm
- - - -	2,4-DIISOCYANATO-1-METHYL-BENZENE	28 ppm
- - - -	2-METHOXY-BENZENAMINE	30 ppm
- - - -	CYCLONEXADECANE	26 ppm
- - - -	CYCLOPENTADECANE	37 ppm
57-10-3	HEXADECANOIC ACID	70 ppm
1843-05-6	OCTABENZONE	25 ppm
57-11-4	OCTADECANOIC ACID	40 ppm
85-44-9	PHTHALIC ANHYDRIDE	150 ppm
- - - - -	TOTAL MISC. CONSTITUENTS	575 ppm

WASTE [illegible] this form is correct [illegible] information, including [illegible]

Signature	Date

WASTE [illegible]

Signature	Date

ASSAIGAI ANALYTICAL LABORATORIES, INC.
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

* explanation of codes	
B	analyte detected in Method Blank
E	result is estimated
H	analyzed out of hold time
N	tentatively identified compound
S	subcontracted
1-9	see footnote

JOHNSON CONTROLS NNM
attn: **CONNIE GERTH**
PO BOX 50
LOS ALAMOS, NM 87544

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

Client: **JOHNSON CONTROLS NNM**
Project: **9802042** **9932 U816 0063 0000 Z#117806**

William P. Blave: President of Assaigai Analytical Laboratories, Inc.

Client Sample ID: ***PAINT BOOTH FILTRATE-SM38*** Sample Matrix: ***PAINT*** Sample Collected: ***02/02/98 15:00:00***

Fraction	QC Group	CAS #		Result	Units	Dilution Factor	Detection Limit	*	Sequence	Run Date
			SW846-8240 Volatiles							
9802042-01A	X9874	75-34-3	1,1 Dichloroethane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	02/10/98
	X9874	75-35-4	1,1 Dichloroethene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	71-55-6	1,1,1 Trichloroethane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	630-20-6	1,1,1,2 Tetrachloroethane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	79-00-5	1,1,2 Trichloroethane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	79-34-5	1,1,2,2 Tetrachloroethane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	106-93-4	1,2 Dibromoethane (EDB)	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	95-50-1	1,2 Dichlorobenzene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	107-06-2	1,2 Dichloroethane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	78-87-5	1,2 Dichloropropane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	96-18-4	1,2,3 Trichloropropane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	541-73-1	1,3 Dichlorobenzene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	764-41-0	1,4 Dichloro-2-butene	< 2.5	mg / Kg	50	0.05		XG.1998.114-10	
	X9874	106-46-7	1,4 Dichlorobenzene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	78-93-3	2-Butanone (MEK)	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	110-75-8	2-Chloroethylvinylether	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	591-78-6	2-Hexanone (MBK)	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	108-10-1	4-Methyl-2-pentanone (MIBK)	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	67-64-1	Acetone	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	107-02-8	Acrolein	< 5.0	mg / Kg	50	0.1		XG.1998.114-10	
	X9874	107-13-1	Acrylonitrile	< 5.0	mg / Kg	50	0.1		XG.1998.114-10	
	X9874	71-43-2	Benzene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	75-27-4	Bromodichloromethane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	

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Certificate of Analysis

Client: **JOHNSON CONTROLS NNM**

Project: **9802042** **9932 U816 0063 0000 Z#117806**

9802042-01A	X9874	75-25-2	Bromoform	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	02/10/98
	X9874	74-83-9	Bromomethane	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	75-15-0	Carbon disulfide	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	56-23-5	Carbon tetrachloride	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	108-90-7	Chlorobenzene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	124-48-1	Chlorodibromomethane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	75-00-3	Chloroethane	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	67-66-3	Chloroform	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	74-87-3	Chloromethane	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	156-59-2	cis-1,2 dichloroethene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	10061-01-5	cis-1,3 dichloropropene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	74-95-3	Dibromomethane	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	97-63-2	Ethyl methacrylate	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	100-41-4	Ethylbenzene	0.41	mg / Kg	50	0.005		XG.1998.114-10	
	X9874		Freon 113	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	75-71-8	Freon 12	< 2.5	mg / Kg	50	0.05		XG.1998.114-10	
	X9874	74-88-4	Iodomethane	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	1634-04-4	Methyl t-butyl ether (MTBE)	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	75-09-2	Methylene chloride	< 2.5	mg / Kg	50	0.05		XG.1998.114-10	
	X9874	95-47-6	o-Xylene	0.59	mg / Kg	50	0.005		XG.1998.114-10	
	X9874		p/m Xylenes	1.7	mg / Kg	50	0.01		XG.1998.114-10	
	X9874	100-42-5	Styrene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	156-60-5	t-1,2 Dichloroethene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	10061-02-6	t-1,3 Dichloropropene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	127-18-4	Tetrachloroethene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	108-88-3	Toluene	2.4	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	79-01-6	Trichloroethene	< 0.25	mg / Kg	50	0.005		XG.1998.114-10	
	X9874	75-69-4	Trichlorofluoromethane	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	108-05-4	Vinyl acetate	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	
	X9874	75-01-4	Vinyl chloride	< 1.2	mg / Kg	50	0.025		XG.1998.114-10	

SW846-8240TIC

9802042-01A	MT.1998.481		1,2,3-trimethyl-,(1.alpha., 2.beta., 3.alpha.)-Cyclohexane	8.9	mg/kg	50	0.005	N	MT.1998.481-1	02/10/98
	MT.1998.481		1,3,5-trimethyl-Cyclohexane	5.1	mg/kg	50	0.005	N	MT.1998.481-1	
	MT.1998.481		3,4,4-trimethyl-2-Hexene	4.3	mg/kg	50	0.005	N	MT.1998.481-1	
	MT.1998.481		butyl-Cyclohexane	5.4	mg/kg	50	0.005	N	MT.1998.481-1	
	MT.1998.481		decahydro-Naphthalene	5.5	mg/kg	50	0.005	N	MT.1998.481-1	
	MT.1998.481		Dodecane	4.9	mg/kg	50	0.005	N	MT.1998.481-1	
	MT.1998.481		Nonane	12	mg/kg	50	0.005	N	MT.1998.481-1	
	MT.1998.481		pentyl-Cyclohexane	5.3	mg/kg	50	0.005	N	MT.1998.481-1	
	MT.1998.481		undecane	12	mg/kg	50	0.005	N	MT.1998.481-1	
	MT.1998.481		unknown	4.7	mg/kg	50	0.005	N	MT.1998.481-1	

SW846-8270 / EPA-625 Semi-Volatiles

9802042-01B	X9871	120-82-1	1,2,4-Trichlorobenzene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	02/20/98
	X9871	95-50-1	1,2-Dichlorobenzene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	541-73-1	1,3-Dichlorobenzene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	106-46-7	1,4-Dichlorobenzene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	90-12-0	1-Methylnaphthalene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	

Certificate of Analysis

C **JOHNSON CONTROLS NNM**

Project: **9802042** **9932 U816 0063 0000 Z#117806**

9802042-01B	X9871	58-90-2	2,3,4,6-Tetrachlorophenol	< 220	mg / Kg	150	1.5		XG.1998.152-9	02/20/98
	X9871	95-95-4	2,4,5-Trichlorophenol	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	88-06-2	2,4,6-Trichlorophenol	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	120-83-2	2,4-Dichlorophenol	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	105-67-9	2,4-Dimethylphenol	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	51-28-5	2,4-Dinitrophenol	< 100	mg / Kg	150	0.67		XG.1998.152-9	
	X9871	121-14-2	2,4-Dinitrotoluene	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	606-20-2	2,6-Dinitrotoluene	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	91-58-7	2-Chloronaphthalene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	95-57-8	2-Chlorophenol	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	91-57-6	2-Methylnaphthalene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	95-48-7	2-Methylphenol	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	88-74-4	2-Nitroaniline	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	88-75-5	2-Nitrophenol	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871		3+4 Methylphenol	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	91-94-1	3,3'-Dichlorobenzidine	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	99-09-2	3-Nitroaniline	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	534-52-1	4,6-Dinitro-2-methylphenol	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	101-55-3	4-Bromophenyl-phenylether	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	59-50-7	4-Chloro-3-methylphenol	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	106-47-8	4-Chloroaniline	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	7005-72-3	4-Chlorophenyl-phenylether	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	100-01-6	4-Nitroaniline	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	100-02-7	4-Nitrophenol	< 90	mg / Kg	150	0.6		XG.1998.152-9	
	X9871	83-32-9	Acenaphthene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	208-96-8	Acenaphthylene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	62-53-3	Aniline	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	120-12-7	Anthracene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871		Azobenzene&1,2-Diphenylhydrazine	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	56-55-3	Benzo (a) anthracene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	50-32-8	Benzo(a)pyrene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871		Benzo(b & k)fluoranthene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	191-24-2	Benzo(g,h,i)perylene	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	64-85-0	Benzoic acid	< 450	mg / Kg	150	3		XG.1998.152-9	
	X9871	100-51-6	Benzyl alcohol	< 220	mg / Kg	150	1.5		XG.1998.152-9	
	X9871	111-44-4	bis (2-Chloroethyl) ether	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	111-91-1	bis(2-Chloroethoxy)methane	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	108-60-1	bis(2-Chloroisopropyl)ether	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	117-81-7	bis(2-Ethylhexyl)phthalate	66	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	85-68-7	Butylbenzylphthalate	6.6	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	218-01-9	Chrysene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	84-74-2	di-n-Butylphthalate	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	117-84-0	di-n-Octylpthalate	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	53-70-3	Dibenz(a,h)anthracene	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	132-64-9	Dibenzofuran	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	84-66-2	Diethylphthalate	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	131-11-3	Dimethylphthalate	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	206-44-0	Fluoranthene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	86737	Fluorene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	

Certificate of Analysis

Client: **JOHNSON CONTROLS NNM**

Project: **9802042** **9932 U816 0063 0000 Z#117806**

9802042-01B	X9871	118-74-1	Hexachlorobenzene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	02/20/98
	X9871	87-68-3	Hexachlorobutadiene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	77-47-4	Hexachlorocyclopentadiene	< 220	mg / Kg	150	1.5		XG.1998.152-9	
	X9871	67-72-1	Hexachloroethane	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	193-39-5	Indeno(1,2,3-cd)pyrene	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	78-59-1	Isophorone	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	621-64-7	n-Nitroso-di-n-propylamine	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	62-75-9	n-Nitroso-dimethyl-amine	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	86-30-6	n-Nitrosodiphenylamine	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	91-20-3	Naphthalene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	98-95-3	Nitrobenzene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	87-86-5	Pentachlorophenol	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	85-01-8	Phenanthrene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	108-95-2	Phenol	< 45	mg / Kg	150	0.3		XG.1998.152-9	
	X9871	129-00-0	Pyrene	< 4.5	mg / Kg	150	0.03		XG.1998.152-9	
	X9871	110-86-1	Pyridine	< 45	mg / Kg	150	0.3		XG.1998.152-9	
			SW846-8270TIC							
9802042-01B	MT.1998.471		1-isocyanato-2-methoxy-Benzene	28	mg/kg	150	0.03	N	MT.1998.471-1	02/20/98
	MT.1998.471		2,4-diisocyanato-1-methyl-Benzene	28	mg/kg	150	0.03	N	MT.1998.471-1	
	MT.1998.471		2-methoxy-Benzenamine	30	mg/kg	150	0.03	N	MT.1998.471-1	
	MT.1998.471		Cyclohexadecane	26	mg/kg	150	0.03	N	MT.1998.471-1	
	MT.1998.471		Cyclopentadecane	37	mg/kg	150	0.03	N	MT.1998.471-1	
	MT.1998.471		Hexadecanoic acid	70	mg/kg	150	0.03	N	MT.1998.471-1	
	MT.1998.471		Octabenzone	25	mg/kg	150	0.03	N	MT.1998.471-1	
	MT.1998.471		Octadecanoic acid	40	mg/kg	150	0.03	N	MT.1998.471-1	
	MT.1998.471		Phthalic anhydride	150	mg/kg	150	0.03	N	MT.1998.471-1	
	MT.1998.471		unknown	41	mg/kg	150	0.03	N	MT.1998.471-1	
			TCLP SW846-6010 ICP							
9802042-01C	M98124	7440-38-2	Arsenic	< 0.4	mg / L	1	0.4		MW.1998.214-34	02/19/98
	M98124	7440-39-3	Barium	25.7	mg / L	1	0.5		MW.1998.214-34	
	M98124	7440-43-9	Cadmium	< 0.020	mg / L	1	0.02		MW.1998.214-34	
	M98124	7440-47-3	Chromium	0.09	mg / L	1	0.02		MW.1998.214-34	
	M98124	7782-49-2	Selenium	< 0.05	mg / L	1	0.05		MW.1998.214-34	
	M98124	7440-22-4	Silver	< 0.04	mg / L	1	0.04		MW.1998.214-34	
			TCLP SW846-7000 series AA-FL							
9802042-01C	M98124	7439-92-1	Lead	< 0.1	mg / L	1	0.1		MW.1998.226-29	02/23/98
			TCLP SW846-7470							
9802042-01C	M98126	7439-97-6	Mercury	< 0.002	mg / L	1	0.002		MW.1998.217-15	02/20/98

**** Sample specific analytical Detection Limit is determined by multiplying the sample Dilution Factor by the listed method Detection Limit. ****

Assaigai Analytical Laboratories, Inc.

Quality Control Summary

Client: JOHNSON CONTROLS NNM

Project: 9802042 9932 U816 0063 0000 Z#117806

* explanation of codes	
D	Not applicable due to sample dilution
L	Not applicable due to MDL proximity

QC Type: **LCS: Lab Control Spike** QC Matrix: **SOLID**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		SW846-8240 Volatiles					
X9874	X9874-001	1,1 Dichloroethene	120	% Recovery		XG.1998.114 - 1	02/10/98
	X9874-001	Benzene	110	% Recovery		XG.1998.114 - 1	
	X9874-001	Chlorobenzene	105	% Recovery		XG.1998.114 - 1	
	X9874-001	Toluene	105	% Recovery		XG.1998.114 - 1	
	X9874-001	Trichloroethene	110	% Recovery		XG.1998.114 - 1	
		SW846-8270 / EPA-625 Semi-Volatiles					
X9871	X9871-002	1,2,4-Trichlorobenzene	85	% Recovery		XG.1998.152 - 1	02/19/98
	X9871-002	1,4-Dichlorobenzene	93	% Recovery		XG.1998.152 - 1	
	X9871-002	2,4-Dinitrotoluene	91	% Recovery		XG.1998.152 - 1	
	X9871-002	2-Chlorophenol	90	% Recovery		XG.1998.152 - 1	
	X9871-002	4-Chloro-3-methylphenol	84	% Recovery		XG.1998.152 - 1	
	X9871-002	4-Nitrophenol	78	% Recovery		XG.1998.152 - 1	
	X9871-002	Acenaphthene	92	% Recovery		XG.1998.152 - 1	
	X9871-002	n-Nitroso-di-n-propylamine	108	% Recovery		XG.1998.152 - 1	
	X9871-002	Pentachlorophenol	72	% Recovery		XG.1998.152 - 1	
	X9871-002	Phenol	78	% Recovery		XG.1998.152 - 1	
	X9871-002	Pyrene	103	% Recovery		XG.1998.152 - 1	

QC Type: **LCSD: Lab Control Spike Duplicate Accuracy** QC Matrix: **SOLID**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		SW846-8240 Volatiles					
X9874	X9874-002	1,1 Dichloroethene	120	% Recovery		XG.1998.114 - 2	02/10/98
	X9874-002	Benzene	110	% Recovery		XG.1998.114 - 2	
	X9874-002	Chlorobenzene	105	% Recovery		XG.1998.114 - 2	
	X9874-002	Toluene	105	% Recovery		XG.1998.114 - 2	
	X9874-002	Trichloroethene	110	% Recovery		XG.1998.114 - 2	
		SW846-8270 / EPA-625 Semi-Volatiles					
X9871	X9871-003	1,2,4-Trichlorobenzene	82	% Recovery		XG.1998.152 - 2	02/19/98
	X9871-003	1,4-Dichlorobenzene	89	% Recovery		XG.1998.152 - 2	
	X9871-003	2,4-Dinitrotoluene	90	% Recovery		XG.1998.152 - 2	
	X9871-003	2-Chlorophenol	86	% Recovery		XG.1998.152 - 2	
	X9871-003	4-Chloro-3-methylphenol	82	% Recovery		XG.1998.152 - 2	
	X9871-003	4-Nitrophenol	79	% Recovery		XG.1998.152 - 2	
	X9871-003	Acenaphthene	90	% Recovery		XG.1998.152 - 2	
	X9871-003	n-Nitroso-di-n-propylamine	104	% Recovery		XG.1998.152 - 2	
	X9871-003	Pentachlorophenol	72	% Recovery		XG.1998.152 - 2	
	X9871-003	Phenol	74	% Recovery		XG.1998.152 - 2	
	X9871-003	Pyrene	104	% Recovery		XG.1998.152 - 2	

Quality Control Summary

Client: **JOHNSON CONTROLS NNM**

Project: **9802042** **9932 U816 0063 0000 Z#117806**

* explanation of codes	
D	Not applicable due to sample dilution
L	Not applicable due to MDL proximity

QC Type **LCSD: Lab Control Spike Duplicate Precision** QC Matrix **SOLID**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		SW846-8240 Volatiles					
X9874	X9874-002	1,1 Dichloroethene	< 1	RPD		XG.1998.114 - 2	02/10/98
	X9874-002	Benzene	< 1	RPD		XG.1998.114 - 2	
	X9874-002	Chlorobenzene	< 1	RPD		XG.1998.114 - 2	
	X9874-002	Toluene	< 1	RPD		XG.1998.114 - 2	
	X9874-002	Trichloroethene	< 1	RPD		XG.1998.114 - 2	
		SW846-8270 / EPA-625 Semi-Volatiles					
X9871	X9871-003	1,2,4-Trichlorobenzene	4	RPD		XG.1998.152 - 2	02/19/98
	X9871-003	1,4-Dichlorobenzene	4	RPD		XG.1998.152 - 2	
	X9871-003	2,4-Dinitrotoluene	< 1	RPD		XG.1998.152 - 2	
	X9871-003	2-Chlorophenol	4	RPD		XG.1998.152 - 2	
	X9871-003	4-Chloro-3-methylphenol	2	RPD		XG.1998.152 - 2	
	X9871-003	4-Nitrophenol	1	RPD		XG.1998.152 - 2	
	X9871-003	Acenaphthene	2	RPD		XG.1998.152 - 2	
	X9871-003	n-Nitroso-di-n-propylamine	3	RPD		XG.1998.152 - 2	
	X9871-003	Pentachlorophenol	< 1	RPD		XG.1998.152 - 2	
	X9871-003	Phenol	5	RPD		XG.1998.152 - 2	
	X9871-003	Pyrene	1	RPD		XG.1998.152 - 2	

QC Type **MB: Method Blank** QC Matrix **SOLID**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		SW846-8240 Volatiles					
X9874	X9874-003	1,1 Dichloroethane	< 0.005	mg / Kg		XG.1998.114 - 3	02/10/98
	X9874-003	1,1 Dichloroethene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,1,1 Trichloroethane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,1,1,2 Tetrachloroethane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,1,2 Trichloroethane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,1,2,2 Tetrachloroethane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,2 Dibromoethane (EDB)	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,2 Dichlorobenzene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,2 Dichloroethane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,2 Dichloropropane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,2,3 Trichloropropane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,3 Dichlorobenzene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,4 Dichloro-2-butene	< 0.050	mg / Kg		XG.1998.114 - 3	
	X9874-003	1,4 Dichlorobenzene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	2-Butanone (MEK)	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	2-Chloroethylvinylether	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	2-Hexanone (MBK)	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	4-Methyl-2-pentanone (MIBK)	< 0.025	mg / Kg		XG.1998.114 - 3	

Quality Control Summary

Client: **JOHNSON CONTROLS NNM**

Project: **9802042 9932 U816 0063 0000 Z#117806**

* explanation of codes	
D	*Not applicable due to sample dilution*
L	*Not applicable due to MDL proximity*

X9874	X9874-003	Acetone	< 0.025	mg / Kg		XG.1998.114 - 3	02/10/98
	X9874-003	Acrolein	< 0.10	mg / Kg		XG.1998.114 - 3	
	X9874-003	Acrylonitrile	< 0.10	mg / Kg		XG.1998.114 - 3	
	X9874-003	Benzene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Bromodichloromethane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Bromoform	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Bromomethane	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	Carbon disulfide	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	Carbon tetrachloride	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Chlorobenzene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Chlorodibromomethane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Chloroethane	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	Chloroform	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Chloromethane	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	cis-1,2 dichloroethene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	cis-1,3 dichloropropene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Dibromomethane	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Ethyl methacrylate	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	Ethylbenzene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Freon 113	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	Freon 12	< 0.050	mg / Kg		XG.1998.114 - 3	
	X9874-003	Iodomethane	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	Methyl t-butyl ether (MTBE)	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Methylene chloride	< 0.050	mg / Kg		XG.1998.114 - 3	
	X9874-003	o-Xylene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	p/m Xylenes	< 0.010	mg / Kg		XG.1998.114 - 3	
	X9874-003	Styrene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	t-1,2 Dichloroethene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	t-1,3 Dichloropropene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Tetrachloroethene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Toluene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Trichloroethene	< 0.005	mg / Kg		XG.1998.114 - 3	
	X9874-003	Trichlorofluoromethane	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	Vinyl acetate	< 0.025	mg / Kg		XG.1998.114 - 3	
	X9874-003	Vinyl chloride	< 0.025	mg / Kg		XG.1998.114 - 3	

SW846-8270 / EPA-625 Semi-Volatiles

X9871	X9871-001	1,2,4-Trichlorobenzene	< 0.058	mg / Kg		XG.1998.152 - 3	02/19/98
	X9871-001	1,2-Dichlorobenzene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	1,3-Dichlorobenzene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	1,4-Dichlorobenzene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	1-Methylnaphthalene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	2,3,4,6-Tetrachlorophenol	< 2.9	mg / Kg		XG.1998.152 - 3	
	X9871-001	2,4,5-Trichlorophenol	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	2,4,6-Trichlorophenol	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	2,4-Dichlorophenol	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	2,4-Dimethylphenol	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	2,4-Dinitrophenol	< 1.3	mg / Kg		XG.1998.152 - 3	
	X9871-001	2,4-Dinitrotoluene	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	2,6-Dinitrotoluene	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	2-Chloronaphthalene	< 0.058	mg / Kg		XG.1998.152 - 3	

Quality Control Summary

Client: **JOHNSON CONTROLS NNM**

Project: **9802042** **9932 U816 0063 0000 Z#117806**

* explanation of codes	
D	Not applicable due to sample dilution
L	Not applicable due to MDL proximity

X9871	X9871-001	2-Chlorophenol	< 0.058	mg / Kg		XG.1998.152 - 3	02/19/98
	X9871-001	2-Methylnaphthalene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	2-Methylphenol	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	2-Nitroaniline	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	2-Nitrophenol	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	3+4 Methylphenol	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	3,3'-Dichlorobenzidine	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	3-Nitroaniline	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	4,6-Dinitro-2-methylphenol	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	4-Bromophenyl-phenylether	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	4-Chloro-3-methylphenol	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	4-Chloroaniline	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	4-Chlorophenyl-phenylether	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	4-Nitroaniline	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	4-Nitrophenol	< 1.2	mg / Kg		XG.1998.152 - 3	
	X9871-001	Acenaphthene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Acenaphthylene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Aniline	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	Anthracene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Azobenzene&1,2-Diphenylhydrazine	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Benzo (a) anthracene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Benzo(a)pyrene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Benzo(b & k)fluoranthene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Benzo(g,h,i)perylene	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	Benzoic acid	< 5.8	mg / Kg		XG.1998.152 - 3	
	X9871-001	Benzyl alcohol	< 2.9	mg / Kg		XG.1998.152 - 3	
	X9871-001	bis (2-Chloroethyl) ether	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	bis(2-Chloroethoxy)methane	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	bis(2-Chloroisopropyl)ether	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	bis(2-Ethylhexyl)phthalate	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	Butylbenzylphthalate	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Chrysene	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	di-n-Butylphthalate	< 0.58	mg / Kg		XG.1998.152	
	X9871-001	di-n-Octylpthalate	< 0.58	mg / Kg		XG.1998.152	
	X9871-001	Dibenz(a,h)anthracene	< 0.58	mg / Kg		XG.1998.152	
	X9871-001	Dibenzofuran	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Diethylphthalate	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Dimethylphthalate	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Fluoranthene	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Fluorene	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Hexachlorobenzene	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Hexachlorobutadiene	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Hexachlorocyclopentadiene	< 2.9	mg / Kg		XG.1998.152	
	X9871-001	Hexachloroethane	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Indeno(1,2,3-cd)pyrene	< 0.58	mg / Kg		XG.1998.152	
	X9871-001	Isophorone	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	n-Nitroso-di-n-propylamine	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	n-Nitroso-dimethyl-amine	< 0.58	mg / Kg		XG.1998.152	
	X9871-001	n-Nitrosodiphenylamine	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Naphthalene	< 0.058	mg / Kg		XG.1998.152	
	X9871-001	Nitrobenzene	< 0.058	mg / Kg		XG.1998.152	

Client: **JOHNSON CONTROLS NNM**

Project: **9802042 9932 U816 0063 0000 Z#117806**

* explanation of codes	
D	*Not applicable due to sample dilution*
L	*Not applicable due to MDL proximity*

X9871	X9871-001	Pentachlorophenol	< 0.58	mg / Kg		XG.1998.152 - 3	02/19/98
	X9871-001	Phenanthrene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Phenol	< 0.58	mg / Kg		XG.1998.152 - 3	
	X9871-001	Pyrene	< 0.058	mg / Kg		XG.1998.152 - 3	
	X9871-001	Pyridine	< 0.58	mg / Kg		XG.1998.152 - 3	

QC Type **MS: Matrix Spike** QC Matrix **SOLID**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		SW846-8240 Volatiles					
X9874	X9874-008	1,1 Dichloroethene	121	% Recovery		XG.1998.114 - 7	02/10/98
	X9874-008	Benzene	111	% Recovery		XG.1998.114 - 7	
	X9874-008	Chlorobenzene	106	% Recovery		XG.1998.114 - 7	
	X9874-008	Toluene	91	% Recovery		XG.1998.114 - 7	
	X9874-008	Trichloroethene	110	% Recovery		XG.1998.114 - 7	
		SW846-8270 / EPA-625 Semi-Volatiles					
X9871	X9871-005	1,2,4-Trichlorobenzene	154	% Recovery		XG.1998.152 - 5	02/19/98
	X9871-005	1,4-Dichlorobenzene	90	% Recovery		XG.1998.152 - 5	
	X9871-005	2,4-Dinitrotoluene	90	% Recovery		XG.1998.152 - 5	
	X9871-005	2-Chlorophenol	89	% Recovery		XG.1998.152 - 5	
	X9871-005	4-Chloro-3-methylphenol	80	% Recovery		XG.1998.152 - 5	
	X9871-005	4-Nitrophenol	90	% Recovery		XG.1998.152 - 5	
	X9871-005	Acenaphthene	91	% Recovery		XG.1998.152 - 5	
	X9871-005	n-Nitroso-di-n-propylamine	120	% Recovery		XG.1998.152 - 5	
	X9871-005	Pentachlorophenol	76	% Recovery		XG.1998.152 - 5	
	X9871-005	Phenol	77	% Recovery		XG.1998.152 - 5	
	X9871-005	Pyrene	99	% Recovery		XG.1998.152 - 5	

QC Type **MSD: Matrix Spike Duplicate Accuracy** QC Matrix **SOLID**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		SW846-8240 Volatiles					
X9874	X9874-009	1,1 Dichloroethene	122	% Recovery		XG.1998.114 - 8	02/10/98
	X9874-009	Benzene	111	% Recovery		XG.1998.114 - 8	
	X9874-009	Chlorobenzene	105	% Recovery		XG.1998.114 - 8	
	X9874-009	Toluene	90	% Recovery		XG.1998.114 - 8	
	X9874-009	Trichloroethene	110	% Recovery		XG.1998.114 - 8	
		SW846-8270 / EPA-625 Semi-Volatiles					
X9871	X9871-006	1,2,4-Trichlorobenzene	160	% Recovery		XG.1998.152 - 6	02/19/98
	X9871-006	1,4-Dichlorobenzene	86	% Recovery		XG.1998.152 - 6	
	X9871-006	2,4-Dinitrotoluene	92	% Recovery		XG.1998.152 - 6	
	X9871-006	2-Chlorophenol	87	% Recovery		XG.1998.152 - 6	
	X9871-006	4-Chloro-3-methylphenol	79	% Recovery		XG.1998.152 - 6	
	X9871-006	4-Nitrophenol	90	% Recovery		XG.1998.152 - 6	

Quality Control Summary

Client: **JOHNSON CONTROLS NNM**

Project: **9802042** **9932 U816 0063 0000 Z#117806**

* explanation of codes	
D	Not applicable due to sample dilutio
L	Not applicable due to MDL proximity

X9871	X9871-006	Acenaphthene	94	% Recovery		XG.1998.152 - 6	02/19/98
	X9871-006	n-Nitroso-di-n-propylamine	113	% Recovery		XG.1998.152 - 6	
	X9871-006	Pentachlorophenol	76	% Recovery		XG.1998.152 - 6	
	X9871-006	Phenol	78	% Recovery		XG.1998.152 - 6	
	X9871-006	Pyrene	99	% Recovery		XG.1998.152 - 6	

QC Type **MSD: Matrix Spike Duplicate Precision** QC Matrix **SOLID**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		SW846-8240 Volatiles					
X9874	X9874-009	1,1 Dichloroethene	< 1	RPD		XG.1998.114 - 8	02/10/98
	X9874-009	Benzene	< 1	RPD		XG.1998.114 - 8	
	X9874-009	Chlorobenzene	< 1	RPD		XG.1998.114 - 8	
	X9874-009	Toluene	1	RPD		XG.1998.114 - 8	
	X9874-009	Trichloroethene	< 1	RPD		XG.1998.114 - 8	
		SW846-8270 / EPA-625 Semi-Volatiles					
X9871	X9871-006	1,2,4-Trichlorobenzene	4	RPD		XG.1998.152 - 6	02/19/98
	X9871-006	1,4-Dichlorobenzene	5	RPD		XG.1998.152 - 6	
	X9871-006	2,4-Dinitrotoluene	2	RPD		XG.1998.152 - 6	
	X9871-006	2-Chlorophenol	2	RPD		XG.1998.152 - 6	
	X9871-006	4-Chloro-3-methylphenol	< 1	RPD		XG.1998.152 - 6	
	X9871-006	4-Nitrophenol	< 1	RPD		XG.1998.152 - 6	
	X9871-006	Acenaphthene	2	RPD		XG.1998.152 - 6	
	X9871-006	n-Nitroso-di-n-propylamine	5	RPD		XG.1998.152 - 6	
	X9871-006	Pentachlorophenol	< 1	RPD		XG.1998.152 - 6	
	X9871-006	Phenol	2	RPD		XG.1998.152 - 6	
	X9871-006	Pyrene	< 1	RPD		XG.1998.152 - 6	

Assaigai Analytical Laboratories, Inc.

Quality Control Summary

Client: **JOHNSON CONTROLS NNM**

Project: **9802042 9932 U816 0063 0000 Z#117806**

* explanation of codes	
D	Not applicable due to sample dilution
L	Not applicable due to MDL proximity

QC Type **LCS: Lab Control Spike** QC Matrix **TCLP**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		TCLP SW846-6010 ICP					
M98124	M98124-003	Arsenic	90	(%) Recov		MW.1998.214 - 30	02/19/98
	M98124-003	Barium	102	(%) Recov		MW.1998.214 - 30	
	M98124-003	Cadmium	98	(%) Recov		MW.1998.214 - 30	
	M98124-003	Chromium	91	(%) Recov		MW.1998.214 - 30	
	M98124-003	Selenium	116	(%) Recov		MW.1998.214 - 30	
	M98124-003	Silver	92	(%) Recov		MW.1998.214 - 30	
		TCLP SW846-7000 series AA-FL					
M98124	M98124-003	Lead	95	(%) Recov		MW.1998.226 - 26	02/23/98
		TCLP SW846-7470					
M98126	M98126-002	Mercury	94	(%) Recov		MW.1998.217 - 9	02/20/98

QC Type **LCSD: Lab Control Spike Duplicate Accuracy** QC Matrix **TCLP**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		TCLP SW846-6010 ICP					
M98124	M98124-004	Arsenic	95	(%) Recov		MW.1998.214 - 31	02/19/98
	M98124-004	Barium	105	(%) Recov		MW.1998.214 - 31	
	M98124-004	Cadmium	103	(%) Recov		MW.1998.214 - 31	
	M98124-004	Chromium	95	(%) Recov		MW.1998.214 - 31	
	M98124-004	Selenium	118	(%) Recov		MW.1998.214 - 31	
	M98124-004	Silver	96	(%) Recov		MW.1998.214 - 31	
		TCLP SW846-7000 series AA-FL					
M98124	M98124-004	Lead	99	(%) Recov		MW.1998.226 - 27	02/23/98
		TCLP SW846-7470					
M98126	M98126-003	Mercury	88	(%) Recov		MW.1998.217 - 10	02/20/98

QC Type **LCSD: Lab Control Spike Duplicate Precision** QC Matrix **TCLP**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		TCLP SW846-6010 ICP					
M98124	M98124-004	Arsenic	5	(%) RPD		MW.1998.214 - 31	02/19/98
	M98124-004	Barium	3	(%) RPD		MW.1998.214 - 31	
	M98124-004	Cadmium	6	(%) RPD		MW.1998.214 - 31	
	M98124-004	Chromium	5	(%) RPD		MW.1998.214 - 31	
	M98124-004	Selenium	2	(%) RPD		MW.1998.214 - 31	

Quality Control Summary

Client: JOHNSON CONTROLS NNM

Project: 9802042 9932 U816 0063 0000 Z#117806

* explanation of codes	
D	Not applicable due to sample dilution
L	Not applicable due to MDL proximity

M98124	M98124-004	Silver	4	(%) RPD		MW.1998.214 - 31	02/19/98
		TCLP SW846-7000 series AA-FL					
M98124	M98124-004	Lead	4	(%) RPD		MW.1998.226 - 27	02/23/98
		TCLP SW846-7470					
M98126	M98126-003	Mercury	6	(%) RPD		MW.1998.217 - 10	02/20/98

QC Type **MB: Method Blank** QC Matrix **TCLP**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		TCLP SW846-6010 ICP					
M98124	M98124-001	Arsenic	< 0.4	mg / L		MW.1998.214 - 28	02/19/98
	M98124-002	Arsenic	< 0.4	mg / L		MW.1998.214 - 29	
	M98124-001	Barium	< 0.5	mg / L		MW.1998.214 - 28	
	M98124-002	Barium	< 0.5	mg / L		MW.1998.214 - 29	
	M98124-001	Cadmium	< 0.020	mg / L		MW.1998.214 - 28	
	M98124-002	Cadmium	< 0.020	mg / L		MW.1998.214 - 29	
	M98124-001	Chromium	< 0.02	mg / L		MW.1998.214 - 28	
	M98124-002	Chromium	< 0.02	mg / L		MW.1998.214 - 29	
	M98124-001	Selenium	< 0.05	mg / L		MW.1998.214 - 28	
	M98124-002	Selenium	< 0.05	mg / L		MW.1998.214 - 29	
	M98124-001	Silver	< 0.04	mg / L		MW.1998.214 - 28	
	M98124-002	Silver	< 0.04	mg / L		MW.1998.214 - 29	
		TCLP SW846-7000 series AA-FL					
M98124	M98124-001	Lead	< 0.1	mg / L		MW.1998.226 - 24	02/23/98
	M98124-002	Lead	< 0.1	mg / L		MW.1998.226 - 25	
		TCLP SW846-7470					
M98126	M98126-001	Mercury	< 0.002	mg / L		MW.1998.217 - 8	02/20/98

QC Type **MS: Matrix Spike** QC Matrix **TCLP**

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		TCLP SW846-6010 ICP					
M98124	M98124-010	Arsenic	92	(%) Recov		MW.1998.214 - 39	02/19/98
	M98124-010	Barium	99	(%) Recov		MW.1998.214 - 39	
	M98124-010	Cadmium	98	(%) Recov		MW.1998.214 - 39	
	M98124-010	Chromium	93	(%) Recov		MW.1998.214 - 39	
	M98124-010	Selenium	112	(%) Recov		MW.1998.214 - 39	
	M98124-010	Silver	94	(%) Recov		MW.1998.214 - 39	
		TCLP SW846-7000 series AA-FL					
M98124	M98124-010	Lead	93	(%) Recov		MW.1998.226 - 35	02/23/98
		TCLP SW846-7470					
M98126	M98126-005	Mercury	68	(%) Recov		MW.1998.217 - 12	02/20/98

Quality Control Summary

Client: JOHNSON CONTROLS NNM
Project: 9802042 9932 U816 0063 0000 Z#117806

* explanation of codes	
D	Not applicable due to sample dilution
L	Not applicable due to MDL proximity

QC Type: MSD: Matrix Spike Duplicate Accuracy — QC Matrix: TCLP

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		TCLP SW846-6010 ICP					
M98124	M98124-011	Arsenic	90	(%) Recov		MW.1998.214 - 40	02/19/98
	M98124-011	Barium	72	(%) Recov		MW.1998.214 - 40	
	M98124-011	Cadmium	100	(%) Recov		MW.1998.214 - 40	
	M98124-011	Chromium	93	(%) Recov		MW.1998.214 - 40	
	M98124-011	Selenium	101	(%) Recov		MW.1998.214 - 40	
	M98124-011	Silver	92	(%) Recov		MW.1998.214 - 40	
		TCLP SW846-7000 series AA-FL					
M98124	M98124-011	Lead	95	(%) Recov		MW.1998.226 - 36	02/23/98
		TCLP SW846-7470					
M98126	M98126-006	Mercury	68	(%) Recov		MW.1998.217 - 13	02/20/98

QC Type: MSD: Matrix Spike Duplicate Precision — QC Matrix: TCLP

QC Group	Run ID		Result	Units	*	Run Group - #	Run Date
		TCLP SW846-6010 ICP					
M98124	M98124-011	Arsenic	2	(%) RPD		MW.1998.214 - 40	02/19/98
	M98124-011	Barium	32	(%) RPD		MW.1998.214 - 40	
	M98124-011	Cadmium	3	(%) RPD		MW.1998.214 - 40	
	M98124-011	Chromium	< 1	(%) RPD		MW.1998.214 - 40	
	M98124-011	Selenium	10	(%) RPD		MW.1998.214 - 40	
	M98124-011	Silver	2	(%) RPD		MW.1998.214 - 40	
		TCLP SW846-7000 series AA-FL					
M98124	M98124-011	Lead	2	(%) RPD		MW.1998.226 - 36	02/23/98
		TCLP SW846-7470					
M98126	M98126-006	Mercury	< 1	(%) RPD		MW.1998.217 - 13	02/20/98

Assaigai Analytical Laboratories, Inc.

Surrogate Summary: Fraction

* explanation of codes	
D	Not applicable due to sample dilution

Client: **JOHNSON CONTROLS NNM**

Project: **9802042** **9932 U816 0063 0000 Z#117806**

Client Sample ID **PAINT BOOTH FILTRATE-SM38** Sample Matrix **PAINT**

Fraction	QC Group	Run ID	Surrogate	% Recovery	*	Run Group - #	Run Date
			SW846-8240 Volatiles				
9802042-01A	X9874	X9874-011	1,2 Dichloroethane-D4	103		XG.1998.114 - 10	02/10/98
		X9874-011	Bromofluorobenzene	97		XG.1998.114 - 10	
		X9874-011	Toluene-D8	97		XG.1998.114 - 10	
			SW846-8270 / EPA-625 Semi-Volatiles				
9802042-01B	X9871	X9871-007	2,4,6-Tribromophenol	74		XG.1998.152 - 9	02/20/98
		X9871-007	2-Fluorobiphenyl	93		XG.1998.152 - 9	
		X9871-007	2-Fluorophenol	96		XG.1998.152 - 9	
		X9871-007	Nitrobenzene-D5	96		XG.1998.152 - 9	
		X9871-007	Phenol-D6	107		XG.1998.152 - 9	
		X9871-007	Terphenyl-D14	80		XG.1998.152 - 9	

Assaigai Analytical Laboratories, Inc.

Surrogate Summary: QC

Client: **JOHNSON CONTROLS NNM**

Project: **9802042** **9932 U816 0063 0000 Z#117806**

* explanation of codes	
D	*Not applicable due to sample dilution*

QC Type **LCS: Lab Control Spike** QC Matrix **SOLID**

QC Group	Run ID	Surrogate	% Recovery	*	Run Group - #	Run Date
		SW846-8240 Volatiles				
X9874	X9874-001	1,2 Dichloroethane-D4	103		XG.1998.114 - 1	02/10/98
	X9874-001	Bromofluorobenzene	93		XG.1998.114 - 1	
	X9874-001	Toluene-D8	99		XG.1998.114 - 1	
		SW846-8270 / EPA-625 Semi-Volatiles				
X9871	X9871-002	2,4,6-Tribromophenol	90		XG.1998.152 - 1	02/19/98
	X9871-002	2-Fluorobiphenyl	94		XG.1998.152 - 1	
	X9871-002	2-Fluorophenol	98		XG.1998.152 - 1	
	X9871-002	Nitrobenzene-D5	98		XG.1998.152 - 1	
	X9871-002	Phenol-D6	91		XG.1998.152 - 1	
	X9871-002	Terphenyl-D14	91		XG.1998.152 - 1	

QC Type **LCSD: Lab Control Spike Duplicate Precision** QC Matrix **SOLID**

QC Group	Run ID	Surrogate	% Recovery	*	Run Group - #	Run Date
		SW846-8240 Volatiles				
X9874	X9874-002	1,2 Dichloroethane-D4	102		XG.1998.114 - 2	02/10/98
	X9874-002	Bromofluorobenzene	95		XG.1998.114 - 2	
	X9874-002	Toluene-D8	98		XG.1998.114 - 2	
		SW846-8270 / EPA-625 Semi-Volatiles				
X9871	X9871-003	2,4,6-Tribromophenol	92		XG.1998.152 - 2	02/19/98
	X9871-003	2-Fluorobiphenyl	91		XG.1998.152 - 2	
	X9871-003	2-Fluorophenol	93		XG.1998.152 - 2	
	X9871-003	Nitrobenzene-D5	93		XG.1998.152 - 2	
	X9871-003	Phenol-D6	85		XG.1998.152 - 2	
	X9871-003	Terphenyl-D14	92		XG.1998.152 - 2	

QC Type **MB: Method Blank** QC Matrix **SOLID**

QC Group	Run ID	Surrogate	% Recovery	*	Run Group - #	Run Date
		SW846-8240 Volatiles				
X9874	X9874-003	1,2 Dichloroethane-D4	105		XG.1998.114 - 3	02/10/98
	X9874-003	Bromofluorobenzene	89		XG.1998.114 - 3	
	X9874-003	Toluene-D8	100		XG.1998.114 - 3	
		SW846-8270 / EPA-625 Semi-Volatiles				
[illegible]71	X9871-001	2,4,6-Tribromophenol	78		XG.1998.152 - 3	02/19/98
	X9871-001	2-Fluorobiphenyl	93		XG.1998.152 - 3	

Surrogate Summary: QC

Client: **JOHNSON CONTROLS NNM**

Project: **9802042** **9932 U816 0063 0000 Z#117806**

* explanation of codes	
D	Not applicable due to sample dilution

X9871	X9871-001	2-Fluorophenol	89		XG.1998.152 - 3	02/19/98
	X9871-001	Nitrobenzene-D5	92		XG.1998.152 - 3	
	X9871-001	Phenol-D6	97		XG.1998.152 - 3	
	X9871-001	Terphenyl-D14	92		XG.1998.152 - 3	

QC Type **MS: Matrix Spike** QC Matrix **SOLID**

QC Group	Run ID	Surrogate	% Recovery	*	Run Group - #	Run Date
		SW846-8240 Volatiles				
X9874	X9874-008	1,2 Dichloroethane-D4	101		XG.1998.114 - 7	02/10/98
	X9874-008	Bromofluorobenzene	100		XG.1998.114 - 7	
	X9874-008	Toluene-D8	98		XG.1998.114 - 7	
		SW846-8270 / EPA-625 Semi-Volatiles				
X9871	X9871-005	2,4,6-Tribromophenol	93		XG.1998.152 - 5	02/19/98
	X9871-005	2-Fluorobiphenyl	92		XG.1998.152 - 5	
	X9871-005	2-Fluorophenol	97		XG.1998.152 - 5	
	X9871-005	Nitrobenzene-D5	94		XG.1998.152 - 5	
	X9871-005	Phenol-D6	91		XG.1998.152 - 5	
	X9871-005	Terphenyl-D14	92		XG.1998.152 - 5	

QC Type **MSD: Matrix Spike Duplicate Precision** QC Matrix **SOLID**

QC Group	Run ID	Surrogate	% Recovery	*	Run Group - #	Run Date
		SW846-8240 Volatiles				
X9874	X9874-009	1,2 Dichloroethane-D4	103		XG.1998.114 - 8	02/10/98
	X9874-009	Bromofluorobenzene	100		XG.1998.114 - 8	
	X9874-009	Toluene-D8	96		XG.1998.114 - 8	
		SW846-8270 / EPA-625 Semi-Volatiles				
X9871	X9871-006	2,4,6-Tribromophenol	91		XG.1998.152 - 6	02/19/98
	X9871-006	2-Fluorobiphenyl	93		XG.1998.152 - 6	
	X9871-006	2-Fluorophenol	92		XG.1998.152 - 6	
	X9871-006	Nitrobenzene-D5	92		XG.1998.152 - 6	
	X9871-006	Phenol-D6	91		XG.1998.152 - 6	
	X9871-006	Terphenyl-D14	93		XG.1998.152 - 6	

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WASTE PROFILE FORM

Contact(if other than given below)	For rapid processing, complete all sections in black or blue ink and mail to: **EM-SWO at MS J595.** For assistance with completing this form, call EM-SWO at 5-4000.	Reference Number **28309** (For EM-SWO use only.)

Generator's Z Number	Waste Generator's Name(print)	WMC's Z Number	WMC's Name(print)
070052	Bookwalter, Earl C	117806	Gerth, Connie

Generator's Telephone	Generator's Mail Stop	Waste Generating Group	Waste Stream Technical Area	Building	Room
74231	A199	JCNNM	03	000038	103

Waste Accumulation (Check only one)

- [ ] Satellite Accumulation Area — Site no:
- [X] Less-than-90-days Storage Area — Site no: 63
- [ ] TSDF — Site no:
- [ ] Universal Waste Storage Area — Site no:
- [ ] None of the Above

ER Use Only — [ ] ER Site — PRS #:

Method of Characterization (Check as many as apply.)

- [X] Analysis/Documents Attached
- [X] Chemical/Physical Analysis — Sample #: 98.0029
- [ ] Radiological Analysis — Sample #:
- [ ] PCB Analysis — Sample #:
- [ ] Acceptable Knowledge Documentation — Documentation #:
- [ ] MSDS

Section 1 - Chemical and Physical Information

Waste Type (Check only one.)

- [ ] Unused/Unspent Chemical (Complete all sections as appropriate.)
- [X] Process Waste/Spent Chemical/Other (Complete all sections.)
- [ ] Green is Clean Waste (Complete all sections as appropriate.)

Waste Classes

Radiological Information

Was Waste Generated in a RCA [ ] yes [X] no

- [X] Non-radioactive
- [ ] Radioactive
  - [ ] Low-Level
  - [ ] Transuranic

Wastewater Information

- [ ] Wastewater for SWSC (TA-46)(Complete Attachment 1)
- [ ] Wastewater for RLWTF (TA50/TA21 Complete Attachment 2)
- [ ] Wastewater for TA-16(HE)

Classification Information

- [X] Unclassified
- [ ] Classified/Sensitive

Waste Category (Check as many as apply.)

- [ ] Inorganic
- [ ] Organic
  - Volatile Organics [X] < 500 ppm [ ] >= 500 ppm
- [ ] Solvent *
- [ ] Degreaser *
- [ ] Dioxin
- [ ] Electroplation
- [ ] Treated Hazardous waste residue
- [ ] Explosive process
- [ ] Infectious/Medical
- [ ] Biological
- [ ] Beryllium
- [ ] Empty Container(see instructions)
- [ ] Battery(see insructions)

Asbestos [ ] friable [ ] non-friable

PCB Source Concentration

- [ ] PCB < 50 ppm
- [ ] PCB >= 50 - < 500 ppm
- [ ] PCB >= 500 ppm

- [X] Other (Describe below)

*Concentrations 10% or greater before use.

Waste Source (Check only one.)

Routine Waste

- [ ] Decon
- [ ] Materials Processing/Production
- [ ] Research/Development/Testing
- [X] Scheduled Maintenance
- [ ] Housekeeping - Routine
- [ ] Spilll Cleanup - Routine
- [ ] Sampling - Routine Monitoring
- [ ] Other (Describe below)

Non-routine Waste

- [ ] Abatement
- [ ] Construction/Upgrades
- [ ] Demolition
- [ ] Decon/Decom
- [ ] Investigative Derived
- [ ] Orphan/Legacy
- [ ] Remediation/Restoration
- [ ] Repacking (Secondary)
- [ ] Unscheduled Maintenance
- [ ] Housekeeping - Non-routine
- [ ] Spill Cleanup - Non-routine
- [ ] UST - Non-petroleum
- [ ] UST - Petroleum
- [ ] Other (Describe below)

Waste Matrix (Check only one.)

Gas

- [ ] <= 1.5 Atmospheres pressure
- [ ] > 1.5 Atmospheres pressure
- [ ] Liquefied compressed gas

Liquid

- [ ] Aqueous
- [ ] Non-aqueous
- [X] Suspended Solids/Aqueous
- [ ] Suspended Solids/Non-aqueous

Solid

- [ ] Powder/Ash
- [ ] Solid
- [ ] Sludge
- [ ] Absorbed Liquid

Matrix Type (check only one.)

- [ ] Homogeneous
- [X] Heterogeneous (Describe below)

Waste/Process Description (Chemical formulas may be used in theis field.)

SEDIMENT, RESIDUE & WATER REMOVED FROM CATCH BASIN OF PAINT BOOTH WATER CURTAIN AIR SCRUBBER. MATERIAL CONSISTS OF DIRT, FINE PAINT PARTICLES, AND PAINT RESIDUE IN AN AQUEOUS SUSPENSION. ASSAIGAI ANALYTICAL LABORATORIES PROJECT 98 02042, JENV SAMPLE NO. 98.0029.

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WASTE PROFILE FORM

Reference Number
28309
(For EM-SWO use only.)

Section 2 - Characteristics

Ignitability (Check only one.) F	C	Corrosivity (Check only one.) pH	Reactivity (Check as many as apply.)	Boiling Point (Check only one.) (F)	(C)
[ ] < 73	< 22.8	[ ] <= 2.0	[ ] RCRA Unstable	[ ] <= 95	<= 35
[ ] 73 - 99	22.8 - 37.2	[ ] 2.1 - 4.0	[ ] Water Reactive	[X] > 95	> 35
[ ] 100 - 139	37.8 - 59.4	[ ] 4.1 - 6.0	[ ] Cyanide Bearing (> 250 ppm)		
[ ] 140 - 200	60.0 - 99.3	[X] 6.1 - 9.0	[ ] Sulfide Bearing (> 500 ppm)		
[ ] > 200	> 99.3	[ ] 9.1 - 12.4	[ ] Pyrophoric		
[ ] EPA Ignitable - Non-liquid		[ ] >= 12.5	[ ] Shock Sensitive		
[ ] DOT Flammable Gas		[ ] Liquid corrosive to steel	[ ] Explosive - DOT Div. _____		
[ ] DOT Oxidizer					
[X] Not ignitable		[ ] Non-aqueous	[X] Non-reactive	[ ] Not applicable	

Identify for all contaminants listed.	Characterization Method: AK	TCLP	Total	Concentration of Contaminants: None or Non-detect	Present Below Regulatory Limit		Above Regulatory Limit: Minimum		Maximum	
Toxicity Characteristic Metals							(Concentration in ppm only.)			
Arsenic	[ ]	[ ]	[ ]	[ ]	[ ]	< 5.0	ppm	_____	to	_____ ppm
Barium	[ ]	[X]	[ ]	[ ]	[X]	< 100.0	ppm	_____	to	_____ ppm
Cadmium	[ ]	[ ]	[ ]	[ ]	[ ]	< 1.0	ppm	_____	to	_____ ppm
Chromium (Total)	[ ]	[X]	[ ]	[ ]	[X]	< 5.0	ppm	_____	to	_____ ppm
Lead	[ ]	[ ]	[ ]	[ ]	[ ]	< 5.0	ppm	_____	to	_____ ppm
Mercury	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.2	ppm	_____	to	_____ ppm
Selenium	[ ]	[ ]	[ ]	[ ]	[ ]	< 1.0	ppm	_____	to	_____ ppm
Silver	[ ]	[ ]	[ ]	[ ]	[ ]	< 5.0	ppm	_____	to	_____ ppm
Toxicity Characteristic Organics										
Benzene	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.5	ppm	_____	to	_____ ppm
Carbon tetrachloride	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.5	ppm	_____	to	_____ ppm
Chlorodane	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.03	ppm	_____	to	_____ ppm
Chlorobenzene	[ ]	[ ]	[ ]	[ ]	[ ]	< 100.0	ppm	_____	to	_____ ppm
Chloroform	[ ]	[ ]	[ ]	[ ]	[ ]	< 6.0	ppm	_____	to	_____ ppm
o - cresol	[ ]	[ ]	[ ]	[ ]	[ ]	< 200.0	ppm	_____	to	_____ ppm
m - cresol	[ ]	[ ]	[ ]	[ ]	[ ]	< 200.0	ppm	_____	to	_____ ppm
p - cresol	[ ]	[ ]	[ ]	[ ]	[ ]	< 200.0	ppm	_____	to	_____ ppm
Cresol - mixed	[ ]	[ ]	[ ]	[ ]	[ ]	< 200.0	ppm	_____	to	_____ ppm
2,4-D	[ ]	[ ]	[ ]	[ ]	[ ]	< 10.0	ppm	_____	to	_____ ppm
1,4-Dichlorobenzene	[ ]	[ ]	[ ]	[ ]	[ ]	< 7.5	ppm	_____	to	_____ ppm
1,2-Dichloroethane	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.5	ppm	_____	to	_____ ppm
1,1-Dichloroethylene	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.7	ppm	_____	to	_____ ppm
2,4-Dinitrotoluene	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.13	ppm	_____	to	_____ ppm
Endrin	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.02	ppm	_____	to	_____ ppm
Heptachlor (& its epoxide)	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.008	ppm	_____	to	_____ ppm
Hexachlorobenzene	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.13	ppm	_____	to	_____ ppm
Hexachlorobutadiene	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.5	ppm	_____	to	_____ ppm
Hexachloroethane	[ ]	[ ]	[ ]	[ ]	[ ]	< 3.0	ppm	_____	to	_____ ppm
Lindane	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.4	ppm	_____	to	_____ ppm
Methoxychlor	[ ]	[ ]	[ ]	[ ]	[ ]	< 10.0	ppm	_____	to	_____ ppm
Methyl ethyl ketone	[ ]	[ ]	[ ]	[ ]	[ ]	< 200.0	ppm	_____	to	_____ ppm
Nitrobenzene	[ ]	[ ]	[ ]	[ ]	[ ]	< 2.0	ppm	_____	to	_____ ppm
Pentachlorophenol	[ ]	[ ]	[ ]	[ ]	[ ]	< 100.0	ppm	_____	to	_____ ppm
Pyridine	[ ]	[ ]	[ ]	[ ]	[ ]	< 5.0	ppm	_____	to	_____ ppm
Tetrachloroethylene	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.7	ppm	_____	to	_____ ppm
Toxaphene	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.5	ppm	_____	to	_____ ppm
Trichloroethylene	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.5	ppm	_____	to	_____ ppm
2,4,5-Trichlorophenol	[ ]	[ ]	[ ]	[ ]	[ ]	< 400.0	ppm	_____	to	_____ ppm
2,4,6-Trichlorophenol	[ ]	[ ]	[ ]	[ ]	[ ]	< 2.0	ppm	_____	to	_____ ppm
2,4,5-TP (Silvex)	[ ]	[ ]	[ ]	[ ]	[ ]	< 1.0	ppm	_____	to	_____ ppm
Vinyl chloride	[ ]	[ ]	[ ]	[ ]	[ ]	< 0.2	ppm	_____	to	_____ ppm

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WASTE PROFILE FORM

Reference Number
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Section 3 - Additional Constituents

Additional Constituents and Contaminates. Please account for 100% of waste. Ranges should be given within guidelines of LIG 404-00-03 of individual constituents. List all other constituents (including inerts) not identified above and attach any applicable analysis. No chemical formulas allowed in this field. Continue in Section 3 Additional Information as necessary. CAS Numbers are needed for all chemical constituents, for material without a CAS Number enter "No CAS Number." Contact Waste Services at 5-4000 for assistance.

CAS No.	Name of constituent	Minimum		Maximum	
	DIRT	0	to	5	%
	PAINT PARTICLES	65	to	75	%
	WATER WITH SOLUBLE PAINT RESIDUE	20	to	30	%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
			to		%
	Total of max. ranges of this section	110.0000 in %			
	Total of max. ranges from page 2.	N/A			

Additional Information (Use additional sheet if necessary.)

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

CAS.NO. CONSTITUENT CONC.

100-41-4 ETHYL BENZENE .41PPM
95-47-6 0-XYLENE .59PPM
1330-20-7 P/M-XYLENES 1.7PPM
108-88-3 TOLUENE 2.4PPM
—— 1,2,3-TRIMETHYLCYCLOHEXANE 8.9PPM
—— 1,3,5-TRIMETHYLCYCLOHEXANE 5.1PPM
—— 3,4,4-TRIMETHYL-2-HEXENE 4.3PPM
—— BUTYL-CYCLOHEXANE 5.4PPM
91-17-8 DECAHYDRONAPTHALENE 5.5PPM
112-40-3 DODECANE 4.9PPM
111-84-2 NONANE 12PPM
—— PENTYLCYCLOHEXANE 5.3PPM
1120-21-4 UNDECANE 12PPM

SEE ORIGINAL FOR REMAINING CONSTITUENTS

WASTE GENERATOR CERTIFICATION: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature	Date

WASTE MANAGEMENT COORDINATOR: I have reviewed this form and to the best of my knowledge, the information is complete and accurate.

Signature	Date

ASSAIGAI
ANALYTICAL
LABORATORIES, INC.
7300 Jefferson, NE • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood Dr., Suite N • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820
127 Eastgate Drive, 212-C • Los Alamos, New Mexico 87544 • (505) 662-2558

Explanation of codes	
B	analyte detected in Method Blank
E	result is estimated
H	analyzed out of hold time
N	tentatively identified compound
S	subcontracted
1-9	see footnote

JOHNSON CONTROLS NNM
attn: **V. RODRIGUEZ**
PO BOX 50
LOS ALAMOS, NM 87544

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

Client: **JOHNSON CONTROLS NNM**
Project: **9910320 3558-02**

William P. Blava President of Assaigai Analytical Laboratories, Inc.

Client Sample ID: ***99-0168/TA3-38*** Sample Matrix: ***SOLID*** Sample Collected: *10/29/99 11:00:00*

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Run Date
910320-01A			SW846 3550A/8270B SVOCs by GC/MS						
X99341	XG.1999.935-4	120-82-1	1,2,4-Trichlorobenzene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	95-50-1	1,2-Dichlorobenzene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	541-73-1	1,3-Dichlorobenzene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	106-46-7	1,4-Dichlorobenzene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	90-12-0	1-Methylnaphthalene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	58-90-2	2,3,4,6-Tetrachlorophenol	ND	mg / Kg	188	1.5	12	11/05/99
X99341	XG.1999.935-4	95-95-4	2,4,5-Trichlorophenol	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	88-06-2	2,4,6-Trichlorophenol	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	120-83-2	2,4-Dichlorophenol	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	105-67-9	2,4-Dimethylphenol	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	51-28-5	2,4-Dinitrophenol	ND	mg / Kg	188	0.67	12	11/05/99
X99341	XG.1999.935-4	121-14-2	2,4-Dinitrotoluene	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	606-20-2	2,6-Dinitrotoluene	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	91-58-7	2-Chloronaphthalene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	95-57-8	2-Chlorophenol	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	91-57-6	2-Methylnaphthalene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	95-48-7	2-Methylphenol	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	88-74-4	2-Nitroaniline	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	88-75-5	2-Nitrophenol	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4		3+4 Methylphenol	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	91-94-1	3,3-Dichlorobenzidine	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	99-09-2	3-Nitroaniline	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	534-52-1	4,6-Dinitro-2-methylphenol	ND	mg / Kg	188	0.3	12	11/05/99

Member:
American Council of
Independent Laboratories, Inc.

REPRODUCTION OF THIS REPORT IN LESS THAN FULL REQUIRES THE WRITTEN CONSENT OF AAL.
THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM
PRODUCT ENDORSEMENT BY ANY ACCREDITATION PROGRAM.

3-032
PAINT BOOTH DOOR AIR FILTER
SAMPLE RESULTS

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

Client: **JOHNSON CONTROLS NNM**

Project: **9910320 3558-02**

X99341	XG.1999.935-4	101-55-3	4-Bromophenyl-phenylether	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	59-50-7	4-Chloro-3-methylphenol	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	106-47-8	4-Chloroaniline	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	7005-72-3	4-Chlorophenyl-phenylether	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	100-01-6	4-Nitroaniline	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	100-02-7	4-Nitrophenol	ND	mg / Kg	188	0.6	12	11/05/99
X99341	XG.1999.935-4	83-32-9	Acenaphthene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	208-96-8	Acenaphthylene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	62-53-3	Aniline	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	120-12-7	Anthracene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4		Azobenzene&1,2-Diphenylhydrazine	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	56-55-3	Benzo (a) anthracene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	50-32-8	Benzo(a)pyrene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4		Benzo(b & k)fluoranthene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	191-24-2	Benzo(g,h,i)perylene	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	64-85-0	Benzoic acid	ND	mg / Kg	188	3	12	11/05/99
X99341	XG.1999.935-4	100-51-6	Benzyl alcohol	ND	mg / Kg	188	1.5	12	11/05/99
X99341	XG.1999.935-4	111-44-4	bis (2-Chloroethyl) ether	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	111-91-1	bis(2-Chloroethoxy)methane	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	108-60-1	bis(2-Chloroisopropyl)ether	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	117-81-7	bis(2-Ethylhexyl)phthalate	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	85-68-7	Butylbenzylphthalate	17	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	218-01-9	Chrysene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	84-74-2	di-n-Butylphthalate	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	117-84-0	di-n-Octylphthalate	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	53-70-3	Dibenz(a,h)anthracene	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	132-64-9	Dibenzofuran	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	84-66-2	Diethylphthalate	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	131-11-3	Dimethylphthalate	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	206-44-0	Fluoranthene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	86737	Fluorene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	118-74-1	Hexachlorobenzene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	87-68-3	Hexachlorobutadiene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	77-47-4	Hexachlorocyclopentadiene	ND	mg / Kg	188	1.5	12	11/05/99
X99341	XG.1999.935-4	67-72-1	Hexachloroethane	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	193-39-5	Indeno(1,2,3-cd)pyrene	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	78-59-1	Isophorone	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	621-64-7	n-Nitroso-di-n-propylamine	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	62-75-9	n-Nitroso-dimethyl-amine	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	86-30-6	n-Nitrosodiphenylamine	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	91-20-3	Naphthalene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	98-95-3	Nitrobenzene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	87-86-5	Pentachlorophenol	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	85-01-8	Phenanthrene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	108-95-2	Phenol	ND	mg / Kg	188	0.3	12	11/05/99
X99341	XG.1999.935-4	129-00-0	Pyrene	ND	mg / Kg	188	0.03	12	11/05/99
X99341	XG.1999.935-4	110-86-1	Pyridine	ND	mg / Kg	188	0.3	12	11/05/99

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

Client: **JOHNSON CONTROLS NNM**
Project: **9910320 3558-02**

9910320-01B **SW846 1311/3010A/6010A ICP TCLP**

M991271	MW.1999.1304-30	7440-38-2	Arsenic	ND	mg / L	1	0.1	11/03/99
M991271	MW.1999.1304-30	7440-39-3	Barium	0.2	mg / L	1	0.1	11/03/99
M991271	MW.1999.1304-30	7440-43-9	Cadmium	0.035	mg / L	1	0.02	11/03/99
M991271	MW.1999.1304-30	7440-47-3	Chromium	1.64	mg / L	1	0.02	11/03/99
M991271	MW.1999.1304-30	7439-92-1	Lead	ND	mg / L	1	0.05	11/03/99
M991271	MW.1999.1304-30	7782-49-2	Selenium	ND	mg / L	1	0.05	11/03/99
M991271	MW.1999.1304-30	7440-22-4	Silver	ND	mg / L	1	0.04	11/03/99

9910320-01B **SW846 1311/7470 CVAA TCLP**

M991279	MT.1999.2714-12	7439-97-6	Mercury	0.0007	mg / L	1	0.0002	11/05/99

**** Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. ****

**** ND = Not detected: less than the sample specific Detection Limit. Results relate only to the items tested. ****

footnote

[1] Several surrogate recoveries were not recoverable due to high dilutions performed during analysis. This should be taken into account when reviewing the data.

[2] Sample was received in improper container.

ASSAIGAI ANALYTICAL LABORATORIES, INC.

JOHIO 11/5

Chain of Custody Record

Lab job no.: 9910320 Date

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87109
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

127 EASTGATE DRIVE, 212-C
LOS ALAMOS, NEW MEXICO 87544
(505) 662-2558

Client: JCNM / HGNM

Address: P.O. Box 50

City / State / Zip: Los Alamos, NM 87544

Project Name / Number:

Contract / Purchase Order / Quote: 3558-02

Project Manager / Contact: Uncle Rodriguez

Telephone No.: (505) 667-0101

Fax No.: (505) 667-7314

Samplers: (Signature)

Analysis Required

AAL Fraction Number	Field Sample Number / Location	Date	Time	Sample Type	Container Type / Size / Qty	Preservative Type	Preservative Volume	Total Containers	Rad Gross Alpha	Rad Gross Beta										
14,01B	99-0168 / TA-3-38	10/29/99	11:00	Solid	Box	—	—	1	X	X										500g (5-filters)

Lot I [illegible] 10/24/99

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: [illegible]	10/29/99	Signature: [illegible]	Signature: [illegible]	10/29/99	Signature: [illegible]
Printed: Uncle Rodriguez	Time: 13:15	Printed: Elvin J. Chase	Printed: Elvin J. Chase	Time: 17:00	Printed: J. Adley
Company: Benchmark		Company: AAL	Company:		Company: AAL
Reason:		Reason:	Reason:		Reason: Analysis

Method of Shipment:

Shipment No.

Special Instructions:

Comments: 3-5 Day - Results Needed prior to Nov 9, 1999

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

ASSAIGAI PROJECT FILE

NOV 05 '99 17:12 TO-JOHNSONCONTROLS FROM-ASSAIGAI LAB T-758 P.04/04 F-670

3-043(e)

State of New Mexico
ENVIRONMENT DEPARTMENT
Underground Storage Tank Bureau
Harold Runnels Building Room N-2150
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502-6110
Telephone (505) 827-0188
Fax: (505) 827-0310

GARY E. JOHNSON
Governor

PETER MAGGIORE
Secretary

December 22, 1998

Mr. Alex Puglisi
Hazardous & Solid Waste Group (ESH-19)
P.O. Box 1663
MS K490
Los Alamos, NM 87545

RE: No Further Action Status at LANL Technical Area 3-36-1 and 3-36-2, Los Alamos, New Mexico

Facility #: 6764002 SID #: 3218

Dear Mr. Puglisi:

The New Mexico Environment Department (Department) has reviewed the following for the subject site:

1. 72 – hour and 7 – Day Report;
2. 30 – Day Report;
3. 45 – Day Report;
4. NFA Determination for Tanks TA 3-36-1 and TA-3-36-2 and Associated Soils.

The Department concurs that this site does not pose an immediate threat to public health or the environment for the following reasons:

1. Contaminated soils were excavated and removed during UST removal activities as documented in the 30 and 45-Day Reports;
2. Depth to water in the area is approximately 1000 feet below ground surface;
3. Soils associated with the site consist of sands with clay and tuff, and tuffs with sand and clay;
4. The 30-Day and 45-Day Reports document no soil contamination, remaining beyond the excavation limits, above the standards set forth in 20 NMAC 5.12.1209.D.3.a;
5. All soils excavated from the TA-3 site were transported to TA-60 and land-farmed. Approximately 36 cubic yards of soil were transported. On April 8, 1998, a composite soil sample was collected and analyzed for the presence of Total Petroleum Hydrocarbons. Total Petroleum Hydrocarbons were not present at concentrations above laboratory detection levels.

Therefore, the Department is not requiring additional work at this time. However, the Department does reserve the right to require additional work in the future, should information become available which indicates that a threat to public health or the environment exists.

Sincerely,

Lorena Goerger

Lorena Goerger
Geologist
Underground Storage Tank Bureau

LG:rvl

cc: Stephen G. Reuter, Manager, Remedial Action Program, USTB
Jerry Schoeppner, Geologist, USTB
James Bearzi, NMED District II Manager
Joseph Romero, Prevention/Inspection Program

SUMMARY

LOCATION : TA-3
TYPE OF UNIT(s) : TANK
UNIT USE : TREATMENT/STORAGE
OPERATIONAL STATUS : DECOMMISSIONED
PERIOD OF USE : EST. 1953 - 1989
HAZARDOUS RELEASE : KNOWN
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : MIXED WASTE
HAZARDOUS WASTE

UNIT INFORMATION

Several tanks have been decommissioned at TA-3.

SWMU NO.	STRUCTURE	CAPACITY (GAL.)	DATE REMOVED	ASSOCIATED STRUCTURE
3-043(a)	TA-3-74	20,000	1963	TA-3-73
3-043(b)	TA-3-77	10,000	1980	TA-3-73
3-043(c)	TA-3-718	unknown	1983	TA-3-40
3-043(d)	TA-3-76	20,000	1988	TA-3-73
3-043(e)	TA-3-36-1	10,000	1989	TA-3-36
3-043(f)	TA-3-178	30,000	1989	TA-3-73
3-043(g)	TA-3-335	10,000	1989	TA-3-73
3-043(h)	TA-3-75	20,000	1989	TA-3-73
3-043(i)	TA-3-93	unknown	1966	TA-3-40

Tank TA-3-36-1 was removed in 1989; it was replaced by a 10,000-gallon, double-wall tank.

WASTE INFORMATION

The substances stored in the tanks, prior to decommissioning, are described below.

SWMU NO.	STRUCTURE	SUBSTANCE STORED
3-043(a)	TA-3-74	asphalt emulsion
3-043(b)	TA-3-77	asphalt emulsion
3-043(c)	TA-3-718	mixed, corrosive wastes
3-043(d)	TA-3-76	asphalt emulsion
3-043(e)	TA-3-36-1	unleaded gasoline
3-043(f)	TA-3-178	asphalt emulsion
3-043(g)	TA-3-335	85-100 oil
3-043(h)	TA-3-75	asphalt emulsion
3-043(i)	TA-3-93	oil

RELEASE INFORMATION

Information on past releases and decommissioning is lacking for most of the tanks. During an E.R. Program site survey, stains and discolored soil were observed in the areas that tanks TA-3-75 and -76 had occupied. It is believed that leaks did occur from those two tanks during their years of operation. Testing indicated that tank TA-3-36-1 was leaking at a rate greater than 4.0 gal/hr while it was in commission. It is not known how long the tank leaked.

NOTES

SWMU No. 3-043(e) was formerly SWMU No. 3-035(a).

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
3-043(a)	**		Tsk 19 : 165	TA-3-74, -73
3-043(b)	**		Tsk 19 : 165	TA-3-77, -73
3-043(c)	**		Tsk 21 : 1226	TA-3-718, -40
3-043(d)	**		Tsk 19 : 166	TA-3-76, -73

(continued)

SWMU CROSS-REFERENCE LIST
(continued)

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
3-043(e)	**		Tsk 19 : 181	TA-3-36-1, -36
3-043(f)	**		Tsk 19 : 182	TA-3-178, -73
3-043(g)	**		Tsk 19 : 182	TA-3-335, -73
3-043(h)	**		Tsk 19 : 166	TA-3-75, -73
3-043(i)	TA3-3-CA/UST/SST-A/I-PP		Tsk 21 : 1231	TA-3-93, -40

** No corresponding E. R. Program unit.

3-044(a)

Johnson Controls World Services Inc.
Laboratory Support Division
Post Office Box 50
Los Alamos, NM 87544-0050

Removed 6-3-93

JOHNSON CONTROLS

May 28, 1993
JENV.93-318

Los Alamos National Laboratory
Los Alamos, NM 87544

ATTN: **Tony Grieggs, EM-8, MS K490**
MFB for RJP.

THRU: Richard J. Perkins, Env. Compliance Supv., JENV

SUBJECT: SUBCONTRACT NO. 9-X86-Y7575-1, REMOVAL OF HAZARDOUS WASTE STORAGE AREA AT TA-3-70

We find ourselves no longer in need of the satellite hazardous waste storage area located at TA-3-70. The contact person for this storage area is Lloyd Cole, JCI/MDHE, MS A199, 7-5934. Any spills which might have occurred were handled appropriately, and the final waste removal was conducted through EM-7 on 8-12-92. Please consider this an official request that you reclassify this area as 'removed' on your records. Our disposal records are available if you need them for verification. Simply contact the undersigned at 7-0104 should you wish to review them.

Should there be further requirements or documentation necessary for closure, please let us know. Also, it is requested that you contact the undersigned to confirm closure once you have completed your verification process. This will enable us to keep our own records current, and will allow us to inform the owner of the hazardous waste storage area when he/she is no longer required to conduct inspections.

Thank you for your cooperation in this matter. If you have any questions regarding this closure request, please call.

Very truly yours,

J. Richardson

Joe Richardson
Environmental Engineer, JCI/JENV

IT CORPORATION
PROJECT NO. 301215.01.16.02

SATELLITE STORAGE AREA INSPECTION CHECKLIST

I. GENERAL INFORMATION

TA: 3 Bldg: Southeast of SM-70 Room: N/A

Location Description: Outdoors - not undercover - about 150 yards from SM-70

Contact Name: JOE RICHARDSON Phone No: 7-0104 Group: JC1

Waste Coordinator (If not the same as contact): SAME Phone No.: SAME

Area Status: (Active/Inactive/Removed) Area Type: (Satellite, Rest House, Safety Kleen)

II. SATELLITE STORAGE AREA CRITERIA

Distance to point of generation: <200 yards, from SM-70 (a Safety-Kleen sink location)

No. and names of generators using area: 1 Dan Arcuileta

Can ownership of waste be easily traced? yes - to one generator

No. of processes contributing waste to area: 1

Process type(s): Maintenance of equipment at JC1 Roads + Grounds Division
(Machine shop, plating, R&D, etc.)

Is the area well controlled? (Provide information on control/lack of control:)

No - its outside, no fencing around the area

Who controls the area? Benito Martinez, JC1

III. WASTE CHARACTERIZATION

Hazardous or Mixed Waste: Acutely Hazardous: No

If Mixed Waste, TRU or Low-level? Radionuclides known: N/A

Non-RCRA Waste: No Solid/Gas/Liquid:

Further description of waste form (rags, gloves, etc.): Rags contaminated with petroleum hydrocarbons from a Safety-Kleen sink

If mixed waste, what is the generation process? N/A

If mixed waste, what was the date of generation? N/A

IV. REGULATORY COMPLIANCE INFORMATION

Labeled "Hazardous Waste" and constituents: Yes

If mixed waste, labeled "Hazardous Waste", "Radioactive Waste" and constituent: N/A

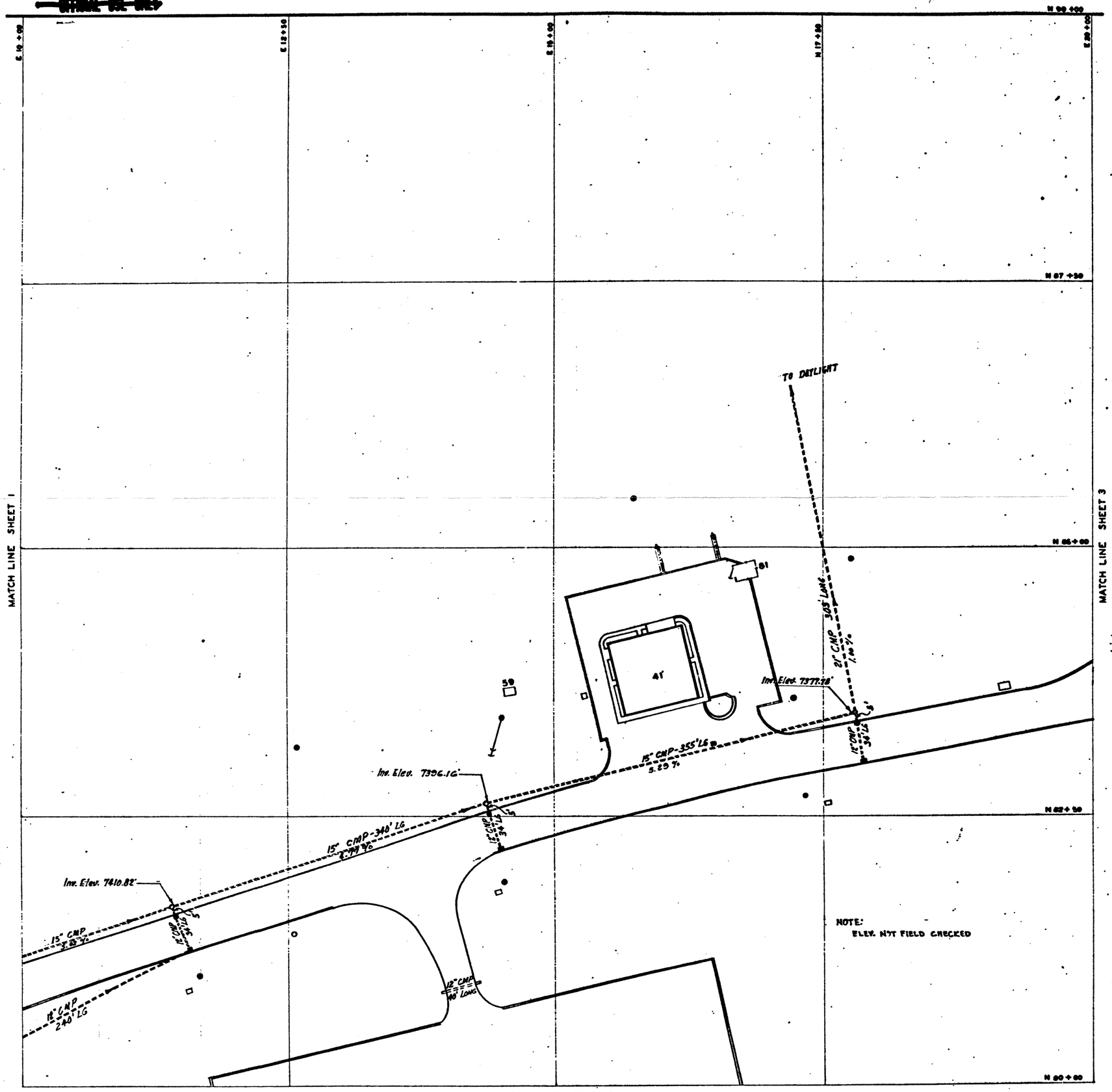
LOS ALAMOS NATIONAL LABORATORY
HWTS SYSTEM

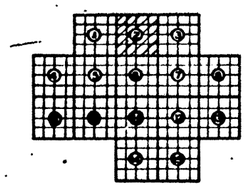
01/05/00
03:56 PM

SITE ID.	FMU No.	TA	BLDG	ROOM	LOCATION	FACILITY TYPE	T	S	D	STATUS	GROUP	CONTACT	PHONE
	80	3	70	N/A	PAD SE OF BLDG. 70	SATELLITE	N	N	N	REMOVED	JCNNM-	BENITO MARTINEZ	7-6111

3-055(d)

~~OFFICIAL USE ONLY~~





INDEX TO SHEETS
NO SCALE

LEGEND

- CMP — STORM SEWER (CORR. METAL PIPE)
- CATCH BASIN
- OPEN DITCH DRAINAGE
- MANHOLE
- AREA INLET

REFERENCE DRAWINGS

~~OFFICIAL USE ONLY~~

NO.	DATE	REVISIONS	BY	CHKD	DEP. ENG.	DIV. ENG.
2	4-3-59	REVISED TO FIELD CHECK STATUS 9/2/59	GHF	BPM	SER	[illegible]
1	3-13-55	REVISED TO FIELD CHECK STATUS	DM	[illegible]	SER	[illegible]

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

UTILITY LOCATION PLAN
TA-3 SOUTH MESA SITE
STORM DRAINAGE SYSTEM

CHECKED (DESIGNER)	RECOMMENDED (GROUP LEADER) SER	APPROVED (ENG. DEPT. OFFICE)
DRAWN DM	DATE 1-19-55	DRAWING NO. ENG-R 491
SCALE 1 IN. = 50 FT.	SHEET 2 OF 15	

INFORMATION SHOWN CURRENT AS OF 9/2/59

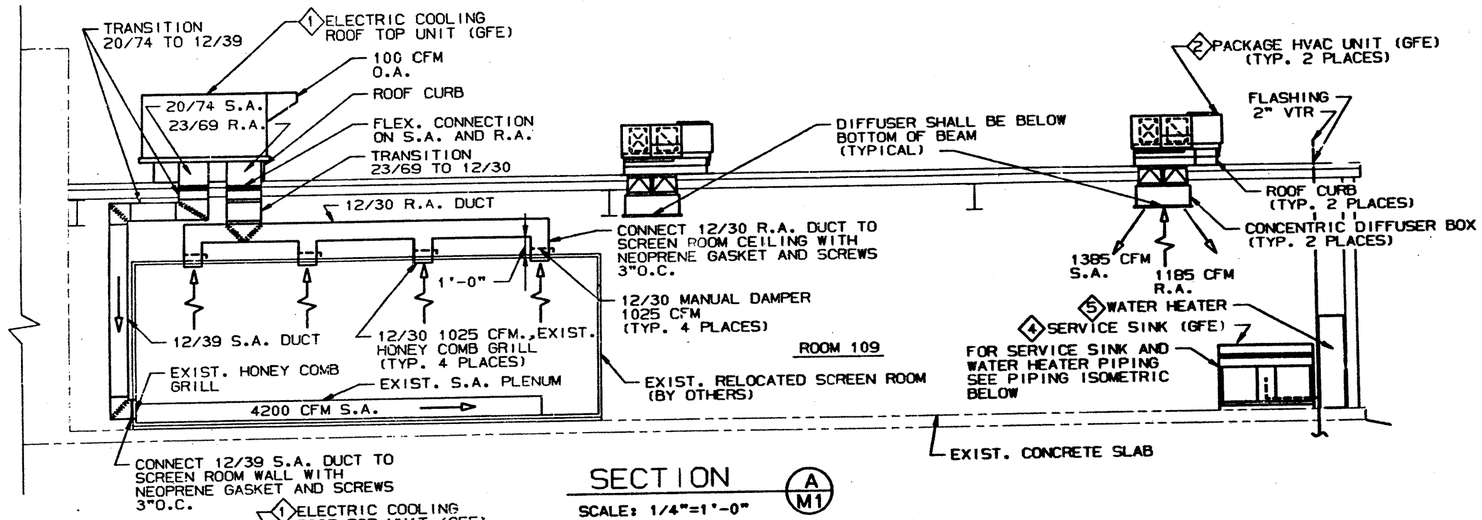
LAB. JOB NO. 1045

Los

15842-C

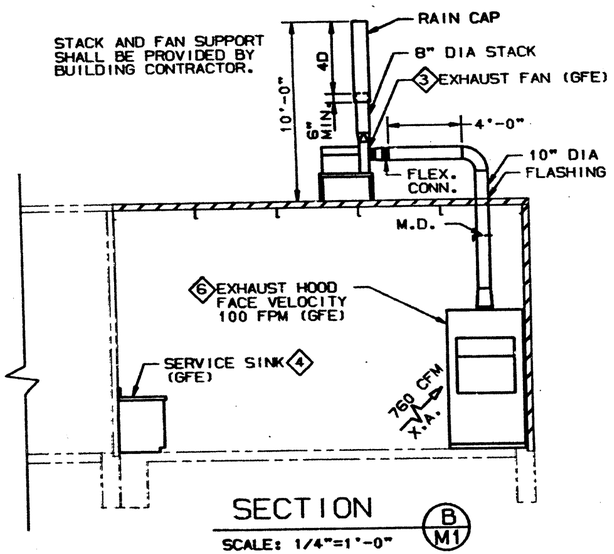
VERIFIED UNCLASSIFIED

11-011(c)



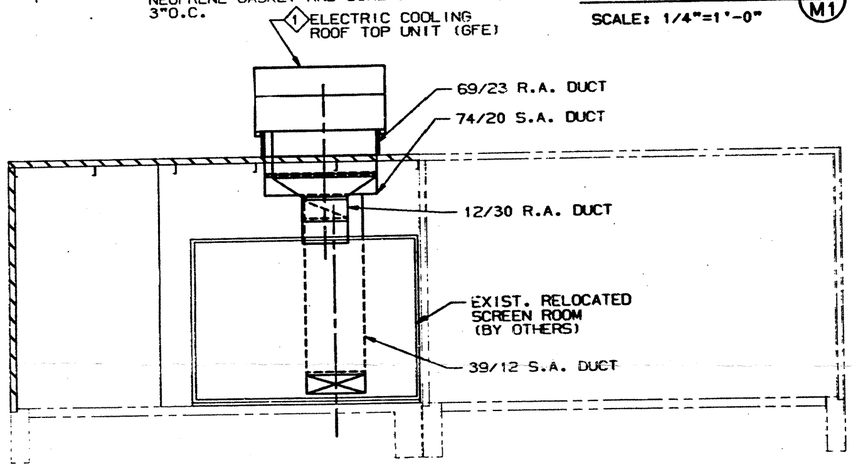
SECTION A M1

SCALE: 1/4"=1'-0"



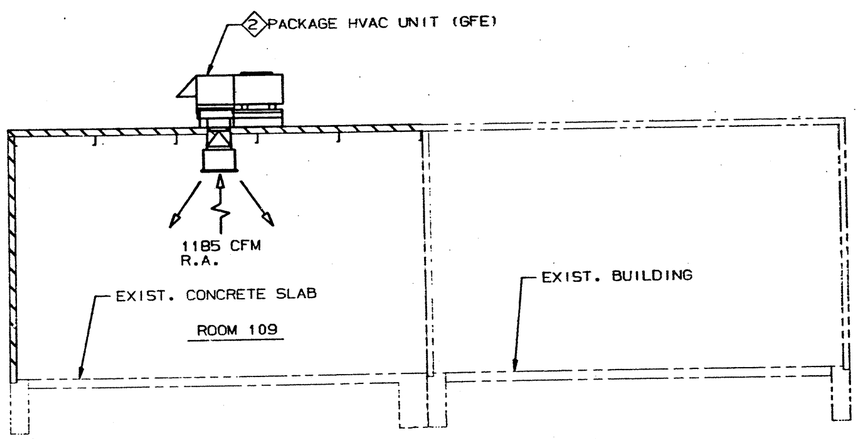
SECTION B M1

SCALE: 1/4"=1'-0"



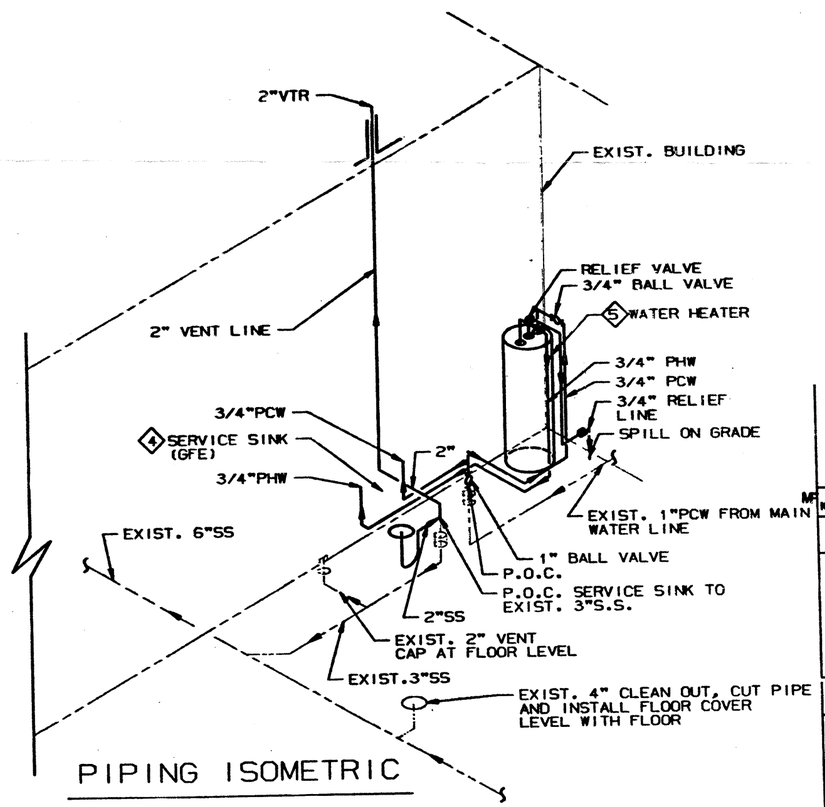
SECTION C M1

SCALE: 1/4"=1'-0"



SECTION D M1

SCALE: 1/4"=1'-0"



PIPING ISOMETRIC

MF NO.	DATE	CLASS REV.	REVISIONS	DWN	DES	CHKD	REQ GRP	REQ D.O.	ENG GRP	ENG D.O.

FACILITIES ENGINEERING DIVISION

TARGET SUPPORT AREA

MECH: SECTIONS AND PIPING ISOMETRIC

BLDG. TSL-65 TA-35

DRAWN	P.TRUJILLO
DESIGN	A.TRUJILLO P.TRUJILLO
CHECKED	
RELEASED	
DATE	1-27-87

SUBMITTED / RECOMMENDED / APPROVED

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET M2 3 OF 9

CLASSIFICATION U REVIEWER DATE 1-27-87

REQUESTING DIVISION P-DO

REQUESTING GROUP P-4

LAB JOB NO. 8103-35

DRAWING NO. ENG-C44959

REV.

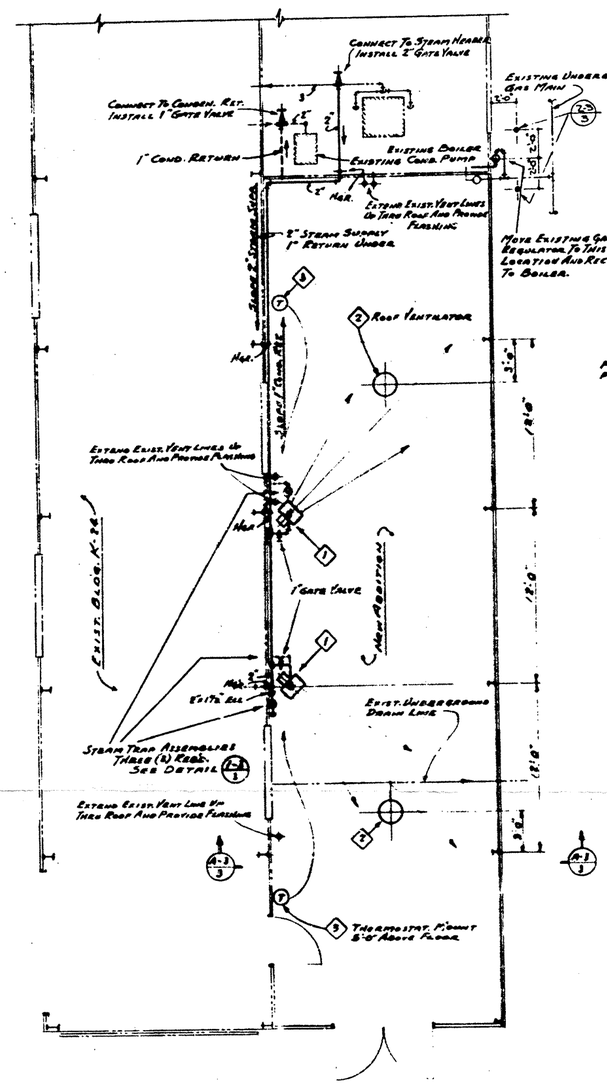
RECD ... TO VAULT

11-011(c)

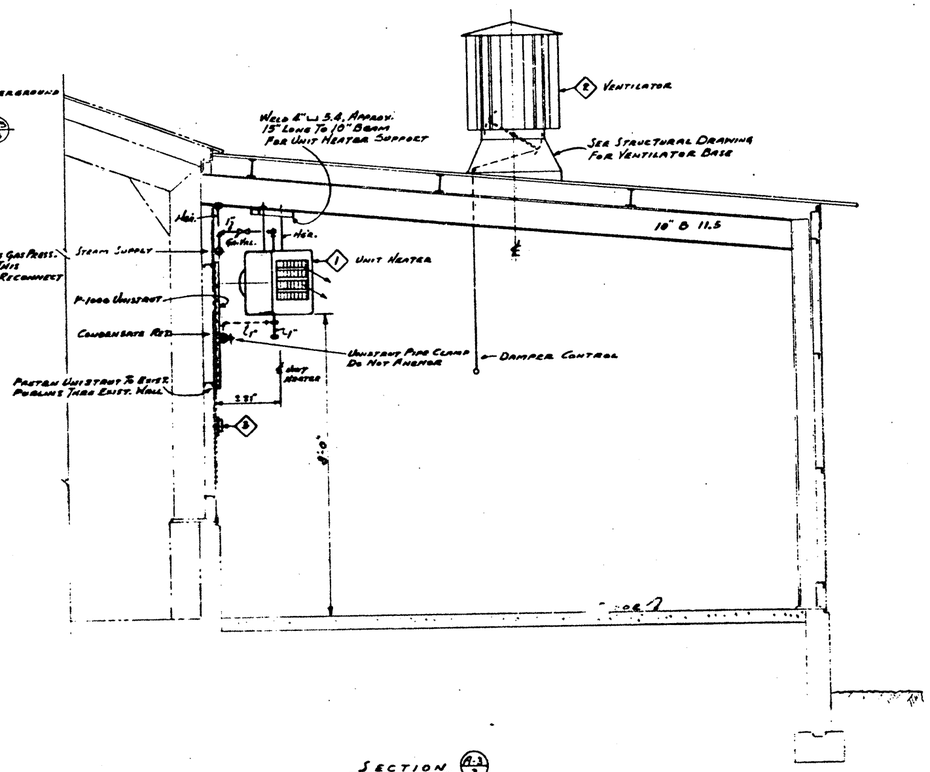
15842-D

EQUIPMENT LIST - MANUFACTURER OR APPROVED EQUAL

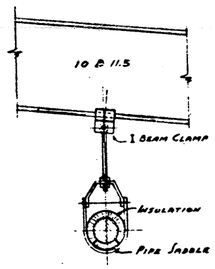
ITEM	QUAN.	DESCRIPTION	FURN. BY
1	2	UNIT HEATER "HERMAN NELSON" NO. 3U-1230, HORIZONTAL TYPE, CAPACITY 51,650 B.T.U. PER HOUR, 140°F. FINAL TEMPERATURE WITH STEAM AT 2 P.S.I.G. AND 595 C.F.M. TO BE FURNISHED WITH VERTICAL FIN DIFFUSER ASSEMBLY AND 1/20 H.P., 1140 R.P.M., 115 VAC, 60 CYCLE SINGLE PHASE MOTOR.	CONT.
2	2	ROOF VENTILATOR "BRADBERY" AIR-X-HAUSTER, TYPE-B, 20" SIZE, COMPLETE WITH CHAIN OPERATED DISC DAMPER IN NECK.	
3	2	THERMOSTAT "GENERAL CONTROLS" NO. 200 D 2, HEAVY DUTY, 115 VAC, LINE VOLTAGE TYPE, RANGE 40°F. TO 70°F. TO OPEN ON TEMPERATURE RISE.	
4	3	STEAM TRAP "SARCO" NO. FT-18, 3/4" SIZE, FLOAT & THERMOSTATIC TYPE	
5	3	STEAM STRAINERS "SARCO" TYPE AT, 3/4" SIZE, Y-PATTERN.	



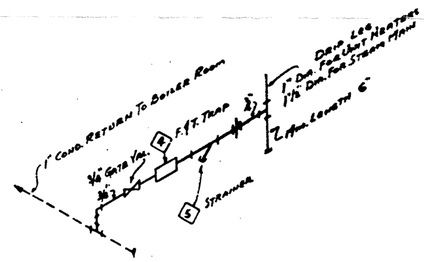
FLOOR PLAN
SCALE 3/16" = 1 FOOT



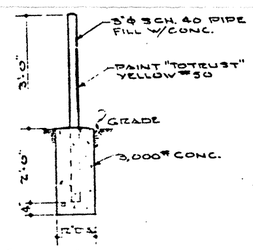
SECTION
SCALE 3/16" = 1 FOOT



TYPICAL PIPE HANGERS FOR 2" STEAM MAIN



DETAIL
NOT TO SCALE
TYPICAL OF THREE
TWO REQUIRED FOR UNIT HEATERS
ONE REQUIRED FOR STEAM MAIN



(2 REQ'D.)
DETAIL
SCALE 1" = 1'-0"

— NOTES —

1. STEAM SUPPLY PIPING SHALL BE SCHEDULE 40, SEAMLESS STEEL, BLACK.
2. CONDENSATE RETURN PIPING SHALL BE SCHEDULE 40, GENUINE WROUGHT IRON, BLACK.
3. ALL PIPE FITTINGS SHALL BE 150 LB., STANDARD SCREWED, MALLEABLE IRON, BLACK.
4. STEAM SUPPLY PIPING ONLY SHALL BE COVERED WITH STANDARD THICKNESS "FIBERGLAS" INSULATION INCLUDING PASTED COTTON JACKET.

15842-E

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY ENG-4
STALLINGS PHONE 7-3888

RECD. LOGGED TO VAULT

NO.	DATE	REVISIONS	BY	CHKD	GRP.	D. O.	GRP. LDR.	ENG. D. C.

AUTHORIZED FOR
HEALTH N/A
SAFETY C.A.B.
FIRE PROT. C.E.R.
SEC.

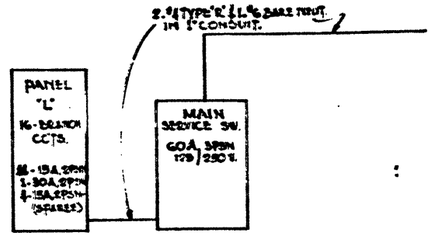
LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA—LOS ALAMOS, NEW MEXICO

VIBRATOR AND AIR GUN
FIXTURE STORAGE
MECHANICAL

BLDG. K-24 TA-11

CHECKED	RECOMMENDED	APPROVED
PROJ. ENG. TPZ	GROUP LEADER	ENG. DEPT. OFFICE
DESIGNER C.E.R.	DATE MARCH 27, 1963	DRAWING NO. ENG-27313
DRAWN C.E.R.	SHEET 3 OF 4	
SCALE As Noted		
C.A. NO.	B. A. NO.	L. J. NO. 2339-11

11-011(c)



REVISED ELECTRIC RISER DIAGRAM
SCALE: NONE

ELECTRIC FIXTURE SCHEDULE		
ROOM DESCRIPTION	TYPE	SIZE
APPARATUS ROOM	1-5	300
BUNK ROOM	B	200
KITCHEN AND DINING ROOM	B	200
TOILET ROOM	CS	100
HEATER ROOM	C	100
EXTERIOR	F	100
EXTERIOR OVER ENTRANCE DRIVE	F	200

16-142

ELECTRICAL NOTES:

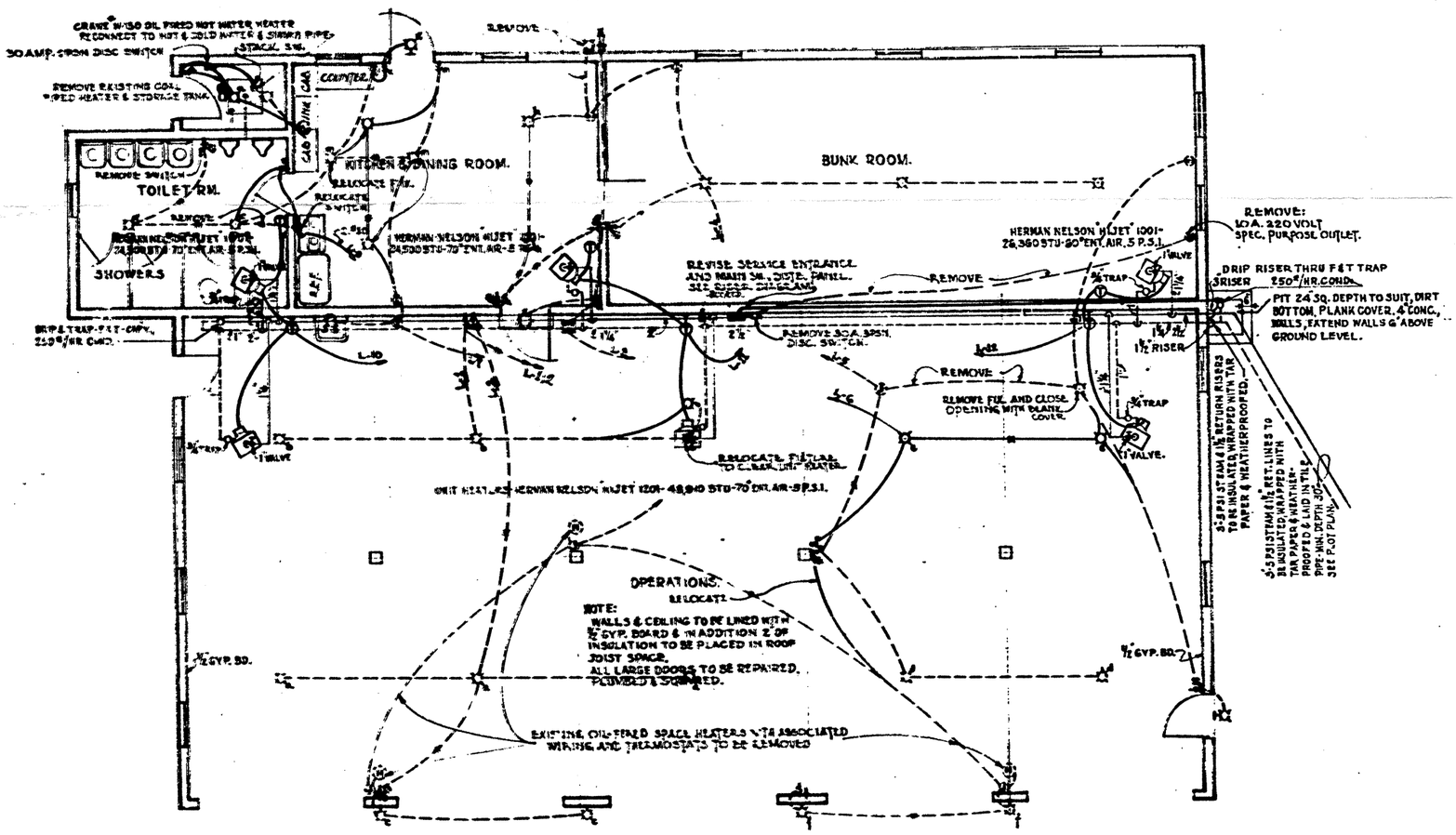
ALL WIRING TO BE NO. 12 NON-METALLIC SHEATHED CABLE UNLESS OTHERWISE NOTED.

EXISTING WIRING AND FIXTURES SHOWN BY DOTTED LINES. NEW CONSTRUCTION AND RELOCATED WIRING AND FIXTURES IS SHOWN BY SOLID LINES.

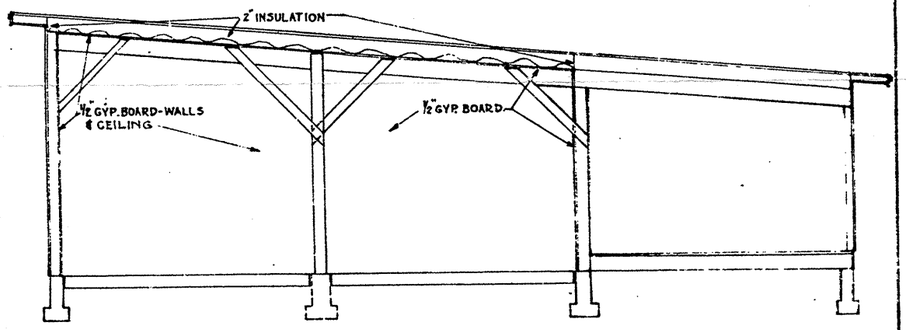
ALL INTERIOR FIXTURES TO BE CEILING MOUNTED AND TO COMPLY WITH FIXTURE SCHEDULE ON THIS PLAN.

ALL MATERIAL SHOWN TO BE REMOVED, TO BE REUSED WHERE PRACTICABLE AND POSSIBLE.

PROVIDE 30AMP. 2PSN DISCONNECT SWITCH IN HEATER ROOM TO CONTROL OIL BURNER OF HOT WATER HEATER. HEATER TO BE EQUIPPED WITH STACK SWITCH.



SCALE: ¼"=1'-0"
16-142



CROSS SECTION
SCALE: ¼"=1'-0"
16-142

OBSOLETE DEAD STORAGE

DATE	NO.	REVISIONS	BY	APPROV.
3-5-45	A	CHANGED TITLE BLOCK.	J.R.	
		ADDED ELEC'T. WIRING AND THERMOSTATS FOR UNIT HEATERS & H.W. GENERATOR, 200%		

U. S. ENGINEER OFFICE
SANTA FE, NEW MEXICO

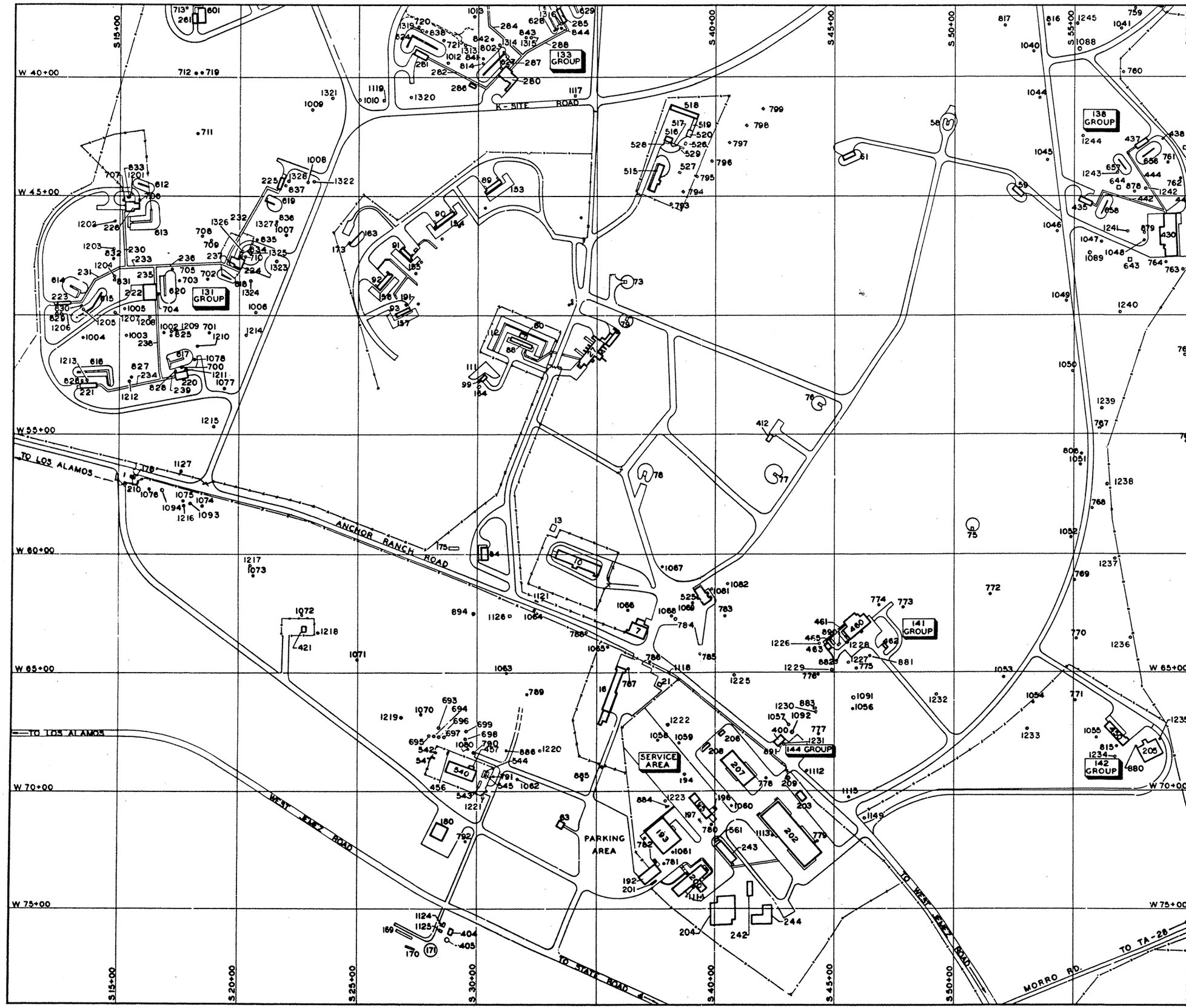
"S"-SITE EXPANSION NO-4.
(1-SITE) BOILER HOUSE; ANCHOR FIRE STATION; HEATING & ELECTRICAL

IN 4 SHEETS	SCALE AS NOTED	SHEET No. 2
OFFICE OF POST ENGINEER		8-8-45
DESIGNED BY HEAD ENGINEERING SECTION	APPROV. RECOMD. W.A.C. OPERATIONS OFFICER	APPROVED BY COLONEL COMMANDING OFFICER
DR. BY R.R.R.; J.R. TR. BY CK. BY J.H.	FILE NO. PE 362	

15842-F

ITEM #1

L.A.S.L. DWG. NO. ENG-C 1565



15842-G

REV.	DATE	REVISION	BY	CKD.	APP.
19	8-12-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 8-10-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION PLAN

TA-16 S-SITE

SEC CLASSIFICATION: CLASS. U; REVIEWER; DATE 10-19-83

SUBMITTED	RECOMMENDED	APPROVED

DRAWN	CHECKED	DATE	SHEET NO.	DRAWING NO
		8-12-83	6 of 7	ENG-R5111

MATCH LINE SHEET 1

MATCH LINE SHEET 2

MATCH LINE SHEET 6

MATCH LINE SHEET 8

MATCH LINE SHEET 15

MATCH LINE SHEET 16

W 62+50

W 60+00

W 57+50

W 55+00

W 52+50

S 20+00

S 22+50

S 25+00

S 27+50

S 30+00

1073

1072

566

1064

1079

Former location of fire station (TA-16-142)

4" VENT

512

502

steam plant

508

509

510

ABANDONED

4" VCP

174'

197'

septic tank

CAN'T LOCATE

78'

175

SEPTIC TANK

574

58

40

58

163

59

500

495

494

493

506

492

496

491

496

490

503

505

504

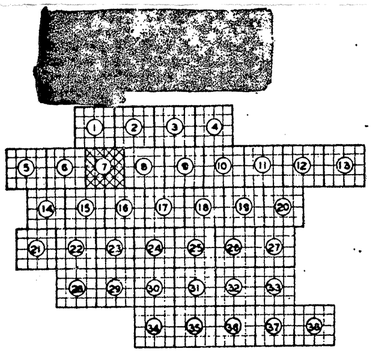
6" VCP

SEPTIC TANK

VERIFIED UNCLASSIFIED
PUBLICLY RELEASABLE
LANL Classification Group
P. Lang 4-11-2000

UNCLASSIFIED

Classification changed to UNCLASSIFIED
by authority of the U. S. Atomic Energy Commission,
Per R.D. KROHN 4-19-61
(Person authorizing change in classification) (Date)
By M. B. Moulton 4-19-61
(Signature of person making the change, and date)



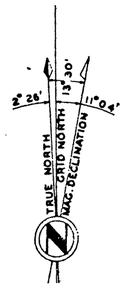
INDEX TO SHEETS
NO SCALE

LEGEND

SS — SANITARY SEWER

D — DRAIN LINE

REFERENCE DWGS.
ENG-R 195
ENG-C 1071



15842-G

NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG. D.O.

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

UTILITY LOCATION PLAN
TA-16 S-SITE
SEWER SYSTEM

CHECKED	RECOMMENDED	APPROVED
BPW DESIGNER	BER GROUP LEADER	GB ENG. DEPT. OFFICE

DRAWN	DATE	DRAWING NO.
McCOMB - T.R.	9-1-59	ENG- R 860
SCALE 1 IN.= 50 FT.	SHEET 7 OF 38	

INFORMATION SHOWN

~~OFFICIAL USE ONLY~~

MATCH LINE

MATCH LINE

LEGEND

- STRUCTURE EXISTING
- STRUCTURE PROPOSED
- STRUCTURE REMOVED

GRID SPACING - 400 FEET

131 GROUP

138 GROUP

141 GROUP

142 GROUP

144 GROUP

FORMER V - SITE

FORMER T - SITE

FUTURE

STEAM PLANT

SEPTIC TANK

FIRE STATION

BURN PIT

WEST ROAD

JEMEZ ROAD

SERVICE AREA

TA - 16

SITE LOCATION

NORTH (MAGNETIC)

VERIFIED UNCLASSIFIED
PUBLICLY RELEASABLE
LANL Classification Group
P. Lang 4-11-2000

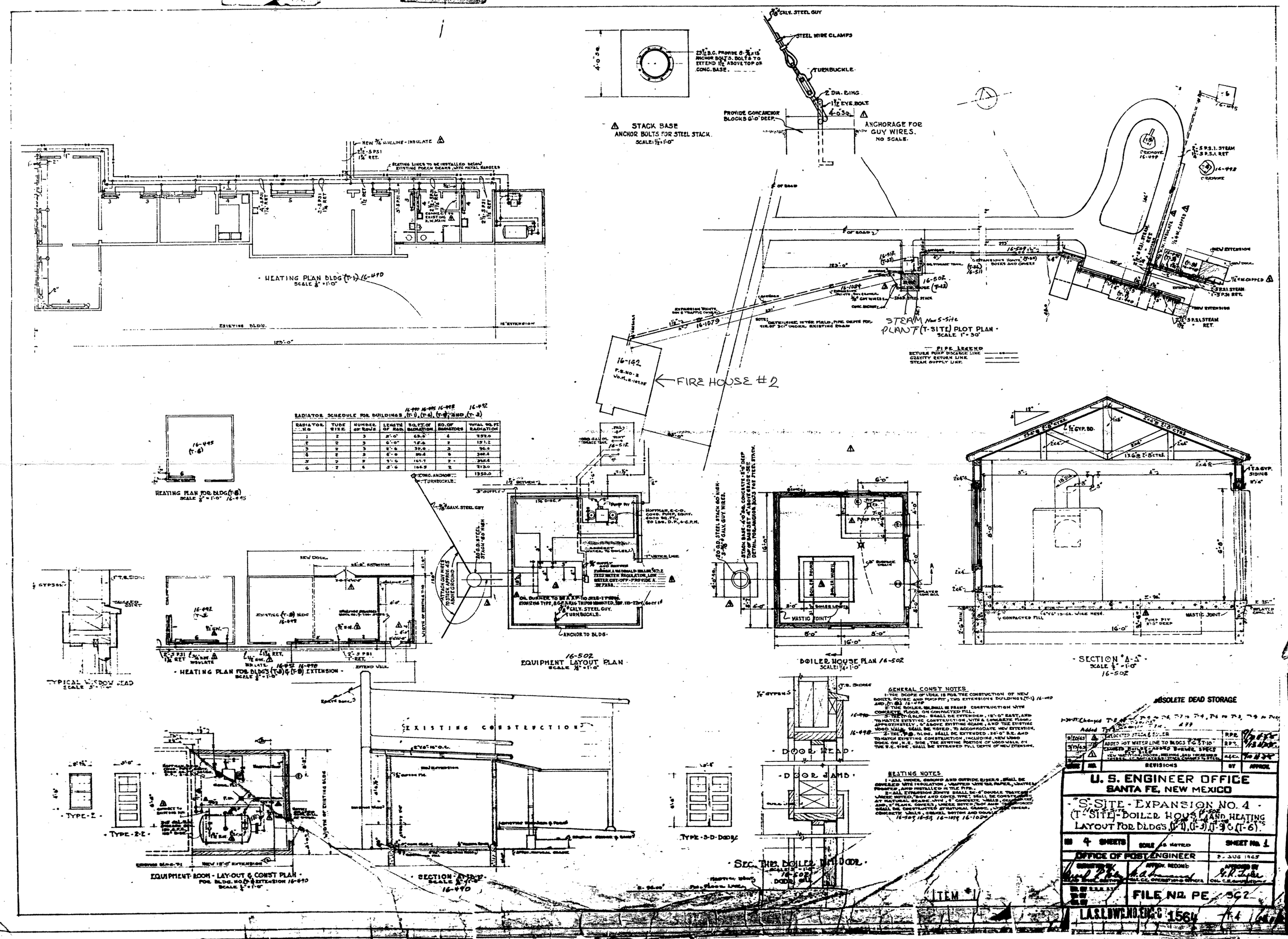
Classification changed to ~~OFFICIAL USE ONLY~~
by authority of the U. S. Atomic Energy Commission,
Per P. F. BELCHER MAY 31 1957
(Person authorizing change in classification) (Date)
By Pete R. Eisele SEP 3 1957
(Signature of person making the change, and date)

15842-H

16-005(b)

REV.		AUTHORIZED FOR	LOS ALAMOS SCIENTIFIC LABORATORY DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP		
2	GENERAL REVISION TO STATUS OF JULY 1, 1951 J.A.S.	HEALTH	STRUCTURE LOCATION PLAN TA - 16 S - SITE		
1	GENERAL REVISION TO STATUS OF JAN. 1, 1951 J.A.S.	SAFETY			
		FIRE PR.			
		COMM.			
		SEC.			
			SCALE 1" = 200'	DRAWN BY: J.A. SIZER DATE: 1-31-51	DWG. NO.
				CHKD. BY: DATE: 3-12-57	ENG R 134
				APPVD. BY: DATE: 3-10-57	

SHEET 3 OF 4


STACK BASE
ANCHOR BOLTS FOR STEEL STACK.
SCALE: 1½"=1'-0"
ANCHORAGE FOR GUY WIRES.
NO SCALE.
STEEL WIRE CLAMPS
TURNBUCKLE
PROVIDE CONC. ANCHOR BLOCKS 6'-0" DEEP.
HEATING PLAN BLDG (T-1) 16-490
SCALE ⅛"=1'-0"
EXISTING BLDG.
12' EXTENSION
125'-0"
STEAM PLANT (T-31 SITE) PLOT PLAN
SCALE 1"=30'
PIPE LEGEND
RETURN PUMP DISCARGE LINE
GRAVITY RETURN LINE
STEAM SUPPLY LINE
FIRE HOUSE #2
16-142
F.H. NO. 2
HEATING PLAN FOR BLDG (T-6)
SCALE ⅛"=1'-0"
16-495
RADIATOR SCHEDULE FOR BUILDINGS (T-1), (T-6), (T-8) AND (T-9)
16-490 16-495 16-498 16-492
EQUIPMENT LAYOUT PLAN
SCALE ½"=1'-0"
16-502
BOILER HOUSE PLAN 16-502
SCALE: ¼"=1'-0"
SECTION "A-A"
SCALE ½"=1'-0"
16-502
TYPICAL WINDOW HEAD
SCALE 3"=1'-0"
HEATING PLAN FOR BLDGS (T-8) & (T-9) EXTENSION
SCALE ⅛"=1'-0"
EXISTING CONSTRUCTION
DOOR HEAD
DOOR JAMB
TYPE-2
TYPE-2-E
TYPE-3-D-DOOR
EQUIPMENT ROOM - LAY-OUT & CONST PLAN
FOR BLDG. NO. (T-8) & EXTENSION 16-490
SCALE ½"=1'-0"
SECTION "A-A"
SCALE ½"=1'-0"
16-490
SEC. THRU BOILER HOUSE DOOR
GENERAL CONST NOTES
HEATING NOTES
ABSOLETE DEAD STORAGE
U. S. ENGINEER OFFICE
SANTA FE, NEW MEXICO
"S-SITE - EXPANSION NO. 4"
(T-SITE) - BOILER HOUSE AND HEATING
LAYOUT FOR BLDGS. (T-1), (T-3), (T-9) & (T-6)
OFFICE OF POST ENGINEER
FILE NO. PE 502
ITEM #1

16-005(b)

TA-16 ENGINEERING STRUCTURE LIST

TA-16-142	16-142 Fire House		6/30/49	Proposed ☐ Requested by: _____ (Name & Group) Built: Approximately November 1944, wood frame construction 56' x 74' x 13' high. AEC-344-1 (Formerly known as S-147). Cost: $ 56,908.00 #5109 Removed: On contract AT(29-1)-1464, Contractor: Farley & Dowdy, 1955.		
TA-16-143	16-143 Hose House		6/30/49	Proposed ☐ Requested by: _____ (Name & Group) Built: Same as above except 12' x 55' x 10' high. (Formerly known as S-148). Est.Cost: $6,000.00 Removed: Same as above.		
TA-16-144	16-144 Equipment Room		6/30/49	Proposed ☐ Requested by: _____ (Name & Group) Built: Approximately February 1945, wood frame construction 20' x 45' x 10' high. AEC-312-27 (Formerly known as S-149). Cost: $ 5,421.00 Removed: Same as above.		

TA-16 ENGINEERING STRUCTURE BOOK

STRUCTURE NUMBER	BUILDING DESIGNATION	CURRENT USAGE	COST CODE	REMARKS
TA-16-141	16-141	OFFICE & STORAGE BLDG.	AEC-314-28	Was S-146, Relocated to TA-35, 5-53, Used at TA-35 as Constr. Shack, Then Moved Outside Fence For Future Use, 16 X 16
TA-16-142	16-142	FIRE HOUSE	AEC-344-1	Was S-147, Ret. to AEC for Demolishing, Feb. 1953, Removed on Contract AT(29-1)-1464, 4-29-55
TA-16-143	16-143	HOSE HOUSE		Was S-148, Ret. to AEC for Demolishing, Feb. 1953, Removed on Contract AT(29-1)-1464, 4-29-55
TA-16-144	16-144	EQUIPMENT ROOM & STORAGE	AEC-312-27	Was S-149, Ret. to AEC for Demolishing, Feb. 1953, One Portion to be Relocated at Golf Course, per Memo from AEC, 2-23-55, Removed on Contract AT(29-1)-1464, 4-29-55
TA-16-145	16-145	LATRINE		Was S-150, Removed on Contract AT(29-1)-1464, 4-29-55
TA-16-146	16-146	PORTABLE STORAGE		Was S-151 Removed by Zia Co. for Const. Shack Approx, 1954
TA-16-147	16-147	ROAD BLOCK		Removed & Demolished 9-27-54, J.O. # 27781

16-005(b)

S. E. Russo, Group Leader, Eng-3 March 15, 1960

Charles D. Blackwell, Alt. Leader General Monitoring Section, H-1

CONTAMINATION SURVEY, TA-16

H-1

In regard to your request of March 14, 1960, to furnish radioactive contamination clearance of the below listed structures, we have checked into the past history of these structures and find they have never been used in conjunction with radioactive material. Therefore, they may be considered as free from all types of radioactive materials and subject to approval of Groups H-3 and H-5, may be released for further assignment.

Structure Number	Description
TA-16-174	Septic tank (sanitary)
TA-16-508	Manhole (water)
TA-16-509	Manhole (steam)
TA-16-511	Manhole (steam)
TA-16-512	Underground tank (oil)
TA-16-1084	Manhole (steam)

Charles D. Blackwell

Charles D. Blackwell

CDB/el

cc: Dean Meyer, H-1
Roy Reider, H-3
Harry Schulte, H-5
File

16-005(b)

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO A. John Ahlquist, HSE-8, MS K490

DATE: November 17, 1983

FROM Charles D. Blackwell, HSE-1

MAIL STOP/TELEPHONE: K490

SYMBOL HSE8-83-794

SUBJECT STRUCTURES REMOVED FROM TA-16

This report covers only those structures removed from TA-16. Listed below are structure numbers, building nomenclature, removal date, structure use and/or hazardous materials used in each area, if known.

Structure Number	Structure Nomenclature	Removal Date	Structure Use and/or Hazardous Material Use
TA-16-1	Admin. Bldg.	1956	None
TA=16-2	Office	1956	None
TA-16-3	ZIA Elect. Bldg.	1956	None
TA-16-4	Inflam. Stk. Storage	1956	Var. chem.
TA-16-5	Instrument Shop	1956	None
TA-16-6	ZIA Repair Shop	1956	None
TA-16-8	ZIA Cabinet Shop	1956	None
TA-16-9	Motor Pool Dispatch Off.	1956	None
TA-16-11	Storage	1956	None
TA-16-12	Warehouse	1956	None
TA-16-14	Guard House	1956	None
TA-16-15	Laundry & Locker Room	1956	HE
TA-16-17	Plumbing Shop	1956	HE
TA-16-18*	Steam Washing House	1960	HE
TA-16-19	Pump House	1956	HE
TA-16-20	Water Pump Pit	1953	HE
TA-16-22	Office	1961	None
TA-16-23	Storage	1951	None
TA-16-24	Analytical Lab	1968	HE
TA-16-25*	Process Bldg.	1960	HE
TA-16-26	Process Bldg.	1968	HE
TA-16-28	Water Cooling Tower	1968	None
TA-16-29	Fuel oil tank	1956	None
TA-16-30*	Magazine	1960	HE
TA-16-31*	Mach. Bldg.	1960	HE
TA-16-32*	Mach. Bldg.	1960	HE
TA-16-33*	Mach. Bldg.	1960	HE
TA-16-34*	Magazine	1960	HE
TA-16-35*	Equipment Room	1960	HE
TA-16-36*	Steam Cleaning	1960	HE
TA-16-37*	Explosive Testing	1960	HE
TA-16-38*	Experimental casting	1960	HE

16-005(b)

This report covers only those structures removed from TA-16. Listed below are structure numbers, building nomenclature, removal date, structure use and/or hazardous materials used in each area, if known.

Cont.-2

Structure Number	Structure Nomenclature	Removal Date	Structure Use and/or Hazardous Material Use
TA-16-39*	Radiographic Bldg.	1960	^{238}U, ^{60}Co, ^{226}Ra
TA=16-40*	Radiographic Bldg.	1960	^{238}U, ^{60}Co, ^{226}Ra
TA-16-41*	Process Lab	1960	HE
TA-16-42*	Process Bldg.	1960	HE
TA-16-43*	Process Bldg.	1960	HE
TA-16-44*	Process Bldg.	1960	HE
TA-16-45*	Process Bldg.	1960	HE
TA-16-46*	Process Bldg.	1960	^{238}U, HE
TA-16-47*	Equipment Bldg.	1960	HE
TA-16-48*	Smoking Room	1960	^{238}U
TA-16-49*	Analytical Lab	1960	HE
TA-16-50*	Experimental Casting	1960	HE
TA-16-51*	Steam Cleaning	1960	HE
TA-16-52*	Explosive Material	1960	HE
TA-16-53*	Optical Equip. Storage	1960	HE
TA-16-55*	Grinding Bldg.	1960	HE
TA-16-56*	Testing Lab	1960	HE
TA-16-57*	Magazine	1960	HE
TA-16-60	Magazine	1950	HE
TA-16-62	Magazine	1968	HE
TA-16-64	Magazine	1951	HE
TA-16-65	Magazine	1951	HE
TA-16-66*	Magazine	1960	HE
TA-16-67*	Magazine	1960	HE
TA-16-68*	Magazine	1960	HE
TA-16-69*	Magazine	1960	HE
TA-16-70*	Magazine	1960	HE
TA-16-71*	Magazine	1960	HE
TA-16-72*	Magazine	1960	HE
TA-16-74*	Magazine	1960	HE
TA-16-81*	Process Bldg. & Fan Room	1960	HE
TA-16-82	Storage	1968	HE
TA-16 83*	Laboratory	1960	HE
TA-16-84*	Magazine	1960	HE
TA-16-85	Warehouse	1947	None
TA-16-86*	Laboratory	1960	HE
TA-16-87*	Machine Shop Trailer	1960	None
TA-16-94*	Equipment & Control	1960	HE
TA-16-95*	Mach. Bldg.	1960	HE
TA-16-96*	Mach. Bldg.	1960	HE
TA-16-97*	Mach. Bldg.	1960	HE
TA-16-98*	Mach. Bldg.	1960	HE
TA-16-100*	Process Bldg.	1960	HE

This report covers only those structures removed from TA-16. Listed below are structure numbers, building nomenclature, removal date, structure use and/or hazardous materials used in each area, if known.

Contd.-3

Structure Number	Structure Nomenclature	Removal Date	Structure Use and/or Hazardous Material Use
TA-16-102*	Passageway	1960	None
TA=16-103*	Passageway	1960	None
TA-16-104*	Passageway	1960	None
TA-16-105	Passageway	1968	None
TA-16-106	Storage	1949	HE
TA-16-107	Storage	1950	HE
TA-16-108	Storage	1950	HE
TA-16-109	Storage	1950	HE
TA-16-110	Barricade	1968	None
TA-16-113*	Barricade	1960	None
TA-16-114*	Barricade	1960	None
TA-16-115*	Barricade	1960	None
TA-16-116*	Barricade	1960	None
TA-16-117	Barricade	1951	None
TA-16-118	Barricade	1950	None
TA-16-119	Barricade	1948	None
TA-16-120*	Barricade	1960	None
TA-16-121	Barricade	1968	None
TA-16-122	Barricade	1962	None
TA-16-123	Barricade	1949	None
TA-16-124	Barricade	1949	None
TA-16-125*	Barricade	1960	None
TA-16-126*	Barricade	1960	None
TA-16-127*	Barricade	1960	None
TA-16-128*	Barricade	1960	None
TA-16-129*	Barricade	1960	None
TA-16-130	Guard House	1956	None
TA-16-131*	Guard House	1960	None
TA-16-132	Paint Shop Shed	1955	None
TA-16-133	Lumber Storage	1955	None
TA-16-134	Mess Hall	1955	None
TA-16-135	Storage Bldg.	1953	None
TA-16 136	Implement Shed	1955	None
TA-16-137	Plb. & Elect. Shop	1955	HE
TA-16-138	Blacksmith Shop	1955	None
TA-16-139	Storage Bldg.	1955	HE
TA-16-140	Storage Bldg.	1955	HE
TA-16-141	Storage Bldg.	1955	HE
TA-16-142	Fire House	1955	None
TA-16-143	Hose House	1955	None
TA-16-144	Equipment Room	1955	None
TA-16-145	Latrine	1955	None
TA-16-146	Storage	1955	HE

This report covers only those structures removed from TA-16. Listed below are structure numbers, building nomenclature, removal date, structure use and/or hazardous materials used in each area, if known.

Contd.-4

Structure Number	Structure Nomenclature	Removal Date	Structure Use and/or Hazardous Material Use
TA-16-147	Road Block	1954	None
TA-16-148	Equip Bldg.	1968	None
TA-16-149	Guard House	1950	None
TA-16-150	Hose House	1958	None
TA-16-151	Hose House	1958	None
TA-16-152	Hose House	1958	None
TA-16-158*	Barricade	1960	None
TA-16-159*	Barricade	1960	None
TA-16-160	Road Block	1956	None
TA-16-161	Septic tank	-	None
TA-16-162	Latrine	1971	None
TA-16-165	Guard House	1956	None
TA-16-166*	Passageway	1960	None
TA-16-167	Hose House	1958	None
TA-16-168	Manhole	1952	None
TA-16-172	Water Storage Tank	Relocated to TA-49-66	None
TA-16-174	Septic Tank Sanitary	-	None
TA-16-176	Septic Tank, Sanitary	-	None
TA-16-177	Septic Tank, Sanitary	1968	None
TA-16-179	Septic Tank, Sanitary	-	None
TA-16-181	Tank Housing	1956	None
TA-16-182	Diesel Unit Bldg.	1956	None
TA-16-183	Drum Storage	1968	Var. Chem.
TA-16-184	Drum Storage	-	Var. Chem.
TA-16-185	Drum Storage	-	Var. Chem.
TA-16-186	Drum Storage	-	Var. Chem.
TA-16-187	Drum Storage	-	Var. Chem.
TA-16-188	Drum Storage	1956	Var. Chem.
TA-16-189	Cooling Tower	1960	None
TA-16-190	Drum Storage	1955	Var. Chem.
TA-16-198	Hose House	-	None
TA-16-199	Reserve	-	None
TA-16 211	Road Block	Relocated to TA-6-50	None
TA-16-212	Road Block	Relocated to TA-15-215	None
TA-16-262	Cooling Tower	1957	None
TA-16-272	Septic Tank	-	None
TA-16-273	Dosing Chamber	-	HE
TA-16-274	Distribution Box	-	None
TA-16-346	Road Block	1962	None
TA-16-347	Road Block	1962	None
TA-16-348	Road Block	1962	None
TA-16-384	Reserve	1970	None
TA-16-393	Filter Bed	1964	HE

This report covers only those structures removed from TA-16. Listed below are structure numbers, building nomenclature, removal date, structure use and/or hazardous materials used in each area, if known.

Contd.-5

Structure Number	Structure Nomenclature	Removal Date	Structure Use and/or Hazardous Material Use
TA-16-396	Latrine	1968	None
TA-16-397	Road Block	1960	None
TA-16-403	Reserve	1968	None
TA-16-464	Magazine	1966	HE
TA-16-475	Office & Shop Bldg.	1951	None
TA-16-479	Storage Bldg.	1951	^{238}U
TA-16-480	Experimental Chamber	1950	^{238}U, HE
TA-16-481	Magazine	1951	HE
TA-16-482	Storage Bldg.	1951	None
TA-16-483	Barricade	1951	None
TA-16-485	Road Block	1951	None
TA-16-486	Septic Tank	1951	None
TA-16-487	Transformer Sta.	1951	None
TA-16-488	Magazine	1951	HE
TA-16-490*	Laboratory Bldg.	1960	^{238}U
TA-16-491*	Hutment	1960	^{238}U
TA-16-492*	Hutment	1960	^{238}U
TA-16-493*	Magazine	1960	HE
TA-16-494*	Magazine	1960	HE
TA-16-495*	Hutment	1960	^{238}U
TA-16-496*	Hutment	1960	^{238}U
TA-16-497*	Magazine	1960	HE 5/12/54)
TA-16-498*	Hutment	1960	^{238}U
TA-16-499*	Hutment	1960	^{238}U
TA-16-500*	Hutment	1960	^{238}U
TA-16-501	Guard House	1950	None
TA-16-502	Steam Plant	1960	None
TA-16-503	Radiation Barricade	1960	None
TA-16-504	Septic Tank, Sanitary	1960	None
TA-16-505*	Passageway	1960	None
TA-16-506	Manhole, Steam	1968	None
TA-16-507*	Sump pit, Chem.	1960	Var. Chem.
TA-16 508	Manhole, Water	1968	None
TA-16-509	Manhole, Steam	1968	None
TA-16-510*	Switch Box	1960	None
TA-16-511	Manhole, Steam	1968	None
TA-16-512	Underground Tank, oil	1968	None
TA-16-513	Road Block	1951	None
TA-16-521	Tank Stand	1968	None
TA-16-522	Bldg. No. 3	1945	Be
TA-16-523	Pit	1945	HE, Be
TA-16-524	Pit, elect.	1945	None
TA-16-556	Road Block	1951	None

This report covers only those structures removed from TA-16. Listed below are structure numbers, building nomenclature, removal date, structure use and/or hazardous materials used in each area, if known.

Contd.-6

Structure Number	Structure Nomenclature	Removal Date	Structure Use and/or Hazardous Material Use
TA-16-557	Road Block	1956	None
TA-16-566	Transformer Sta	1959	None
TA-16-567	Transformer Sta	1966	None
TA-16-574	Transformer Sta	1966	None
TA-16-575	Transformer Sta	1966	None
TA-16-576	Transformer Sta	Relocated to TA-15-206	None
TA-16-577	Transformer Sta	1960	None
TA-16-578	Transformer Sta	1960	None
TA-16-579	Transformer Sta	1960	None
TA-16-580	Transformer Sta	1966	None
TA-16-581	Transformer Sta	1966	None
TA-16-582	Transformer Sta	1960	None
TA-16-583	Transformer Sta	1960	None
TA-16-584	Transformer Sta	1966	None
TA-16-800	Manhole, Industrial Waste	-	HE
TA-16-801	Manhole, Drainage	-	HE
TA-16-888	Mahhole, Elect.	1972	None
TA-16-889	Manhole, Elect.	1972	None
TA-16-1000	Guard House	Relocated to TA-18-112	None
TA-16-1001	Guard House	Relocated to TA-1-288	None
TA-16-1079	Manhole, Steam	-	None
TA-16-1083	Manhole, Steam	1951	None
TA-16-1084	Manhole, Steam	-	None
TA-16-1086	Reserve	1970	None
TA-16-1087	Reserve	1970	None
TA-16-1090	Reserve	1970	None
TA-16-1101	Oil Switch	1966	None
TA-16-1102	Oil Switch	1966	None
TA-16-1103	Oil Switch	1966	None
TA-16-1104	Drum Storage	-	Var Chem.
TA-16-1105	Drum Storage	-	Var. Chem
TA-16-1106	Drum Storage	-	Var. Chem.
TA-16 1107	Drum Storage	-	Var. Chem.
TA-16-1108	Drum Storage	-	Var. Chem.
TA-16-1109	Drum Storage	1956	Var. Chem.
TA-16-1110	Drum Storage	1958	Var. Chem.
TA-16-1111	Drum Storage	1968	Var. Chem.
TA-16-1130	Water Tank	1949	None
TA-16-1131	Water Tank	1949	None
TA-16-1132	Septic Tank	1956	None
TA-16-1133	Guard House	Relocated to TA-21-168	None
TA-16-1136	Trough (Basket Washing Fac.)	-	HE
TA-16-1137	Manhole (Grease Trap)	-	HE

This report covers only those structures removed from TA-16. Listed below are structure numbers, building nomenclature, removal date, structure use and/or hazardous materials used in each area, if known.

Contd.-7

Structure Number	Structure Nomenclature	Removal Date	Structure Use and/or Hazardous Material Use
TA-16-1138	Fuel Tank	-	None
TA-16-1139	Fuel Tank	-	None
TA-16-1140	Fuel Tank	1956	None
TA-16-1141	Guard Tower	1946	None

* The structures marked this way were burned in place in January or February of 1960. The remaining debris was disposed of in some unknown method.

CDB:mlk

EM/ER TELEPHONE LOG

CALL TO: Ann Sherrard, TA-16 Environmental Coordinator
665-7226
CALL FROM: Linda Nonno
DATE: 7/12/99

BACKGROUND:
SWMU 16-005(b) is a former septic system that only served former Building TA-16-142, a fire station. The septic system received sanitary waste only. The fire station was removed in April 1955 and the septic system was removed between September 1959 and August 1961. This SWMU was proposed for NFA in the September 1995 Request for Permit Modification because it had never been used for the management of RCRA solid or hazardous wastes. NMED issued an NOD for SWMU 16-005(b) to LANL on 12/10/96. The NOD requested additional information. As part of Attachment K of their response, LANL included a July 11, 1967 memorandum from W. Courtright (H-3) to J. Russo (Eng-3). This memorandum provides a summary of an HE screening survey for TA-16 and states that Structure Number TA-16-174 [SWMU 16-005(b)] was determined to be free of HE contamination.

DISCUSSION:

At a July 7, 1999 meeting, NMED requested that LANL determine why HE screening was performed prior to removal of the SWMU 16-005(b) septic system. Regulatory Compliance personnel believe that it was common practice at TA-16 to perform HE screening on any and all structures removed from TA-16. I called Ann Sherrard, the Environmental Coordinator for TA-16, for confirmation. She checked with a TA-16 staff member who had been employed at TA-16 during the 1960s. He informed Ann that at the time the memorandum was written, due to the widespread use of HE at TA-16, it was TA-16 policy to swipe all items to be removed from that technical area.

Linda Nonno

18-007 and 27-001

SPECTRUM

ELECTROMAGNETIC INVESTIGATION OF SWMU 18-007 AND SWMU 27-001 LOS ALAMOS NATIONAL LABORATORY LOS ALAMOS, NEW MEXICO

Prepared by:

Spectrum Geophysics
Rancho Cordova, California

Submitted to:

ICF Kaiser Environment Group
Los Alamos, New Mexico

November 1997

ELECTROMAGNETIC INVESTIGATION OF SWMU 18-007 AND SWMU 27-001, LOS ALAMOS NATIONAL LABORATORY LOS ALAMOS, NEW MEXICO

November 1997

REGISTERED GEOPHYSICIST
MARTIN J. MIELE
No. 941
STATE OF CALIFORNIA

Martin Miele, R.Gp.-941, R.G.-6088.
Chief Geophysicist

TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1
1.1 Background SWMU 18-007 1
1.2 Background SWMU 27-001 1
1.3 Objective 1

2.0 FIELD SURVEYS 3
2.1 SWMU 18-007 3
2.1 SWMU 27-001 3

3.0 RESULTS 4
3.1 SWMU 18-007 4
3.2 SWMU 27-001 5

4.0 DISCUSSION 6

APPENDIX A - Calibration 7

APPENDIX B - Raw EM Data Printouts 8

LIST OF FIGURES

FIGURE 1: EM Profile A - Threemile Canyon
FIGURE 2: EM Profile B - Threemile Canyon
FIGURE 3: Kiva 2 - Terrain Conductivity Contour Map
FIGURE 4: Kiva 2 - In-Phase Component Contour Map
FIGURE 5: EM Profile A - Pajarito Canyon
FIGURE 6 - EM Profile B - Pajarito Canyon
FIGURE 7: Kiva 1 - Terrain Conductivity Contour Map
FIGURE 8: Kiva 1 - In-Phase Component Contour Map
FIGURE 9: SWMU 27-001 Location A - Terrain Conductivity Contour Map
FIGURE 10: SWMU 27-001 Location B - Terrain Conductivity Contour Map
FIGURE 11: SWMU 27-001 Location C - Terrain Conductivity Contour Map

1.0 INTRODUCTION

This report presents the results of an electromagnetic Induction (EM) survey at SWMU 18-007 and SWMU 27-001 near TA-18, Los Alamos National Laboratory (LANL), Los Alamos, New Mexico. The investigation was conducted by Spectrum Geophysics the week of November, 1997.

1.1 Background SWMU 18-007

In the LANL SWMU Report (LANL 1990, 0145) a laboratory memo indicates that a laboratory employee describes burying a military tank in Three mile Canyon west of Kiva 2. No evidence to confirm the burial could be obtained. No individuals present at TA-18 during the probable time of burial (approximately 1944) could be located. During a review of LANL archives, no evidence was found indicating that a tank was used in any of the experiments at the site.

Threemile Canyon is 1 mile long and approximately 600 to 800 feet wide. Adjacent Pajarito Canyon is considerably longer than 1 mile and is an average of 1000 feet wide. Threemile Canyon opens adjacent to Kiva 2 and Pajarito Canyon opens adjacent to Kiva 1 at TA-18. The most suspect areas for burying a tank would be these canyon openings adjacent to the two Kivas. The canyons are characterized by extremely heavy brush and trees as well as difficult terrain.

1.2 Background SWMU 27-001

It is suspected that a trench was dug in 1945 near the base of the south facing cliff, east of TA-18, for the burial of one or more U.S. Navy guns used for onsite experiments (LANL, 1990, 0145). They are described as 6 to 8 inch bore guns. Contradicting information regarding the location of the trench makes it difficult to verify a specific location. However, three suspect locations were marked at the base of the cliffs.

1.3 Objective

The objective of the geophysical investigation at SWMU 18-007 and SWMU 27-001 was to locate the possible buried military tank and buried naval guns, respectively. The electromagnetic induction (EM31) method was utilized. The EM31 is an effective technique for locating large buried metal objects, especially in

large field areas. Other EM techniques can be employed, however, the EM31 is the best suited approach for the objective of this investigation.

A magnetometer will also be successful at locating the buried metal objects of interest in this investigation; however a magnetometer is much slower in the field. In addition, our experienece conducting previous magnetometer surveys in the same local vicinity and cliff faces indicated that the magnetic content of the local tuff interferes with magnetometer readings. This precludes the use of a magnetometer.

2.0 FIELD SURVEYS

Two field areas were established at SWMU 18-007. In general, the canyon openings at Kiva 1 and Kiva 2 were established as rectangular field areas. They were rectangularly gridded so a contour map of each of the most likely burial areas could be constructed. In addition a traverse of each of the canyons were surveyed as described in the following sections.

Three separate field areas were established at SWMU 27-001. Each area was centered around one of the three suspected locations of the buried naval guns which were staked in the field.

2.1 SWMU 18-007

Prior to obtaining data at SWMU 18-007 a grid system was established in the field at the canyon openings adjacent to Kiva 1 and Kiva 2. The field areas were approximately 280 feet by 400 feet (Kiva 1) and 180 feet by 400 feet (Kiva 2). A 20 by 20 foot grid system was constructed which consisted of wooden lath and pin flags.

The EM31 data were obtained from a 10 foot by 10 foot grid density (at and between the wooden lath markers) at the two field areas. Both terrain conductivity and in-phase data were stored in a data logger during the survey and downloaded to computer at the end of each survey.

In addition, two EM31 traverses were conducted along the axis of each canyon. The traverses were conducted approximately 20 feet apart and parallel with the axes. The traverses extended through the most suspected areas where a buried tank may exist. Prior to conducting the survey wooden lath were emplaced along the canyon axes, at 50 foot intervals, by survey crews to guide the traverses. The traverses were 5,100 feet long in Pajarito Canyon and 2,700 feet long in Threemile Canyon.

2.1 SWMU 27-001

Three separate areas were suspect as possible locations of the buried naval gun sites. Each of the locations were previuosly staked in the field. A 40 foot by 40 foot field area was established around each suspected location. A grid system was constructed and data were obtained from a 5 foot by 5 foot grid system.

3.0 RESULTS

Areas that were gridded for this investigation (Kiva 1, Kiva 2, and SWMU 27-001 areas) were contoured using the most appropriate contouring parameters (Golden Software). Profiles of the traverses through the axes of Threemile Canyon and Pajarito Canyon were also prepared. The resulting profiles and contour maps are indicated on Figures 1 through 11. The Results are discussed separately in the following section.

3.1 SWMU 18-007

Figures 1 and 2 are the EM profiles of the traverses conducted in Threemile Canyon. The figures represent profile distance (horizontal axis) versus EM response (vertical axes). The anomalies that occur between the 1100 and 1450 foot mark along both profiles are caused by a semi-buried metal mesh fence. The anomaly that occurs at the 225 foot mark is caused by a metal pole.

The quadrature EM values along the remainder of the profiles are typical of natural geologic conditions. The quadrature (terrain conductivity) values are in the 20 mS/m range and indicate very little variation. The in-phase values also show little variation. There is no indication of a buried tank. An anomaly generated by a buried tank would likely be greater in magnitude than the anomaly caused by the semi-buried fence.

Figure 3 is the terrain conductivity contour map of the gridded area behind Kiva 2 (canyon opening). The map indicates three linear or curved accumulations of anomalies occuring in both the eastern and western section of the area. The magnitude of the anomalies is relatively low (maximum 15 mS/m). The linear or curved features may represent footings (buried concrete with rebar) or other subsurface structures (utilities, etc.) related to buildings or structures used for previous operations. The cause of the anomalies is unknown. However, it is unlikely that they are caused by a buried tank. A buried tank is expected to generate anomalies which would be a couple of orders of magnitude above the values on the map.

Figure 4 is an in-phase component contour map of the Kiva 2 area. The in-phase component is a gross indicator of buried metal. One major anomaly occurs in the center of the map (-230E, 90N). That anomaly is caused by a metal pole on the ground surface. It is not caused by a buried object. The slightly high values in the southeastern section of the map indicates that there is some metal related to the terrain conductivity anomalies in that section of the field area.

Figures 5 and 6 are the EM profiles of the traverses conducted in Pajarito Canyon. The vertical scales were exaggerated to see the variation in values. In general, all of the terrain conductivity values range between 5 and 7 mS/m. The in-phase values show little variation and vary between -2 and zero ppt. These are indications of natural geologic conditions. There is no indication of a buried tank. An anomaly caused by a buried tank would be several orders of magnitude higher than the values shown and would occur within a limited area.

Figure 7 is the terrain conductivity contour map of the gridded area behind Kiva 1 (canyon opening). One anomaly occurs at the -150E, 150N location. The anomaly is a low conductivity anomaly and is likely caused by structures associated with a wooden pole at that location. The linear anomaly along the eastern border of the area is caused by a metal fence bordering the area. There is no indication of any significant buried metal (tank) within the field area.

Figure 8 is the in-phase component contour map of the Kiva 1 area. There is little variation in values and no anomalies occur on the map. There is no indication of buried metal objects within the field area.

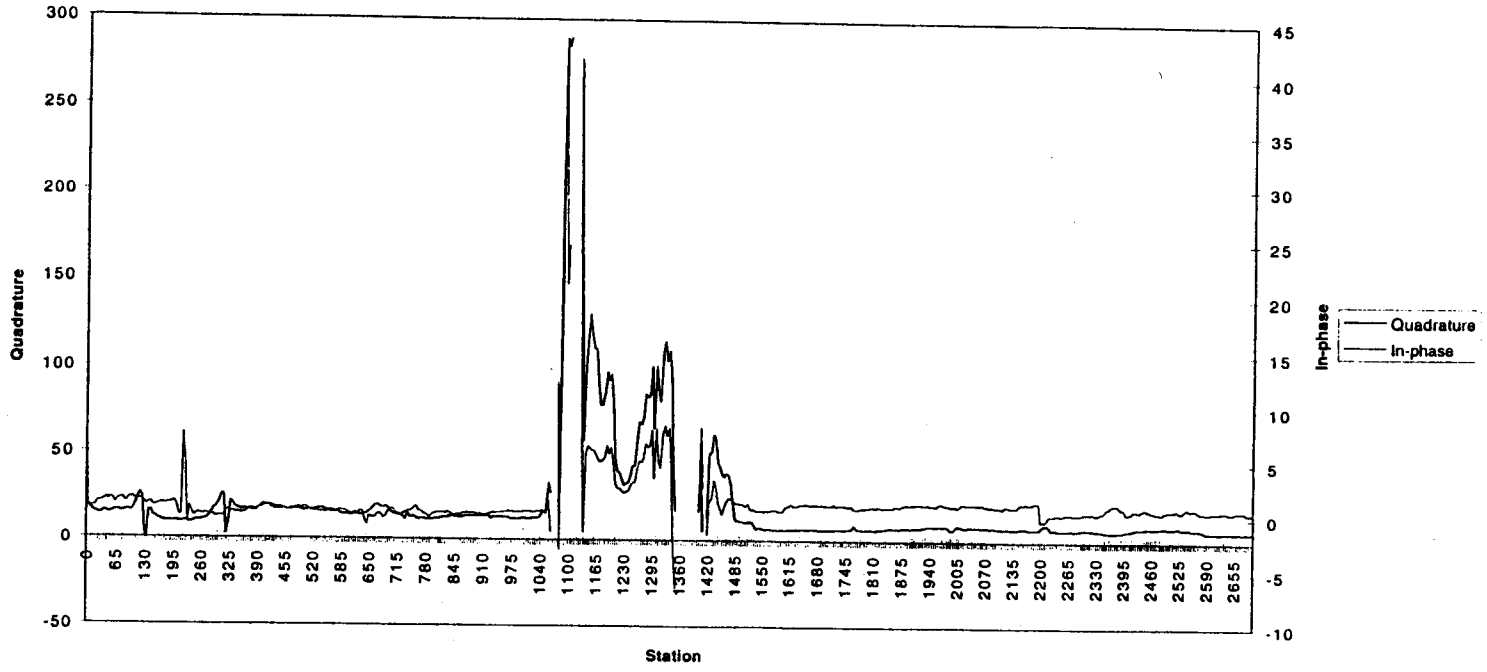
3.2 SWMU 27-001

Figure 9, 10 and 11 are terrain conductivity contour maps of the EM data obtained at Locations A (westernmost location), B (central location), and C (eastern location), respectively. The maps indicate no significant variation in the conductivity values. The conductivities are typical of natural earth conductivities. There is no indication of any buried metallic objects (naval guns). The in-phase values do not vary at all from any of the locations. Therefore a map was not prepared for that component as it would be virtually blank.

4.0 DISCUSSION

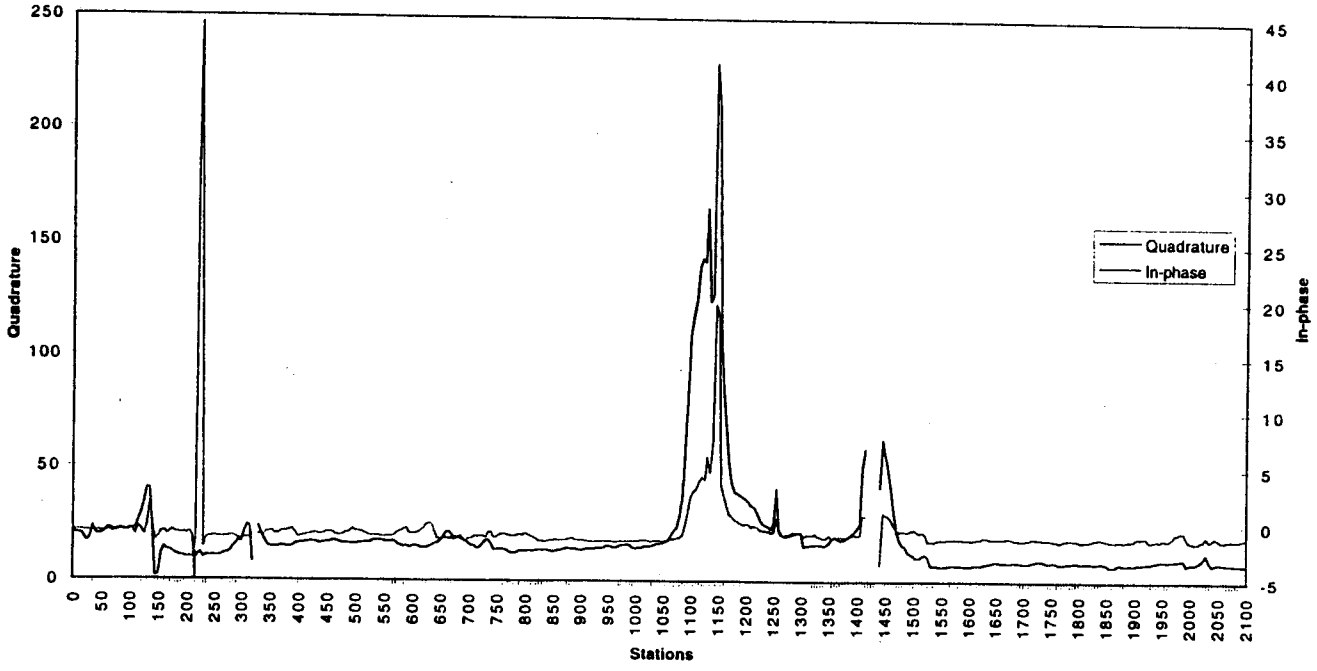
The EM survey conducted for this investigation revealed no indication of a buried military tank or buried naval guns along any of the profiles conducted or in any of the gridded field areas.

Figure 1: Profile A - Axis of Threemile Canyon



EM Profile Threemile Canyon	PRS 18-007 Los Alamos National Laboratory November 1997	SPECTRUM GEOPHYSICS 3174 Luyung Drive, Bldg. 2 Rancho Cordova, CA 95742

Figure 2: Profile B - Axis of Threemile Canyon



EM Profile Threemile Canyon	PRS 18-007 Los Alamos National Laboratory November 1997	SPECTRUM GEOPHYSICS 3174 Luyung Drive, Bldg. 2 Rancho Cordova, CA 95742

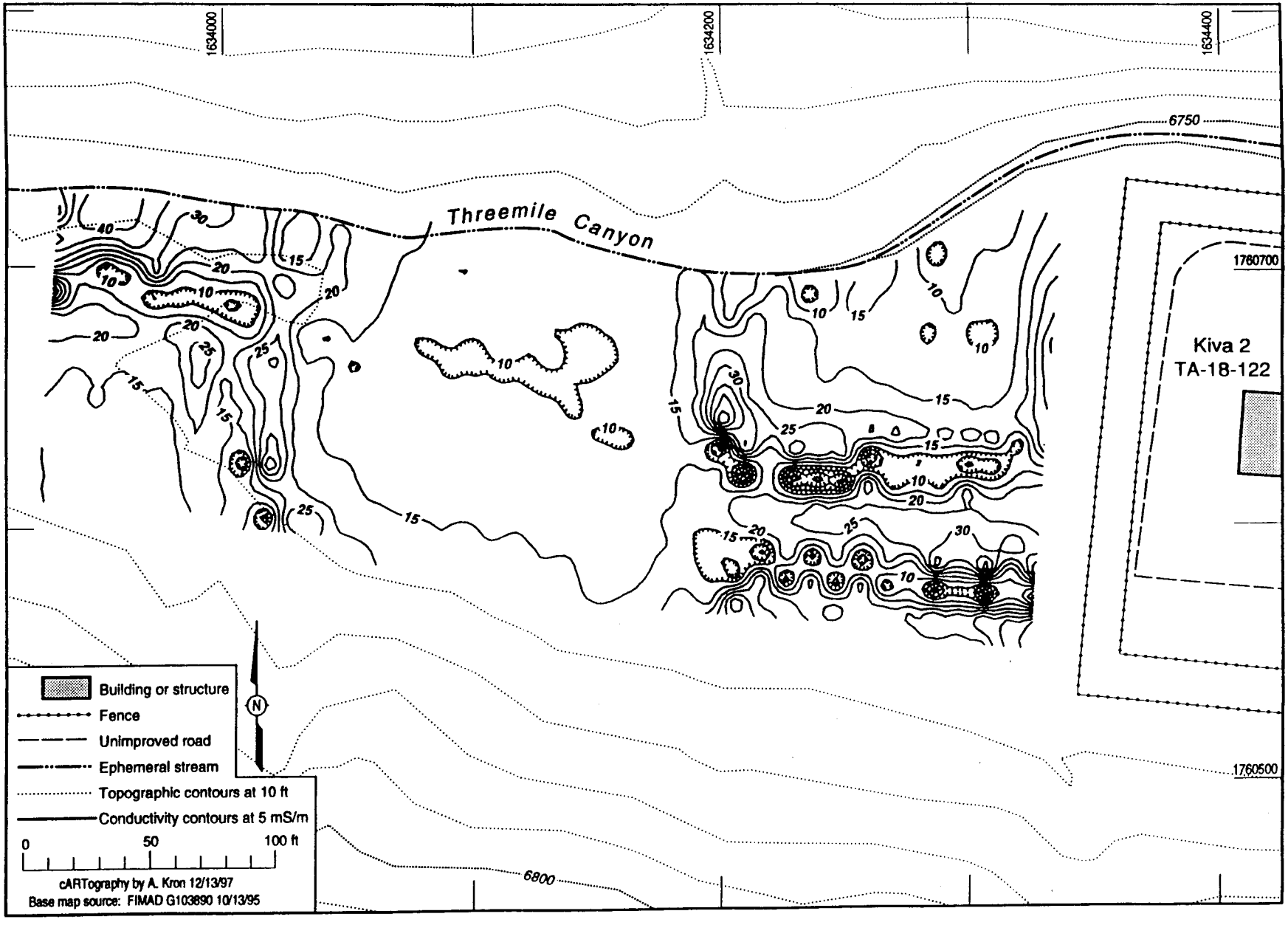


Figure 3. KIVA 2—Terrain Conductivity (ms/m)

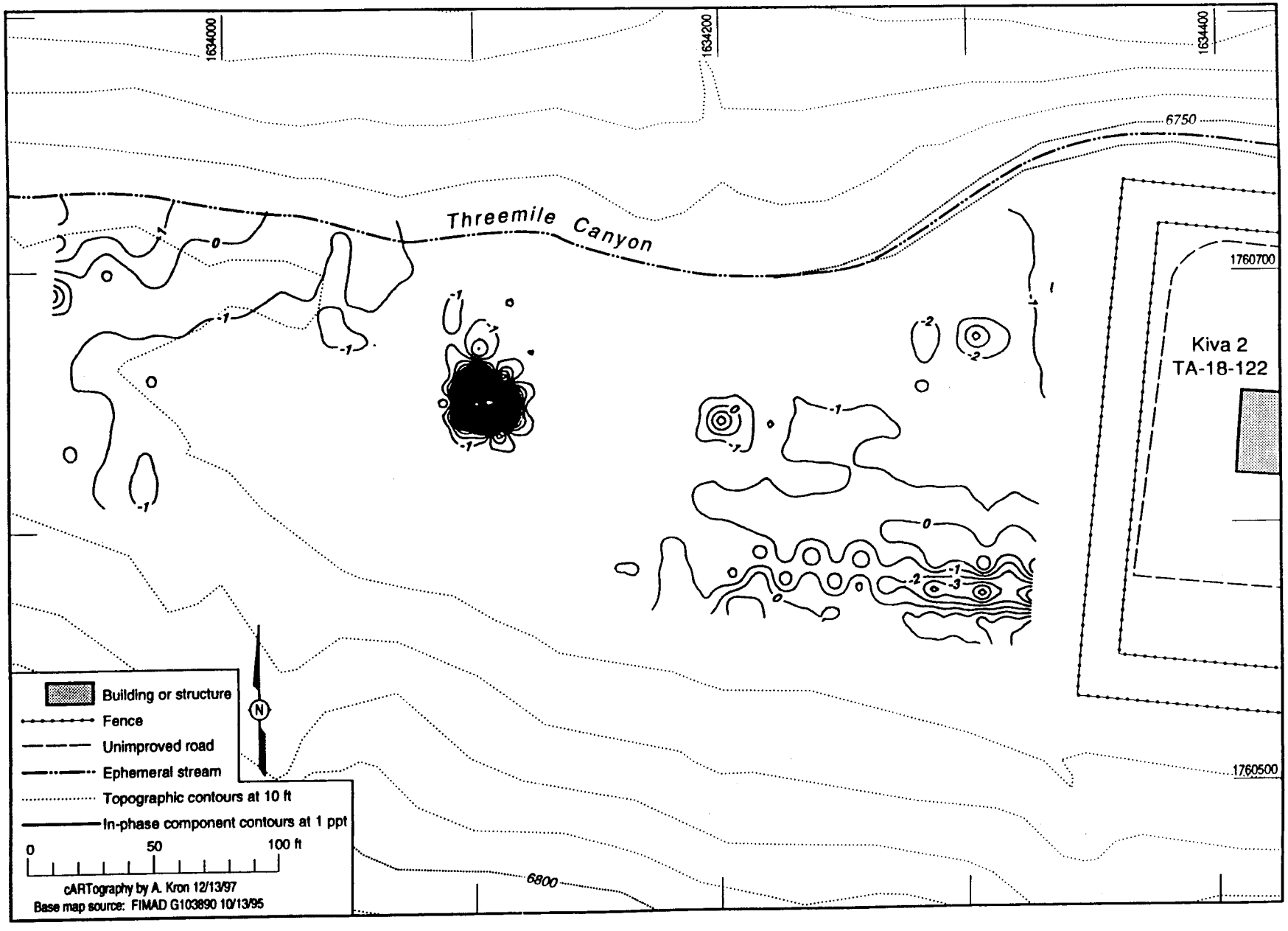
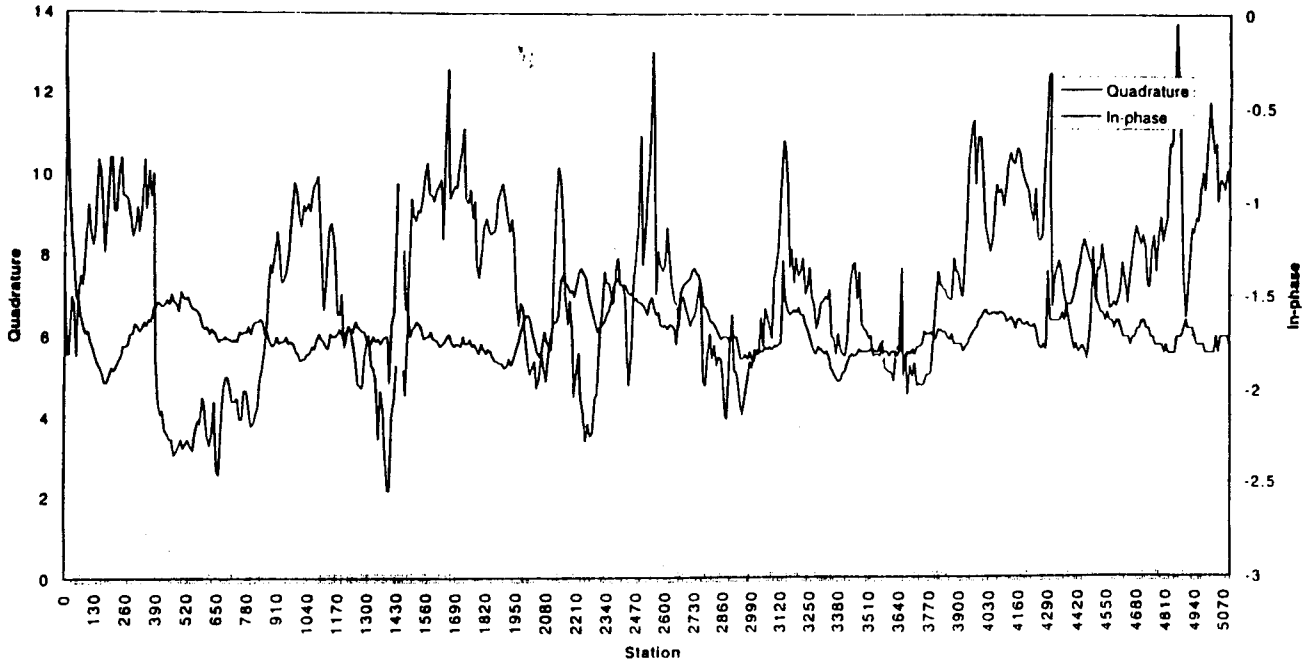


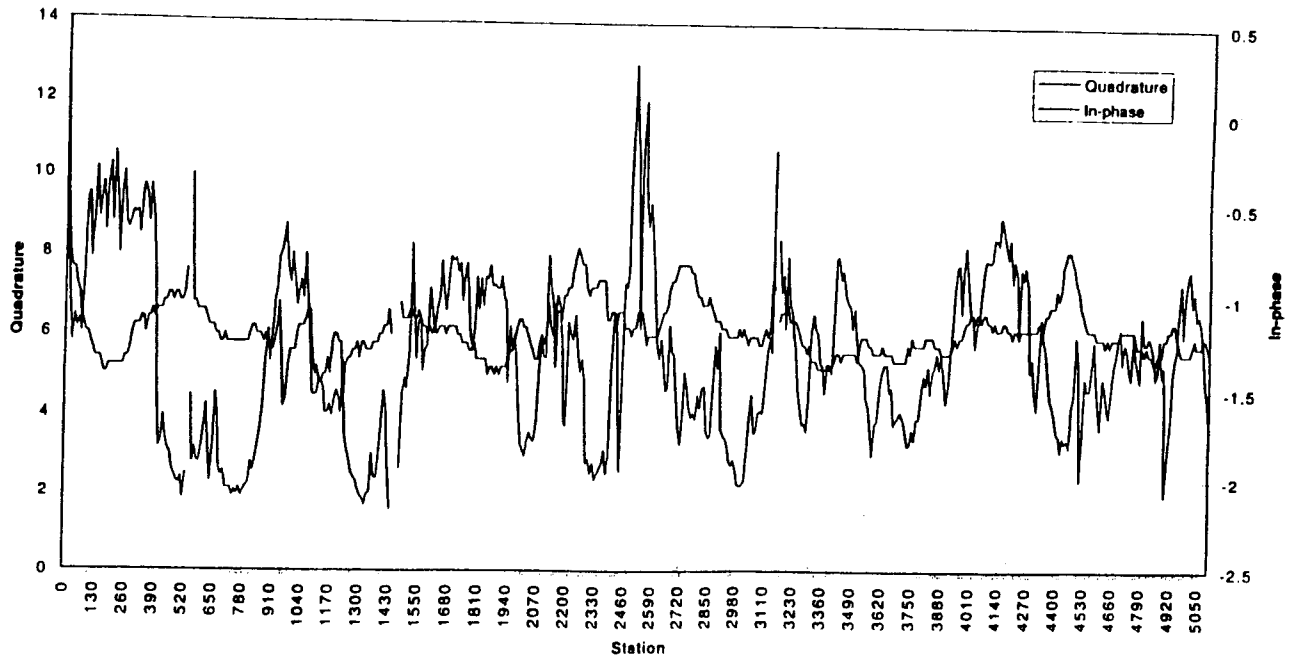
Figure 4. KIVA 2—In-Phase Component (ppt)

Figure 5: Profile A - Axis of Pajarito Canyon



EM Profile Pajarito Canyon	PRS 18-007 Los Alamos National Laboratory November 1997	SPECTRUM GEOPHYSICS 3174 Luyung Drive, Bldg. 2 Rancho Cordova, CA 95742

Figure 6: Profile B - Axis of Pajarito Canyon



EM Profile Pajarito Canyon	PRS 18-007 Los Alamos National Laboratory November 1997	SPECTRUM GEOPHYSICS 3174 Luyung Drive, Bldg. 2 Rancho Cordova, CA 95742

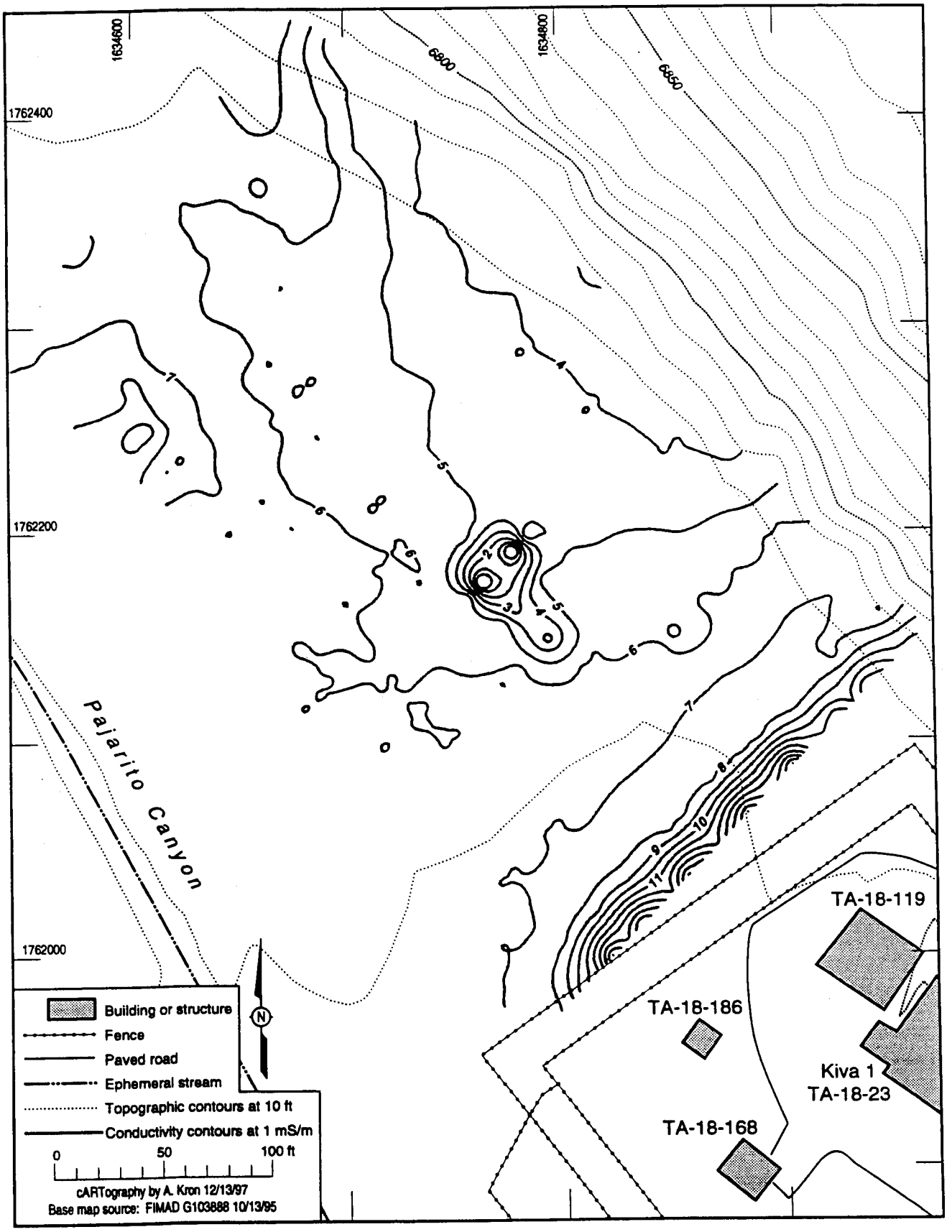


Figure 7. KIVA 1—Terrain Conductivity (mS/m)

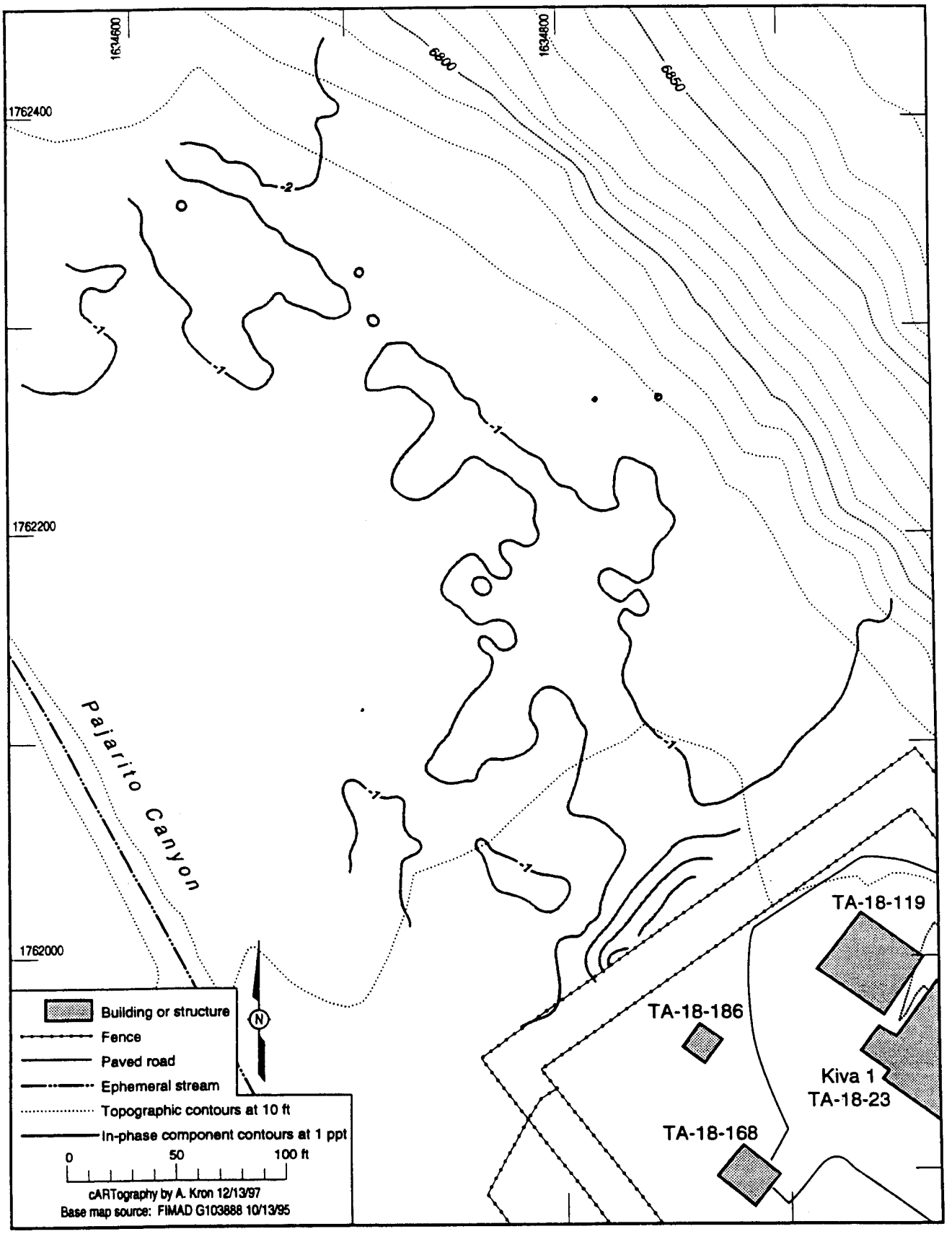


Figure 8. KIVA 1—In-Phase Component (ppt)

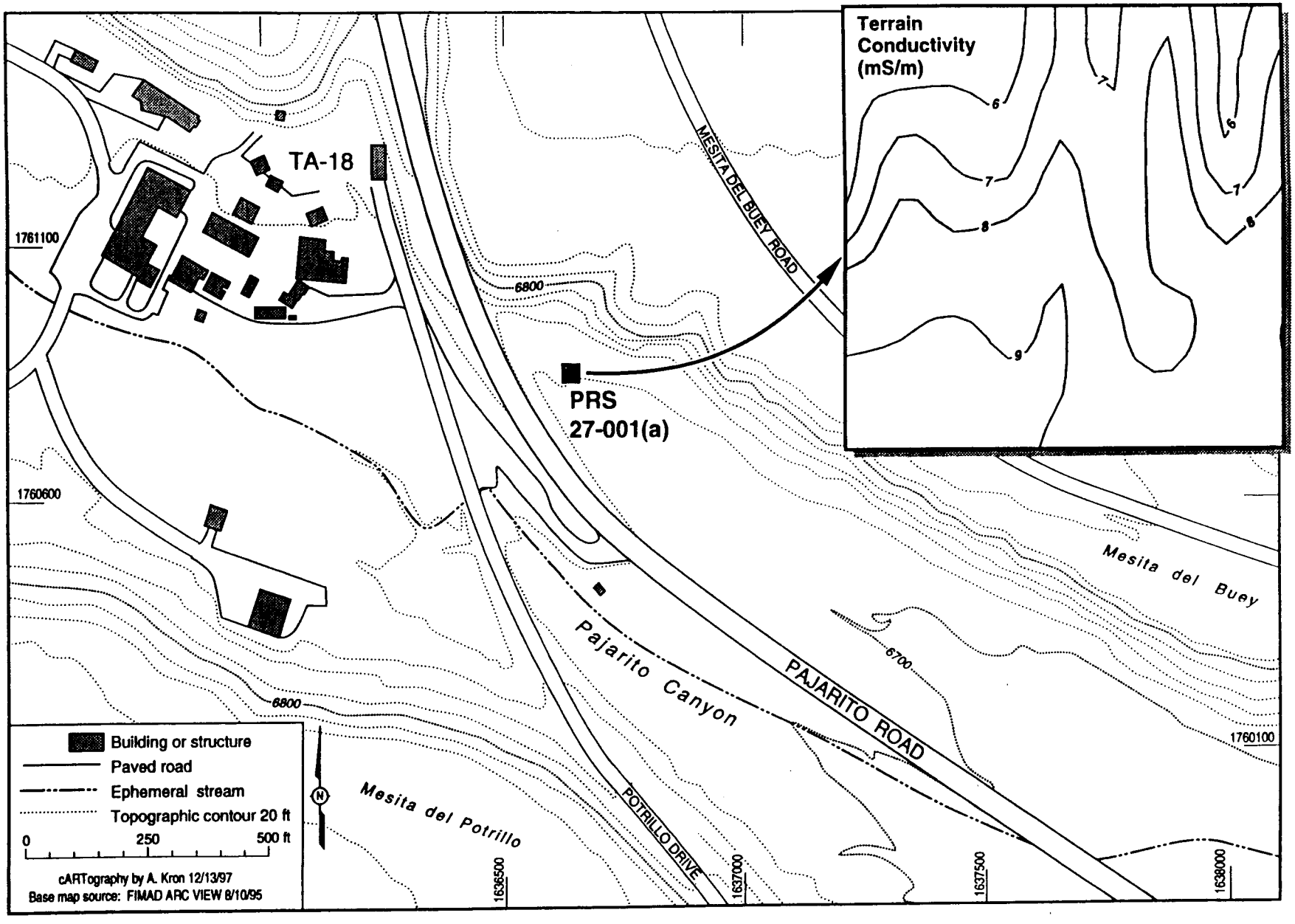


Figure 9. PRS 27-001(a)—Terrain Conductivity (mS/m)

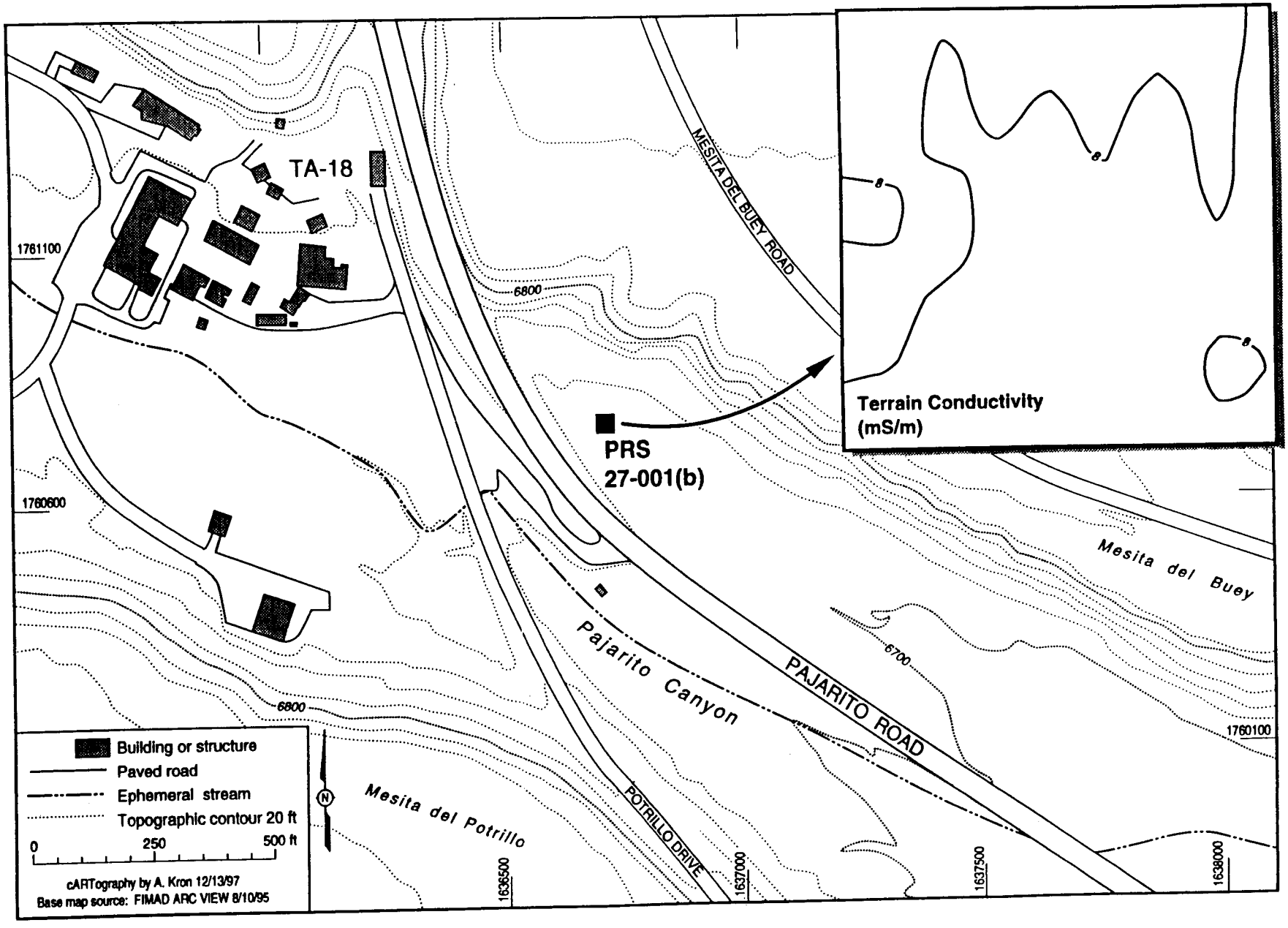


Figure 10. PRS 27-001(b)—Terrain Conductivity (mS/m)

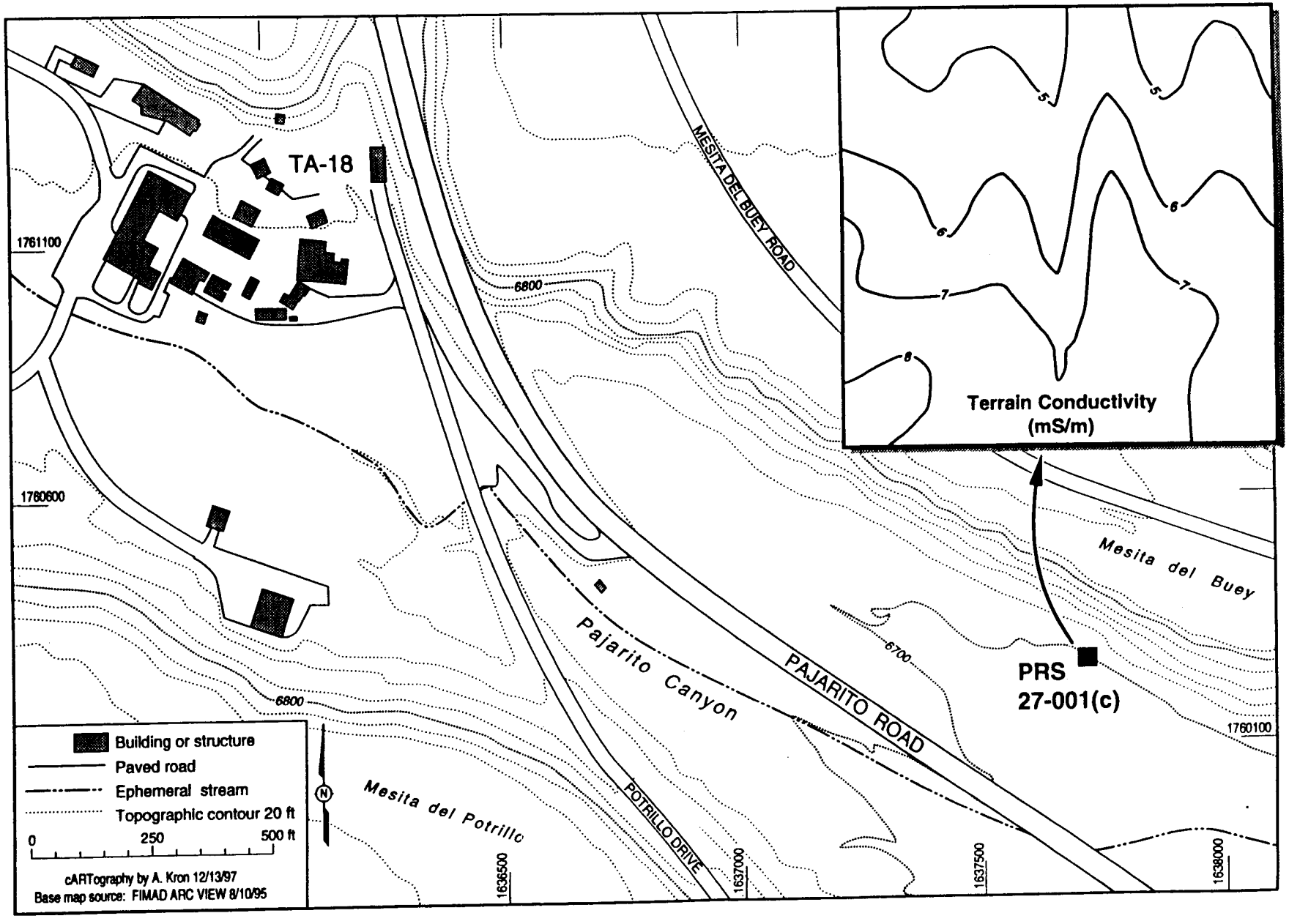


Figure 11. PRS 27-001(c)—Terrain Conductivity (mS/m)

APPENDIX A - Calibration

In general, minimal calibration is required with the EM31 system. The most critical adjustment is the QF (quadrature fine) potemtiometer which is precisely adjusted every time prior to shipping the instrument at a location of known conductivty. The calibration is re-checked and adjusted prior to initiating the field survey, however, it rarely varies. We checked the QF adjustment in the field behind Kiva 2 and no adjustments were required.

The only other calibration is the zero or null calibration which is conducted while assembling the instrument prior to a survey. This is performed with only the transmitting coil assembled. We performed the null calibration behind Kiva 2.

The calibrations are conducted in real-time prior to every survey as we did at the Kiva 2 location. No notes or recordings are required. The adjustments rarely vary. However, the adjustments make little difference when measuring and interpreting lateral changes in conductivity as was conducted with this survey.

APPENDIX B - Raw EM Data Printouts

LINE: 0 Direction: W
Date: 19- 2-97 Time: 21: 5
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 5100

Pajarito Canyon Data - Profile A

Station	Cond. [mS/m]	Inphase [ppt]
0.000	12.600	-0.024
10.000	9.400	-0.650
20.000	8.000	-1.047
30.000	7.600	-1.264
40.000	7.600	-1.119
50.000	7.200	-1.192
60.000	7.000	-1.143
70.000	6.400	-1.216
80.000	6.200	-0.915
90.000	6.000	-0.505
100.000	6.000	-0.469
110.000	5.800	-0.818
120.000	5.600	-0.614
130.000	5.400	-0.325
140.000	5.400	-0.602
150.000	5.400	-0.493
160.000	5.200	-0.409
170.000	5.000	-0.674
180.000	5.000	-0.433
190.000	5.200	-0.301
200.000	5.200	-0.626
210.000	5.200	-0.240
220.000	5.200	-0.433
230.000	5.200	-0.794
240.000	5.200	-0.481
250.000	5.200	-0.349
260.000	5.400	-0.626
270.000	5.400	-0.662
280.000	5.600	-0.614
290.000	6.000	-0.565
300.000	6.200	-0.578
310.000	6.200	-0.565
320.000	6.200	-0.686
330.000	6.400	-0.481
340.000	6.400	-0.421
350.000	6.000	-0.457
360.000	6.400	-0.626
370.000	6.400	-0.421
380.000	6.600	-0.578
390.000	6.400	-0.818
400.000	6.600	-1.481
410.000	6.600	-1.818
420.000	6.600	-1.782
430.000	6.800	-1.649
440.000	6.800	-1.782
450.000	7.000	-1.830
460.000	7.000	-1.854
470.000	6.800	-1.938
480.000	7.000	-1.974
490.000	7.000	-2.010
500.000	6.800	-2.023
510.000	6.800	-1.986
520.000	7.000	-2.107
530.000	7.600	-1.962

540.000	-62.400	-17.003
550.000	10.000	-1.541
560.000	6.800	-1.902
570.000	6.800	-1.818
580.000	6.600	-1.890
590.000	6.600	-1.902
600.000	6.600	-1.830
610.000	6.600	-1.709
620.000	6.400	-1.589
630.000	6.200	-1.806
640.000	6.200	-2.010
650.000	6.200	-1.830
660.000	6.000	-1.529
670.000	6.000	-1.637
680.000	5.800	-1.938
690.000	5.800	-1.974
700.000	6.000	-1.950
710.000	5.800	-2.047
720.000	5.800	-2.047
730.000	5.800	-2.047
740.000	5.800	-2.095
750.000	5.800	-2.059
760.000	5.800	-2.083
770.000	5.800	-2.047
780.000	5.800	-2.095
790.000	5.800	-2.059
800.000	5.800	-2.035
810.000	6.000	-2.023
820.000	6.200	-1.902
830.000	6.200	-1.950
840.000	6.000	-1.878
850.000	6.000	-1.806
860.000	6.000	-1.734
870.000	5.800	-1.601
880.000	6.000	-1.348
890.000	5.800	-1.192
900.000	5.600	-1.360
910.000	5.600	-1.192
920.000	5.800	-1.035
930.000	6.200	-0.963
940.000	6.800	-0.806
950.000	5.400	-0.770
960.000	4.200	-0.710
970.000	4.400	-0.626
980.000	5.200	-0.867
990.000	5.600	-0.939
1000.000	5.600	-0.782
1010.000	5.600	-0.927
1020.000	6.000	-1.059
1030.000	6.200	-0.987
1040.000	6.200	-0.927
1050.000	6.200	-1.023
1060.000	6.400	-0.782
1070.000	6.600	-1.047
1080.000	6.600	-1.300
1090.000	5.600	-1.529
1100.000	5.000	-1.541
1110.000	5.200	-1.529
1120.000	4.800	-1.457
1130.000	4.800	-1.457

1140.000	5.000	-1.577
1150.000	5.000	-1.637
1160.000	5.400	-1.637
1170.000	5.000	-1.589
1180.000	5.800	-1.649
1190.000	6.000	-1.565
1200.000	6.000	-1.517
1210.000	5.800	-1.553
1220.000	5.800	-1.637
1230.000	4.200	-1.360
1240.000	5.200	-1.734
1250.000	5.400	-1.830
1260.000	5.400	-1.878
1270.000	5.600	-1.962
1280.000	5.600	-1.986
1290.000	5.800	-2.010
1300.000	5.400	-2.059
1310.000	5.800	-2.095
1320.000	5.800	-2.107
1330.000	5.600	-2.143
1340.000	5.600	-2.083
1350.000	5.600	-2.071
1360.000	5.800	-1.854
1370.000	5.800	-1.986
1380.000	5.800	-1.998
1390.000	6.000	-1.890
1400.000	6.000	-1.709
1410.000	6.200	-1.517
1420.000	6.200	-1.697
1430.000	6.600	-1.878
1440.000	6.000	-2.167
1450.000	-33.600	-4.142
1460.000	5.800	-1.782

---> Comment : FENCE

1470.000	6.800	-1.938
1480.000	6.400	-1.529
1490.000	6.400	-1.445
1500.000	6.400	-1.505
1510.000	6.600	-1.300
1520.000	6.600	-0.722
1530.000	6.400	-1.035
1540.000	6.400	-1.348
1550.000	6.600	-1.143
1560.000	6.400	-1.131
1570.000	6.200	-1.408
1580.000	6.200	-1.288
1590.000	6.000	-1.276
1600.000	6.200	-0.963
1610.000	6.000	-1.071
1620.000	6.200	-1.204
1630.000	6.000	-1.083
1640.000	6.200	-1.011
1650.000	6.200	-0.818
1660.000	6.200	-0.999
1670.000	6.000	-1.083
1680.000	6.200	-0.903
1690.000	6.200	-0.794
1700.000	6.200	-0.818
1710.000	6.200	-0.830
1720.000	6.000	-0.879

1730.000	6.000	-0.830
1740.000	5.800	-1.035
1750.000	5.800	-0.879
1760.000	5.800	-0.830
1770.000	5.600	-1.156
1780.000	5.600	-1.264
1790.000	5.800	-1.228
1800.000	5.400	-0.903
1810.000	5.400	-1.083
1820.000	5.400	-0.915
1830.000	5.400	-1.059
1840.000	5.400	-0.903
1850.000	5.000	-0.915
1860.000	5.200	-0.842
1870.000	5.200	-0.951
1880.000	5.000	-0.939
1890.000	5.200	-0.963
1900.000	5.000	-0.963
1910.000	5.200	-0.903
1920.000	5.200	-1.011
1930.000	5.200	-1.035
1940.000	5.400	-1.469
1950.000	5.600	-1.168
1960.000	5.600	-1.288
1970.000	5.800	-1.204
1980.000	6.200	-1.408
1990.000	6.400	-1.625
2000.000	6.400	-1.806
2010.000	6.200	-1.830
2020.000	6.200	-1.866
2030.000	6.000	-1.782
2040.000	5.800	-1.734
2050.000	5.600	-1.770
2060.000	5.400	-1.782
2070.000	5.400	-1.673
2080.000	5.800	-1.396
2090.000	6.000	-1.252
2100.000	5.800	-1.324
2110.000	6.000	-1.336
2120.000	6.800	-0.782
2130.000	6.200	-0.939
2140.000	6.000	-1.023
2150.000	6.600	-1.384
2160.000	7.000	-1.083
2170.000	6.800	-1.083
2180.000	6.400	-1.228
2190.000	7.000	-1.673
2200.000	7.000	-1.697
2210.000	7.200	-1.143
2220.000	7.200	-1.204
2230.000	7.600	-1.240
2240.000	8.000	-1.107
2250.000	8.200	-1.300
2260.000	8.000	-1.408
2270.000	7.800	-1.336
2280.000	7.800	-1.469
2290.000	7.200	-1.902
2300.000	7.000	-1.878
2310.000	7.200	-1.962
2320.000	7.200	-1.902

2330.000	7.200	-1.998
2340.000	7.400	-1.962
2350.000	7.400	-1.938
2360.000	7.400	-1.902
2370.000	7.400	-1.830
2380.000	6.400	-1.962
2390.000	6.400	-1.866
2400.000	6.600	-1.384
2410.000	6.600	-1.107
2420.000	6.200	-1.095
2430.000	6.600	-1.625
2440.000	6.600	-1.950
2450.000	6.600	-1.288
2460.000	6.200	-0.927
2470.000	6.200	-0.951
2480.000	6.200	-0.854
2490.000	6.000	-0.192
2500.000	6.200	0.276
2510.000	6.200	-0.084
2520.000	6.600	-0.252
2530.000	6.400	-1.180
2540.000	6.600	-0.156
2550.000	6.200	0.072
2560.000	5.800	-0.493
2570.000	6.000	-0.626
2580.000	6.000	-0.529
2590.000	6.000	-0.650
2600.000	6.000	-1.011
2610.000	6.000	-1.264
2620.000	6.200	-1.336
2630.000	6.400	-1.228
2640.000	6.600	-1.372
2650.000	6.600	-1.505
2660.000	6.800	-1.493
2670.000	7.200	-1.156
2680.000	7.400	-1.300
2690.000	7.400	-1.312
2700.000	7.600	-1.553
2710.000	7.800	-1.721
2720.000	7.800	-1.794
2730.000	7.800	-1.637
2740.000	7.800	-1.408
2750.000	7.800	-1.481
2760.000	7.800	-1.589
2770.000	7.600	-1.649
2780.000	7.600	-1.625
2790.000	7.200	-1.661
2800.000	7.000	-1.529
2810.000	7.000	-1.601
2820.000	6.800	-1.493
2830.000	6.800	-1.481
2840.000	6.800	-1.721
2850.000	7.000	-1.758
2860.000	6.800	-1.746
2870.000	6.600	-1.529
2880.000	6.400	-1.264
2890.000	6.400	-1.384
2900.000	6.400	-1.192
2910.000	6.200	-1.709
2920.000	6.200	-1.746

APPENDIX B - Raw EM Data Printouts

LINE: 0 Direction: W
Date: 19- 2-97 Time: 21: 5
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 5100

Pajarito Canyon Data - Profile A

Station	Cond. [mS/m]	Inphase [ppt]
0.000	12.600	-0.024
10.000	9.400	-0.650
20.000	8.000	-1.047
30.000	7.600	-1.264
40.000	7.600	-1.119
50.000	7.200	-1.192
60.000	7.000	-1.143
70.000	6.400	-1.216
80.000	6.200	-0.915
90.000	6.000	-0.505
100.000	6.000	-0.469
110.000	5.800	-0.818
120.000	5.600	-0.614
130.000	5.400	-0.325
140.000	5.400	-0.602
150.000	5.400	-0.493
160.000	5.200	-0.409
170.000	5.000	-0.674
180.000	5.000	-0.433
190.000	5.200	-0.301
200.000	5.200	-0.626
210.000	5.200	-0.240
220.000	5.200	-0.433
230.000	5.200	-0.794
240.000	5.200	-0.481
250.000	5.200	-0.349
260.000	5.400	-0.626
270.000	5.400	-0.662
280.000	5.600	-0.614
290.000	6.000	-0.565
300.000	6.200	-0.578
310.000	6.200	-0.565
320.000	6.200	-0.686
330.000	6.400	-0.481
340.000	6.400	-0.421
350.000	6.000	-0.457
360.000	6.400	-0.626
370.000	6.400	-0.421
380.000	6.600	-0.578
390.000	6.400	-0.818
400.000	6.600	-1.481
410.000	6.600	-1.818
420.000	6.600	-1.782
430.000	6.800	-1.649
440.000	6.800	-1.782
450.000	7.000	-1.830
460.000	7.000	-1.854
470.000	6.800	-1.938
480.000	7.000	-1.974
490.000	7.000	-2.010
500.000	6.800	-2.023
510.000	6.800	-1.986
520.000	7.000	-2.107
530.000	7.600	-1.962

540.000	-62.400	-17.003
550.000	10.000	-1.541
560.000	6.800	-1.902
570.000	6.800	-1.818
580.000	6.600	-1.890
590.000	6.600	-1.902
600.000	6.600	-1.830
610.000	6.600	-1.709
620.000	6.400	-1.589
630.000	6.200	-1.806
640.000	6.200	-2.010
650.000	6.200	-1.830
660.000	6.000	-1.529
670.000	6.000	-1.637
680.000	5.800	-1.938
690.000	5.800	-1.974
700.000	6.000	-1.950
710.000	5.800	-2.047
720.000	5.800	-2.047
730.000	5.800	-2.047
740.000	5.800	-2.095
750.000	5.800	-2.059
760.000	5.800	-2.083
770.000	5.800	-2.047
780.000	5.800	-2.095
790.000	5.800	-2.059
800.000	5.800	-2.035
810.000	6.000	-2.023
820.000	6.200	-1.902
830.000	6.200	-1.950
840.000	6.000	-1.878
850.000	6.000	-1.806
860.000	6.000	-1.734
870.000	5.800	-1.601
880.000	6.000	-1.348
890.000	5.800	-1.192
900.000	5.600	-1.360
910.000	5.600	-1.192
920.000	5.800	-1.035
930.000	6.200	-0.963
940.000	6.800	-0.806
950.000	5.400	-0.770
960.000	4.200	-0.710
970.000	4.400	-0.626
980.000	5.200	-0.867
990.000	5.600	-0.939
1000.000	5.600	-0.782
1010.000	5.600	-0.927
1020.000	6.000	-1.059
1030.000	6.200	-0.987
1040.000	6.200	-0.927
1050.000	6.200	-1.023
1060.000	6.400	-0.782
1070.000	6.600	-1.047
1080.000	6.600	-1.300
1090.000	5.600	-1.529
1100.000	5.000	-1.541
1110.000	5.200	-1.529
1120.000	4.800	-1.457
1130.000	4.800	-1.457

1140.000	5.000	-1.577
1150.000	5.000	-1.637
1160.000	5.400	-1.637
1170.000	5.000	-1.589
1180.000	5.800	-1.649
1190.000	6.000	-1.565
1200.000	6.000	-1.517
1210.000	5.800	-1.553
1220.000	5.800	-1.637
1230.000	4.200	-1.360
1240.000	5.200	-1.734
1250.000	5.400	-1.830
1260.000	5.400	-1.878
1270.000	5.600	-1.962
1280.000	5.600	-1.986
1290.000	5.800	-2.010
1300.000	5.400	-2.059
1310.000	5.800	-2.095
1320.000	5.800	-2.107
1330.000	5.600	-2.143
1340.000	5.600	-2.083
1350.000	5.600	-2.071
1360.000	5.800	-1.854
1370.000	5.800	-1.986
1380.000	5.800	-1.998
1390.000	6.000	-1.890
1400.000	6.000	-1.709
1410.000	6.200	-1.517
1420.000	6.200	-1.697
1430.000	6.600	-1.878
1440.000	6.000	-2.167
1450.000	-33.600	-4.142
1460.000	5.800	-1.782

---> Comment : FENCE

1470.000	6.800	-1.938
1480.000	6.400	-1.529
1490.000	6.400	-1.445
1500.000	6.400	-1.505
1510.000	6.600	-1.300
1520.000	6.600	-0.722
1530.000	6.400	-1.035
1540.000	6.400	-1.348
1550.000	6.600	-1.143
1560.000	6.400	-1.131
1570.000	6.200	-1.408
1580.000	6.200	-1.288
1590.000	6.000	-1.276
1600.000	6.200	-0.963
1610.000	6.000	-1.071
1620.000	6.200	-1.204
1630.000	6.000	-1.083
1640.000	6.200	-1.011
1650.000	6.200	-0.818
1660.000	6.200	-0.999
1670.000	6.000	-1.083
1680.000	6.200	-0.903
1690.000	6.200	-0.794
1700.000	6.200	-0.818
1710.000	6.200	-0.830
1720.000	6.000	-0.879

1730.000	6.000	-0.830
1740.000	5.800	-1.035
1750.000	5.800	-0.879
1760.000	5.800	-0.830
1770.000	5.600	-1.156
1780.000	5.600	-1.264
1790.000	5.800	-1.228
1800.000	5.400	-0.903
1810.000	5.400	-1.083
1820.000	5.400	-0.915
1830.000	5.400	-1.059
1840.000	5.400	-0.903
1850.000	5.000	-0.915
1860.000	5.200	-0.842
1870.000	5.200	-0.951
1880.000	5.000	-0.939
1890.000	5.200	-0.963
1900.000	5.000	-0.963
1910.000	5.200	-0.903
1920.000	5.200	-1.011
1930.000	5.200	-1.035
1940.000	5.400	-1.469
1950.000	5.600	-1.168
1960.000	5.600	-1.288
1970.000	5.800	-1.204
1980.000	6.200	-1.408
1990.000	6.400	-1.625
2000.000	6.400	-1.806
2010.000	6.200	-1.830
2020.000	6.200	-1.866
2030.000	6.000	-1.782
2040.000	5.800	-1.734
2050.000	5.600	-1.770
2060.000	5.400	-1.782
2070.000	5.400	-1.673
2080.000	5.800	-1.396
2090.000	6.000	-1.252
2100.000	5.800	-1.324
2110.000	6.000	-1.336
2120.000	6.800	-0.782
2130.000	6.200	-0.939
2140.000	6.000	-1.023
2150.000	6.600	-1.384
2160.000	7.000	-1.083
2170.000	6.800	-1.083
2180.000	6.400	-1.228
2190.000	7.000	-1.673
2200.000	7.000	-1.697
2210.000	7.200	-1.143
2220.000	7.200	-1.204
2230.000	7.600	-1.240
2240.000	8.000	-1.107
2250.000	8.200	-1.300
2260.000	8.000	-1.408
2270.000	7.800	-1.336
2280.000	7.800	-1.469
2290.000	7.200	-1.902
2300.000	7.000	-1.878
2310.000	7.200	-1.962
2320.000	7.200	-1.902

2330.000	7.200	-1.998
2340.000	7.400	-1.962
2350.000	7.400	-1.938
2360.000	7.400	-1.902
2370.000	7.400	-1.830
2380.000	6.400	-1.962
2390.000	6.400	-1.866
2400.000	6.600	-1.384
2410.000	6.600	-1.107
2420.000	6.200	-1.095
2430.000	6.600	-1.625
2440.000	6.600	-1.950
2450.000	6.600	-1.288
2460.000	6.200	-0.927
2470.000	6.200	-0.951
2480.000	6.200	-0.854
2490.000	6.000	-0.192
2500.000	6.200	0.276
2510.000	6.200	-0.084
2520.000	6.600	-0.252
2530.000	6.400	-1.180
2540.000	6.600	-0.156
2550.000	6.200	0.072
2560.000	5.800	-0.493
2570.000	6.000	-0.626
2580.000	6.000	-0.529
2590.000	6.000	-0.650
2600.000	6.000	-1.011
2610.000	6.000	-1.264
2620.000	6.200	-1.336
2630.000	6.400	-1.228
2640.000	6.600	-1.372
2650.000	6.600	-1.505
2660.000	6.800	-1.493
2670.000	7.200	-1.156
2680.000	7.400	-1.300
2690.000	7.400	-1.312
2700.000	7.600	-1.553
2710.000	7.800	-1.721
2720.000	7.800	-1.794
2730.000	7.800	-1.637
2740.000	7.800	-1.408
2750.000	7.800	-1.481
2760.000	7.800	-1.589
2770.000	7.600	-1.649
2780.000	7.600	-1.625
2790.000	7.200	-1.661
2800.000	7.000	-1.529
2810.000	7.000	-1.601
2820.000	6.800	-1.493
2830.000	6.800	-1.481
2840.000	6.800	-1.721
2850.000	7.000	-1.758
2860.000	6.800	-1.746
2870.000	6.600	-1.529
2880.000	6.400	-1.264
2890.000	6.400	-1.384
2900.000	6.400	-1.192
2910.000	6.200	-1.709
2920.000	6.200	-1.746

4120.000	6.400	-0.674
4130.000	6.200	-0.674
4140.000	6.200	-0.710
4150.000	6.200	-0.565
4160.000	6.400	-0.614
4170.000	6.400	-0.698
4180.000	6.200	-0.782
4190.000	6.200	-0.674
4200.000	6.000	-0.915
4210.000	6.200	-0.794
4220.000	6.200	-0.867
4230.000	6.000	-1.216
4240.000	6.200	-0.842
4250.000	6.200	-0.891
4260.000	6.200	-0.830
4270.000	6.200	-0.939
4280.000	6.200	-1.396
4290.000	6.200	-1.324
4300.000	6.200	-1.517
4310.000	6.200	-1.601
4320.000	6.400	-1.396
4330.000	6.400	-1.107
4340.000	6.200	-1.216
4350.000	6.600	-1.276
4360.000	6.600	-1.396
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4380.000	6.800	-1.577
4390.000	6.800	-1.637
4400.000	7.200	-1.721
4410.000	7.000	-1.734
4420.000	7.200	-1.830
4430.000	7.800	-1.746
4440.000	8.000	-1.782
4450.000	8.200	-1.758
4460.000	8.200	-1.806
4470.000	8.000	-1.589
4480.000	7.800	-1.505
4490.000	7.400	-1.204
4500.000	7.200	-1.336
4510.000	6.800	-1.998
4520.000	6.600	-1.758
4530.000	6.400	-1.432
4540.000	6.200	-1.493
4550.000	6.200	-1.493
4560.000	6.200	-1.348
4570.000	6.200	-1.228
4580.000	6.000	-1.457
4590.000	6.000	-1.601
4600.000	6.000	-1.734
4610.000	6.000	-1.432
4620.000	5.800	-1.469
4630.000	6.000	-1.589
4640.000	5.800	-1.637
4650.000	6.000	-1.469
4660.000	6.000	-1.360
4670.000	6.000	-1.300
4680.000	6.000	-1.216
4690.000	6.200	-1.156
4700.000	6.200	-1.348
4710.000	6.200	-1.240

4720.000	6.200	-1.264
4730.000	6.200	-1.384
4740.000	6.200	-1.432
4750.000	6.200	-1.192
4760.000	6.000	-1.312
4770.000	5.800	-1.372
4780.000	5.800	-1.445
4790.000	5.800	-1.095
4800.000	5.600	-1.240
4810.000	5.800	-1.240
4820.000	5.600	-1.228
4830.000	5.600	-1.228
4840.000	5.400	-1.288
4850.000	5.400	-1.432
4860.000	5.600	-1.396
4870.000	5.600	-1.216
4880.000	5.600	-1.420
4890.000	6.000	-1.360
4900.000	6.000	-2.083
4910.000	6.200	-1.962
4920.000	6.200	-1.673
4930.000	6.400	-1.420
4940.000	6.400	-1.336
4950.000	6.000	-1.264
4960.000	5.800	-1.035
4970.000	5.600	-0.915
4980.000	5.600	-1.204
4990.000	5.600	-0.975
5000.000	5.600	-0.879
5010.000	5.600	-0.842
5020.000	5.800	-1.035
5030.000	6.000	-0.963
5040.000	5.800	-1.107
5050.000	5.800	-1.083
5060.000	5.800	-1.131
5070.000	6.000	-1.240
5080.000	6.000	-1.457
5090.000	5.800	-1.553
5100.000	5.600	-1.685

LINE: -20 Direction: E
Date: 19- 2-97 Time: 21:44
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 5100 Final station: 0

Pajarito Canyon Data - Profile B

Station	Cond. [mS/m]	Inphase [ppt]
5100.000	5.800	-0.903
5090.000	6.000	-0.830
5080.000	6.000	-0.939
5070.000	6.000	-0.891
5060.000	6.000	-0.879
5050.000	5.600	-0.999
5040.000	6.000	-0.686
5030.000	5.600	-0.734
5020.000	5.600	-0.602
5010.000	5.600	-0.469
5000.000	5.600	-0.710
4990.000	5.600	-0.939
4980.000	5.800	-0.842
4970.000	5.800	-0.939
4960.000	5.800	-1.107
4950.000	5.800	-1.083
4940.000	6.000	-1.168
4930.000	6.200	-1.143
4920.000	6.200	-1.348
4910.000	6.200	-1.517
4900.000	6.400	-1.613
4890.000	6.200	-1.336
4880.000	6.000	-0.806
4870.000	6.000	-0.481
4860.000	6.000	-0.048
4850.000	5.600	-0.409
4840.000	5.600	-0.734
4830.000	5.600	-0.686
4820.000	5.600	-1.083
4810.000	5.800	-1.156
4800.000	5.600	-1.216
4790.000	5.800	-1.083
4780.000	5.800	-1.180
4770.000	5.800	-1.372
4760.000	5.800	-1.180
4750.000	6.000	-1.228
4740.000	6.000	-1.457
4730.000	6.200	-1.457
4720.000	6.200	-1.240
4710.000	6.400	-1.180
4700.000	6.400	-1.228
4690.000	6.200	-1.168
4680.000	6.200	-1.131
4670.000	6.000	-1.216
4660.000	6.000	-1.312
4650.000	5.800	-1.432
4640.000	6.000	-1.541
4630.000	6.000	-1.408
4620.000	6.000	-1.324
4610.000	6.200	-1.469
4600.000	6.400	-1.517
4590.000	6.400	-1.553
4580.000	6.200	-1.529
4570.000	6.400	-1.553

4560.000	6.400	-1.565
4550.000	6.600	-1.396
4540.000	6.400	-1.324
4530.000	6.600	-1.228
4520.000	6.600	-1.360
4510.000	6.800	-1.348
4500.000	7.000	-1.529
4490.000	7.600	-1.240
4480.000	7.800	-1.553
4470.000	8.000	-1.685
4460.000	8.200	-1.830
4450.000	8.400	-1.794
4440.000	8.200	-1.758
4430.000	7.800	-1.770
4420.000	7.600	-1.794
4410.000	7.200	-1.746
4400.000	7.000	-1.782
4390.000	6.800	-1.709
4380.000	6.800	-1.649
4370.000	6.800	-1.565
4360.000	6.400	-1.493
4350.000	6.600	-1.384
4340.000	6.400	-1.312
4330.000	6.400	-1.348
4320.000	6.400	-1.408
4310.000	6.400	-1.553
4300.000	6.400	-0.313
4290.000	7.620	-0.325
4280.000	5.700	-0.818
4270.000	5.820	-1.168
4260.000	5.700	-1.204
4250.000	5.820	-1.216
4240.000	6.120	-0.927
4230.000	6.300	-1.107
4220.000	6.240	-1.047
4210.000	6.240	-0.939
4200.000	6.360	-0.903
4190.000	6.300	-0.867
4180.000	6.300	-0.818
4170.000	6.420	-0.734
4160.000	6.420	-0.710
4150.000	6.180	-0.794
4140.000	6.360	-0.782
4130.000	6.480	-0.734
4120.000	6.420	-0.794
4110.000	6.360	-0.939
4100.000	6.540	-1.023
4090.000	6.600	-0.927
4080.000	6.600	-0.951
4070.000	6.540	-0.903
4060.000	6.600	-1.071
4050.000	6.600	-1.204
4040.000	6.540	-1.264
4030.000	6.540	-1.204
4020.000	6.660	-1.131
4010.000	6.600	-0.794
4000.000	6.480	-0.650
3990.000	6.420	-0.650
3980.000	6.240	-0.903
3970.000	6.180	-0.565

3960.000	6.120	-0.614
3950.000	6.000	-0.770
3940.000	5.820	-1.107
3930.000	5.760	-1.264
3920.000	5.640	-1.505
3910.000	5.820	-1.493
3900.000	5.820	-1.384
3890.000	5.820	-1.360
3880.000	5.820	-1.300
3870.000	6.060	-1.517
3860.000	5.940	-1.517
3850.000	6.000	-1.505
3840.000	6.120	-1.469
3830.000	6.120	-1.457
3820.000	6.180	-1.432
3810.000	6.180	-1.372
3800.000	5.940	-1.529
3790.000	6.000	-1.697
3780.000	6.120	-1.902
3770.000	6.060	-1.914
3760.000	6.060	-1.914
3750.000	6.120	-1.962
3740.000	5.820	-1.974
3730.000	5.760	-1.962
3720.000	5.760	-1.974
3710.000	5.580	-1.854
3700.000	5.700	-1.926
3690.000	5.580	-1.866
3680.000	5.640	-2.023
3670.000	5.460	-1.866
3660.000	5.460	-1.926
3650.000	5.880	-1.348
3640.000	5.580	-1.782
3630.000	5.520	-1.758
3620.000	5.640	-1.950
3610.000	5.640	-1.902
3600.000	5.520	-1.902
3590.000	5.640	-1.890
3580.000	5.640	-1.878
3570.000	5.700	-1.734
3560.000	5.820	-1.818
3550.000	5.640	-1.806
3540.000	5.640	-1.806
3530.000	5.700	-1.818
3520.000	5.700	-1.709
3510.000	5.640	-1.721
3500.000	5.640	-1.685
3490.000	5.640	-1.673
3480.000	5.640	-1.649
3470.000	5.700	-1.372
3460.000	5.580	-1.517
3450.000	5.520	-1.324
3440.000	5.580	-1.336
3430.000	5.520	-1.445
3420.000	5.340	-1.721
3410.000	5.160	-1.818
3400.000	5.100	-1.806
3390.000	4.920	-1.782
3380.000	4.980	-1.721
3370.000	4.980	-1.806

3360.000	5.100	-1.721
3350.000	5.220	-1.709
3340.000	5.460	-1.469
3330.000	5.640	-1.517
3320.000	5.580	-1.505
3310.000	5.640	-1.529
3300.000	5.700	-1.541
3290.000	5.760	-1.625
3280.000	5.580	-1.673
3270.000	5.640	-1.553
3260.000	5.820	-1.505
3250.000	6.000	-1.348
3240.000	6.180	-1.457
3230.000	6.300	-1.493
3220.000	6.540	-1.300
3210.000	6.540	-1.372
3200.000	6.720	-1.396
3190.000	6.600	-1.300
3180.000	6.660	-1.432
3170.000	6.600	-1.252
3160.000	6.540	-1.348
3150.000	6.660	-0.891
3140.000	6.900	-0.722
3130.000	7.860	-0.674
3120.000	5.880	-0.951
3110.000	5.820	-1.240
3100.000	5.760	-1.360
3090.000	5.820	-1.493
3080.000	5.700	-1.721
3070.000	5.760	-1.661
3060.000	5.700	-1.613
3050.000	5.760	-1.565
3040.000	5.640	-1.758
3030.000	5.640	-1.613
3020.000	5.700	-1.806
3010.000	5.640	-1.782
3000.000	5.400	-1.782
2990.000	5.460	-1.878
2980.000	5.640	-1.842
2970.000	5.460	-1.938
2960.000	5.580	-2.035
2950.000	5.460	-2.131
2940.000	5.460	-2.083
2930.000	5.760	-1.962
2920.000	6.000	-1.902
2910.000	6.000	-1.890
2900.000	6.120	-1.601
2890.000	5.880	-1.746
2880.000	6.000	-2.155
2870.000	6.000	-2.143
2860.000	6.000	-1.938
2850.000	5.940	-1.830
2840.000	6.060	-1.818
2830.000	6.180	-1.866
2820.000	6.300	-1.758
2810.000	6.360	-1.830
2800.000	6.480	-1.734
2790.000	6.600	-1.806
2780.000	6.720	-1.974
2770.000	6.780	-1.950

2760.000	7.200	-1.565
2750.000	7.500	-1.445
2740.000	7.560	-1.553
2730.000	7.680	-1.601
2720.000	7.620	-1.625
2710.000	7.440	-1.661
2700.000	7.380	-1.601
2690.000	7.320	-1.565
2680.000	7.260	-1.505
2670.000	7.080	-1.529
2660.000	6.720	-1.661
2650.000	5.820	-1.541
2640.000	6.180	-1.529
2630.000	6.300	-1.445
2620.000	6.300	-1.324
2610.000	6.180	-1.143
2600.000	6.300	-1.336
2590.000	6.240	-1.372
2580.000	6.300	-1.336
2570.000	6.600	-1.264
2560.000	6.540	-1.493
2550.000	6.720	-0.638
2540.000	6.960	-0.204
2530.000	6.840	-0.806
2520.000	6.540	-0.939
2510.000	6.720	-1.276
2500.000	6.780	-1.336
2490.000	6.840	-0.650
2480.000	6.840	-1.143
2470.000	6.960	-1.300
2460.000	6.900	-1.408
2450.000	7.080	-1.794
2440.000	7.020	-1.974
2430.000	7.140	-1.818
2420.000	7.260	-1.493
2410.000	7.260	-1.445
2400.000	7.260	-1.432
2390.000	7.440	-1.300
2380.000	7.380	-1.348
2370.000	7.200	-1.541
2360.000	6.900	-1.517
2350.000	6.660	-1.432
2340.000	6.540	-1.432
2330.000	6.360	-1.372
2320.000	6.300	-1.589
2310.000	6.240	-1.697
2300.000	6.120	-2.023
2290.000	6.300	-2.035
2280.000	6.540	-2.227
2270.000	6.780	-2.251
2260.000	7.020	-2.179
2250.000	7.440	-2.275
2240.000	7.560	-2.119
2230.000	7.680	-2.047
2220.000	7.680	-1.890
2210.000	7.260	-1.902
2200.000	6.960	-2.035
2190.000	7.140	-1.697
2180.000	7.080	-1.529
2170.000	7.260	-1.649

2160.000	7.320	-1.505
2150.000	7.500	-1.156
2140.000	7.380	-0.891
2130.000	6.480	-0.818
2120.000	6.360	-0.987
2110.000	6.360	-1.372
2100.000	6.060	-1.782
2090.000	5.760	-1.770
2080.000	5.880	-1.950
2070.000	6.120	-1.890
2060.000	5.640	-1.794
2050.000	5.520	-1.938
2040.000	5.640	-1.986
2030.000	5.880	-1.842
2020.000	6.120	-1.878
2010.000	6.420	-1.914
2000.000	6.540	-1.830
1990.000	6.480	-1.721
1980.000	6.300	-1.565
1970.000	6.120	-1.541
1960.000	5.880	-1.661
1950.000	5.700	-1.529
1940.000	5.460	-1.204
1930.000	5.340	-1.131
1920.000	5.460	-1.168
1910.000	5.280	-1.083
1900.000	5.220	-0.975
1890.000	5.340	-0.903
1880.000	5.340	-0.951
1870.000	5.400	-0.999
1860.000	5.400	-1.156
1850.000	5.520	-1.168
1840.000	5.640	-1.180
1830.000	5.700	-1.143
1820.000	5.580	-1.095
1810.000	5.700	-1.143
1800.000	5.820	-1.300
1790.000	5.580	-1.408
1780.000	5.700	-1.336
1770.000	5.820	-0.999
1760.000	5.760	-1.095
1750.000	5.940	-0.939
1740.000	5.820	-1.011
1730.000	5.820	-0.987
1720.000	6.000	-0.614
1710.000	5.760	-0.734
1700.000	5.820	-0.794
1690.000	5.820	-0.927
1680.000	5.760	-0.915
1670.000	5.880	-0.951
1660.000	6.060	-0.987
1650.000	6.000	-0.361
1640.000	5.880	-0.698
1630.000	5.820	-1.204
1620.000	5.760	-0.879
1610.000	5.880	-0.915
1600.000	5.940	-0.939
1590.000	5.940	-0.999
1580.000	6.120	-0.963
1570.000	6.000	-0.963

1560.000	6.000	-0.794
1550.000	5.940	-0.854
1540.000	6.180	-0.987
1530.000	6.300	-1.059
1520.000	6.360	-1.047
1510.000	6.240	-1.107
1500.000	6.180	-1.071
1490.000	6.000	-0.987
1480.000	6.660	-1.613
1470.000	6.660	-2.023
1460.000	8.100	-1.890
1450.000	-50.820	-7.429
1440.000	-46.440	-6.346

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1430.000	9.780	-1.866
1420.000	6.600	-2.047
1410.000	6.300	-2.131
1400.000	4.860	-2.540
1390.000	6.000	-2.540
1380.000	6.000	-2.348
1370.000	5.940	-2.083
1360.000	5.820	-2.010
1350.000	5.940	-2.263
1340.000	5.880	-1.950
1330.000	6.000	-1.878
1320.000	5.820	-1.866
1310.000	5.880	-1.709
1300.000	5.940	-1.746
1290.000	6.120	-1.830
1280.000	6.120	-1.986
1270.000	6.180	-1.974
1260.000	6.240	-1.962
1250.000	6.360	-1.842
1240.000	6.120	-1.758
1230.000	6.180	-1.685
1220.000	6.180	-1.661
1210.000	6.120	-1.734
1200.000	5.880	-1.770
1190.000	6.060	-1.493
1180.000	6.180	-1.601
1170.000	6.060	-1.601
1160.000	6.000	-1.360
1150.000	6.000	-1.192
1140.000	6.060	-1.119
1130.000	5.700	-1.156
1120.000	5.760	-1.457
1110.000	5.880	-1.577
1100.000	5.940	-1.336
1090.000	6.060	-1.131
1080.000	5.940	-0.867
1070.000	5.760	-0.999
1060.000	5.760	-0.927
1050.000	5.580	-1.059
1040.000	5.580	-1.011
1030.000	5.460	-1.059
1020.000	5.460	-1.023
1010.000	5.400	-1.143
1000.000	5.580	-1.083
990.000	5.640	-0.951
980.000	5.820	-0.903

970.000	5.880	-1.047
960.000	5.820	-1.276
950.000	6.000	-1.372
940.000	5.880	-1.420
930.000	5.880	-1.432
920.000	5.820	-1.276
910.000	6.000	-1.168
900.000	5.820	-1.264
890.000	5.760	-1.384
880.000	5.880	-1.336
870.000	6.120	-1.637
860.000	6.060	-1.782
850.000	6.360	-1.878
840.000	6.420	-1.938
830.000	6.360	-2.083
820.000	6.360	-2.131
810.000	6.300	-2.179
800.000	6.060	-2.191
790.000	6.240	-2.071
780.000	6.120	-2.035
770.000	6.120	-1.998
760.000	6.060	-2.155
750.000	6.120	-2.155
740.000	5.880	-2.035
730.000	5.940	-2.059
720.000	5.880	-2.059
710.000	5.940	-1.974
700.000	5.940	-1.926
690.000	6.000	-1.926
680.000	5.940	-2.010
670.000	5.940	-2.215
660.000	5.880	-2.456
650.000	6.000	-2.432
640.000	6.120	-2.059
630.000	6.180	-2.239
620.000	6.060	-2.300
610.000	6.240	-2.239
600.000	6.180	-2.083
590.000	6.240	-2.035
580.000	6.480	-2.179
570.000	6.600	-2.155
560.000	6.660	-2.227
550.000	6.660	-2.324
540.000	6.780	-2.300
530.000	6.960	-2.263
520.000	6.900	-2.287
510.000	6.960	-2.312
500.000	7.080	-2.263
490.000	6.660	-2.300
480.000	6.780	-2.324
470.000	6.840	-2.348
460.000	7.020	-2.263
450.000	6.780	-2.263
440.000	6.900	-2.227
430.000	6.780	-2.215
420.000	6.720	-2.107
410.000	6.780	-2.131
400.000	6.840	-2.047
390.000	6.720	-1.830
380.000	6.720	-0.854

370.000	6.360	-0.975
360.000	6.420	-0.842
350.000	6.240	-1.047
340.000	6.360	-0.782
330.000	6.180	-1.035
320.000	6.120	-1.168
310.000	6.240	-1.035
300.000	6.300	-1.156
290.000	6.060	-1.192
280.000	6.060	-1.083
270.000	5.880	-1.059
260.000	5.760	-0.975
250.000	5.760	-0.975
240.000	5.520	-0.770
230.000	5.400	-0.842
220.000	5.280	-1.059
210.000	5.160	-1.059
200.000	5.220	-0.770
190.000	5.040	-0.770
180.000	4.860	-1.119
170.000	4.860	-1.276
160.000	5.100	-0.999
150.000	5.220	-0.842
140.000	5.340	-0.782
130.000	5.520	-1.180
120.000	5.700	-1.240
110.000	5.880	-1.156
100.000	6.120	-1.023
90.000	6.060	-1.240
80.000	6.240	-1.445
70.000	6.480	-1.396
60.000	6.900	-1.517
50.000	6.960	-1.818
40.000	7.920	-1.541
30.000	8.460	-1.505
20.000	9.360	-1.806
10.000	10.440	-1.806
0.000	12.660	-1.420

1230.000	25.600	-0.493
1225.000	27.400	-0.493
1220.000	30.600	-0.192
1215.000	33.000	-0.108
1210.000	33.400	-0.204
1205.000	35.200	0.036
1200.000	36.400	0.024
1195.000	37.200	0.012
1190.000	38.000	0.108
1185.000	38.800	0.301
1180.000	39.600	0.421
1175.000	43.600	0.722
1170.000	52.400	0.927
1165.000	66.200	1.673
1160.000	82.000	2.516
1155.000	105.800	3.504
1150.000	213.000	18.869
1145.000	230.200	19.676
1140.000	127.400	7.152
1135.000	125.000	4.624
1130.000	166.200	6.032
1125.000	142.400	3.961
1120.000	143.800	4.250
1115.000	140.400	3.865
1110.000	125.400	3.179
1105.000	118.200	2.938
1100.000	109.800	2.432
1095.000	83.000	1.131
1090.000	56.800	-0.060
1085.000	38.200	-0.891
1080.000	29.000	-1.131
1075.000	23.800	-1.228
1070.000	22.200	-1.240
1065.000	20.000	-1.312
1060.000	18.000	-1.336
1055.000	17.400	-1.384
1050.000	17.000	-1.469
1045.000	16.600	-1.445
1040.000	16.800	-1.420
1035.000	16.000	-1.445
1030.000	15.600	-1.505
1025.000	15.200	-1.469
1020.000	15.400	-1.384
1015.000	15.200	-1.384
1010.000	14.800	-1.396
1005.000	14.800	-1.457
1000.000	14.600	-1.481
995.000	14.800	-1.481
990.000	15.800	-1.505
985.000	16.200	-1.481
980.000	15.800	-1.517
975.000	15.800	-1.505
970.000	15.400	-1.517
965.000	14.800	-1.529
960.000	14.800	-1.529
955.000	15.200	-1.517
950.000	15.400	-1.517
945.000	15.200	-1.457
940.000	14.600	-1.517
935.000	14.600	-1.541

K2

LINE: 0 Direction: W
Date: 18- 2-97 Time: 21: 4
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 2195

Threemile Canyon Data - Profile A

Station	Cond. [mS/m]	Inphase [ppt]
0.000	54.000	5.948
5.000	18.600	0.650
10.000	16.800	0.674
15.000	15.200	0.650
20.000	14.600	0.734
25.000	14.000	1.095
30.000	13.600	1.143
35.000	14.000	1.131
40.000	15.200	1.252
45.000	15.000	1.481
50.000	14.000	1.240
55.000	14.200	1.481
60.000	15.200	1.324
65.000	15.600	0.987
70.000	15.600	1.276
75.000	15.200	1.396
80.000	14.800	1.481
85.000	15.400	1.300
90.000	15.800	1.059
95.000	15.800	1.481
100.000	15.200	1.469
105.000	16.800	1.541
110.000	19.800	1.348
115.000	23.400	1.408
120.000	26.000	1.336
125.000	24.000	1.324
130.000	4.600	1.180
135.000	-0.400	0.854
140.000	15.600	1.059
145.000	15.800	1.095
150.000	12.800	0.818
155.000	12.600	0.782
160.000	11.200	0.927
165.000	10.800	0.927
170.000	10.200	1.023
175.000	9.800	0.939
180.000	9.600	0.999
185.000	9.600	1.035
190.000	9.600	1.083
195.000	9.400	1.107
200.000	9.800	1.216
205.000	9.600	0.794
210.000	9.200	-0.108
215.000	9.200	-0.012
220.000	9.400	7.526
225.000	10.000	4.901
230.000	9.600	-0.686
235.000	8.800	0.818
240.000	8.880	0.385
245.000	9.660	-0.156
250.000	10.200	-0.012
255.000	10.140	0.204
260.000	10.080	0.072
265.000	10.620	0.000

270.000	10.800	0.060
275.000	11.400	0.060
280.000	12.900	0.048
285.000	14.340	-0.060
290.000	16.500	-0.036
295.000	18.000	-0.192
300.000	19.200	-0.168
305.000	21.600	-0.120
310.000	25.740	-0.156
315.000	25.140	-0.096
320.000	2.580	0.373
325.000	9.240	0.469
330.000	21.360	0.264
335.000	20.400	0.289
340.000	18.480	0.216
345.000	17.340	0.180
350.000	16.980	0.216
355.000	16.320	0.084
360.000	16.800	0.156
365.000	16.920	0.228
370.000	16.560	0.517
375.000	16.380	0.541
380.000	16.920	0.361
385.000	16.440	0.325
390.000	16.800	0.349
395.000	17.400	0.565
400.000	18.360	0.794
405.000	18.720	0.951
410.000	19.200	0.951
415.000	19.020	0.854
420.000	19.140	0.806
425.000	18.960	0.662
430.000	18.300	0.529
435.000	18.060	0.481
440.000	17.880	0.493
445.000	17.760	0.517
450.000	17.460	0.553
455.000	17.100	0.541
460.000	16.680	0.481
465.000	16.620	0.457
470.000	17.040	0.445
475.000	17.100	0.517
480.000	16.980	0.614
485.000	17.040	0.698
490.000	16.980	0.746
495.000	16.560	0.626
500.000	16.200	0.722
505.000	16.260	0.722
510.000	16.860	0.614
515.000	16.560	0.433
520.000	16.320	0.373
525.000	16.440	0.373
530.000	17.280	0.409
535.000	17.340	0.264
540.000	17.520	0.276
545.000	17.220	0.276
550.000	16.680	0.228
555.000	16.380	0.264
560.000	16.380	0.289
565.000	16.140	0.228

570.000	15.960	0.168
575.000	15.900	0.289
580.000	15.420	0.433
585.000	14.520	0.457
590.000	13.920	0.409
595.000	14.040	0.397
600.000	13.860	0.252
605.000	13.740	0.156
610.000	13.560	0.060
615.000	13.980	0.156
620.000	14.280	0.240
625.000	13.920	0.216
630.000	13.680	0.337
635.000	13.680	0.361
640.000	14.100	-0.397
645.000	14.760	-0.854
650.000	15.600	-0.084
655.000	16.260	-0.168
660.000	17.880	-0.252
665.000	19.380	-0.168
670.000	19.800	0.108
675.000	19.020	0.156
680.000	18.360	0.024
685.000	18.120	-0.240
690.000	18.720	-0.036
695.000	17.760	0.361
700.000	16.080	0.493
705.000	15.180	0.602
710.000	14.280	0.457
715.000	14.340	0.276
720.000	13.800	0.144
725.000	13.440	0.000
730.000	14.580	-0.168
735.000	15.480	-0.397
740.000	14.940	0.433
745.000	12.540	0.349
750.000	12.900	0.493
755.000	13.020	0.614
760.000	12.060	0.842
765.000	11.400	0.397
770.000	11.760	0.397
775.000	11.940	0.192
780.000	11.400	0.084
785.000	11.340	-0.012
790.000	11.040	-0.180
795.000	11.160	0.012
800.000	11.520	0.168
805.000	11.700	0.228
810.000	11.820	0.228
815.000	12.060	0.264
820.000	12.300	0.289
825.000	12.480	0.204
830.000	12.600	0.349
835.000	13.200	0.276
840.000	13.080	0.132
845.000	12.960	0.012
850.000	13.080	0.084
855.000	12.720	0.132
860.000	12.540	0.168
865.000	12.900	0.204

870.000	13.320	0.252
875.000	13.560	0.276
880.000	13.320	0.204
885.000	13.200	0.252
890.000	13.320	0.252
895.000	13.560	0.204
900.000	13.560	0.084
905.000	13.620	0.192
910.000	13.500	0.084
915.000	13.800	0.120
920.000	13.440	0.084
925.000	13.680	0.204
930.000	12.120	0.240
935.000	12.840	0.276
940.000	12.840	0.252
945.000	12.840	0.313
950.000	13.200	0.289
955.000	12.960	0.301
960.000	12.900	0.361
965.000	12.900	0.373
970.000	12.480	0.457
975.000	12.180	0.409
980.000	11.760	0.409
985.000	11.760	0.361
990.000	11.820	0.349
995.000	12.120	0.409
1000.000	12.420	0.397
1005.000	12.480	0.481
1010.000	12.060	0.421
1015.000	12.120	0.433
1020.000	12.360	0.421
1025.000	12.480	0.325
1030.000	12.420	0.397
1035.000	12.540	0.433
1040.000	13.140	0.469
1045.000	15.660	0.529
1050.000	16.200	0.325
1055.000	16.500	0.252
1060.000	33.060	1.408
1065.000	27.360	-1.408
1070.000	-49.980	-1.216

---> Comment : 8ENCE

1075.000	86.760	12.234
1080.000	30.660	-3.022
1085.000	206.600	25.492
1090.000	289.600	41.038
1095.000	285.400	21.085
1100.000	290.000	24.697
1105.000	522.000	27.720
1110.000	530.000	36.511
1115.000	612.000	41.086
1120.000	496.000	41.086
1125.000	278.000	37.883
1130.000	150.000	9.982
1135.000	58.200	-1.457
1140.000	101.400	5.743
1145.000	117.600	6.466
1150.000	130.800	6.261
1155.000	118.200	6.045
1160.000	111.600	6.045

1165.000	111.000	5.647
1170.000	88.800	5.141
1175.000	78.600	5.009
1180.000	79.200	5.153
1185.000	86.399	5.491
1190.000	97.800	6.562
1195.000	93.000	5.780
1200.000	96.600	6.370
1205.000	76.200	4.840
1210.000	48.000	3.034
1215.000	40.200	2.613
1220.000	39.000	2.552
1225.000	35.400	2.287
1230.000	31.800	2.155
1235.000	33.000	2.275
1240.000	33.600	2.348
1245.000	37.200	2.793
1250.000	43.200	3.106
1255.000	43.200	3.118
1260.000	56.400	4.202
1265.000	69.000	5.093
1270.000	67.800	4.985
1275.000	72.000	5.406
1280.000	85.200	6.695
1285.000	83.400	6.406
1290.000	85.200	6.659
1295.000	101.400	7.959
1300.000	65.400	3.504
1305.000	101.400	8.068
1310.000	88.200	5.129
1315.000	81.000	4.503
1320.000	109.800	7.586
1325.000	115.800	8.381
1330.000	104.400	7.429
1335.000	110.400	8.176
1340.000	92.400	4.443
1345.000	39.600	-2.841
1350.000	17.400	-6.550
1355.000	-4.200	-9.862
1360.000	-16.200	-11.813
1365.000	-9.600	-11.801
1370.000	-18.000	-12.234
1375.000	3.000	-5.009

---> Comment : FENCE

1380.000	26.400	0.096
1385.000	-16.200	-4.973
1390.000	81.000	20.736
1395.000	-74.400	-0.891
1400.000	20.400	0.457
1405.000	38.400	8.212
1410.000	5.400	2.661
1415.000	-46.800	-7.273
1420.000	13.200	-1.601
1425.000	50.400	1.372
1430.000	51.600	1.734
1435.000	61.800	3.395
440.000	60.600	2.781
445.000	46.200	1.276
1450.000	43.200	0.770
1455.000	39.000	0.252

1460.000	37.200	0.830
1465.000	39.000	1.457
1470.000	38.400	1.697
1475.000	33.000	1.637
1480.000	21.000	1.432
1485.000	12.600	1.276
1490.000	11.400	1.192
1495.000	11.400	1.216
1500.000	10.800	1.180
1505.000	10.800	1.143
1510.000	10.200	0.987
1515.000	10.800	1.228
1520.000	10.200	0.782
1525.000	10.800	0.602
1530.000	8.400	0.674
1535.000	6.600	0.541
1540.000	7.200	0.529
1545.000	7.200	0.505
1550.000	6.900	0.505
1555.000	6.360	0.529
1560.000	6.480	0.493
1565.000	6.600	0.493
1570.000	6.480	0.590
1575.000	6.420	0.638
1580.000	6.420	0.662
1585.000	6.300	0.578
1590.000	6.180	0.505
1595.000	6.240	0.541
1600.000	6.240	0.505
1605.000	6.180	0.879
1610.000	6.300	0.939
1615.000	6.300	1.035
1620.000	6.300	1.216
1625.000	6.240	1.011
1630.000	6.480	0.999
1635.000	6.420	1.035
1640.000	6.360	1.107
1645.000	6.600	1.131
1650.000	6.480	1.156
1655.000	6.300	1.180
1660.000	6.300	1.131
1665.000	6.540	1.083
1670.000	6.540	1.107
1675.000	6.480	1.143
1680.000	6.300	1.119
1685.000	6.060	1.059
1690.000	6.060	1.095
1695.000	6.060	1.095
1700.000	6.300	1.023
1705.000	6.360	1.023
1710.000	6.300	1.035
1715.000	6.120	1.023
1720.000	6.420	1.192
1725.000	6.240	1.011
1730.000	6.360	1.047
1735.000	6.300	1.035
1740.000	6.240	1.035
1745.000	6.420	1.047
1750.000	6.660	0.975
1755.000	6.600	0.963

1760.000	6.840	1.047
1765.000	9.000	0.734
1770.000	7.500	0.734
1775.000	6.480	0.698
1780.000	6.600	0.818
1785.000	6.360	0.842
1790.000	6.360	0.806
1795.000	6.360	0.842
1800.000	6.420	0.830
1805.000	6.540	0.915
1810.000	6.420	0.939
1815.000	6.420	0.854
1820.000	6.660	0.975
1825.000	6.660	0.903
1830.000	6.780	0.854
1835.000	6.900	0.891
1840.000	7.200	0.867
1845.000	7.380	0.867
1850.000	7.440	0.879
1855.000	7.320	0.927
1860.000	7.260	0.987
1865.000	7.320	1.035
1870.000	7.080	0.927
1875.000	7.620	1.059
1880.000	7.560	1.107
1885.000	7.560	1.180
1890.000	7.440	1.143
1895.000	7.380	1.131
1900.000	7.440	1.168
1905.000	7.440	1.156
1910.000	7.500	1.204
1915.000	7.560	1.216
1920.000	7.620	1.216
1925.000	7.920	1.156
1930.000	8.160	1.156
1935.000	8.400	1.180
1940.000	8.400	1.107
1945.000	8.400	1.083
1950.000	8.520	1.156
1955.000	8.160	0.987
1960.000	8.520	1.204
1965.000	8.700	1.300
1970.000	8.280	1.252
1975.000	8.639	1.156
1980.000	8.760	1.143
1985.000	7.560	1.107
1990.000	6.600	1.011
1995.000	6.600	1.023
2000.000	8.100	1.107
2005.000	8.940	0.915
2010.000	8.820	1.059
2015.000	8.760	1.372
2020.000	7.680	1.252
2025.000	7.740	1.228
2030.000	8.219	1.168
2035.000	8.400	1.204
2040.000	8.280	1.192
2045.000	8.280	1.204
2050.000	8.219	1.192
2055.000	8.219	1.180

2060.000	8.040	1.192
2065.000	7.920	1.264
2070.000	8.160	1.083
2075.000	8.340	1.095
2080.000	7.860	1.011
2085.000	7.920	1.035
2090.000	7.920	1.035
2095.000	7.860	0.963
2100.000	7.800	0.999
2105.000	7.560	0.939
2110.000	7.260	0.842
2115.000	7.440	1.023
2120.000	7.560	1.119
2125.000	7.500	1.047
2130.000	7.380	0.939
2135.000	7.320	0.903
2140.000	7.080	0.951
2145.000	7.320	0.975
2150.000	7.500	1.204
2155.000	7.680	1.348
2160.000	7.740	1.252
2165.000	7.680	1.396
2170.000	7.440	1.264
2175.000	7.140	1.300
2180.000	6.960	1.276
2185.000	6.960	1.420
2190.000	7.080	1.396
2195.000	7.080	1.396

LINE: 0 Direction: W
Date: 18- 2-97 Time: 21:32
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 2200 Final station: 2700

Threemile Canyon Data - Profile A (continued)

Station	Cond. [mS/m]	Inphase [ppt]
2200.000	7.980	-0.325
2205.000	9.180	-0.216
2210.000	9.840	-0.373
2215.000	9.599	-0.060
2220.000	8.880	0.228
2225.000	6.960	0.216
2230.000	7.140	0.204
2235.000	7.500	0.276
2240.000	6.600	0.276
2245.000	6.480	0.264
2250.000	6.480	0.252
2255.000	6.540	0.276
2260.000	6.600	0.397
2265.000	6.660	0.397
2270.000	6.840	0.397
2275.000	6.900	0.361
2280.000	6.480	0.313
2285.000	6.660	0.313
2290.000	6.900	0.313
2295.000	7.200	0.373
2300.000	7.260	0.433
2305.000	7.200	0.421
2310.000	7.320	0.457
2315.000	7.380	0.445
2320.000	7.080	0.493
2325.000	6.840	0.421
2330.000	6.600	0.385
2335.000	6.540	0.397
2340.000	6.600	0.493
2345.000	6.240	0.493
2350.000	6.120	0.698
2355.000	5.880	0.927
2360.000	5.760	1.011
2365.000	5.580	1.192
2370.000	5.580	1.252
2375.000	5.640	1.228
2380.000	5.760	1.288
2385.000	5.760	1.047
2390.000	5.940	0.903
2395.000	6.240	0.879
2400.000	6.480	0.457
2405.000	6.480	0.445
2410.000	6.840	0.517
2415.000	7.080	0.590
2420.000	7.440	0.758
2425.000	7.680	0.722
2430.000	7.800	0.602
2435.000	7.800	0.662
2440.000	7.860	0.794
2445.000	8.100	0.915
150.000	8.219	0.854
2455.000	8.280	0.734
2460.000	8.160	0.638
2465.000	7.920	0.590

2470.000	7.980	0.541
2475.000	8.219	0.505
2480.000	8.280	0.469
2485.000	8.460	0.469
2490.000	8.460	0.602
2495.000	8.460	0.710
2500.000	8.340	0.674
2505.000	8.040	0.710
2510.000	7.920	0.734
2515.000	8.280	0.686
2520.000	8.880	0.854
2525.000	8.520	0.662
2530.000	7.920	0.529
2535.000	7.740	0.710
2540.000	8.040	0.879
2545.000	8.160	0.939
2550.000	7.920	0.818
2555.000	7.440	0.830
2560.000	7.320	0.879
2565.000	7.500	0.854
2570.000	7.560	0.686
2575.000	7.260	0.565
2580.000	6.780	0.602
2585.000	6.300	0.529
2590.000	5.940	0.590
2595.000	5.880	0.553
2600.000	5.880	0.565
2605.000	5.940	0.590
2610.000	5.760	0.626
2615.000	5.760	0.590
2620.000	5.700	0.626
2625.000	5.760	0.674
2630.000	5.820	0.650
2635.000	6.000	0.650
2640.000	5.880	0.626
2645.000	5.760	0.553
2650.000	5.760	0.541
2655.000	5.700	0.602
2660.000	5.880	0.650
2665.000	5.880	0.686
2670.000	5.820	0.674
2675.000	5.700	0.698
2680.000	5.880	0.662
2685.000	5.940	0.541
2690.000	5.880	0.469
2695.000	5.940	0.493
2700.000	6.060	0.578

LINE: -20 Direction: E
Date: 18- 2-97 Time: 22: 2
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 2100 Final station: 0

Threemile Canyon Data - Profile B

Station	Cond. [mS/m]	Inphase [ppt]
2100.000	7.740	-1.059
2095.000	7.800	-1.131
2090.000	7.980	-1.156
2085.000	7.920	-1.252
2080.000	7.980	-1.240
2075.000	8.100	-1.204
2070.000	8.160	-1.228
2065.000	8.280	-1.252
2060.000	8.400	-1.348
2055.000	8.520	-1.300
2050.000	8.700	-1.095
2045.000	8.340	-0.939
2040.000	7.800	-1.192
2035.000	9.360	-1.324
2030.000	12.840	-0.867
2025.000	11.040	-1.264
2020.000	9.840	-1.288
2015.000	8.820	-1.457
2010.000	8.340	-1.493
2005.000	8.639	-1.408
2000.000	8.160	-1.396
1995.000	7.800	-1.059
1990.000	10.260	-0.553
1985.000	10.140	-0.505
1980.000	9.780	-0.674
1975.000	9.660	-0.686
1970.000	9.540	-1.083
1965.000	9.540	-1.192
1960.000	9.300	-1.288
1955.000	9.599	-1.180
1950.000	9.780	-1.168
1945.000	9.480	-1.324
1940.000	9.120	-1.240
1935.000	8.940	-1.276
1930.000	8.639	-1.384
1925.000	8.520	-1.288
1920.000	8.460	-0.951
1915.000	8.280	-0.999
1910.000	8.160	-1.095
1905.000	8.219	-1.023
1900.000	7.740	-1.192
1895.000	7.800	-1.312
1890.000	7.860	-1.276
1885.000	7.800	-1.348
1880.000	7.800	-1.396
1875.000	8.160	-1.324
1870.000	8.040	-1.372
1865.000	7.020	-1.396
1860.000	6.960	-1.360
1855.000	7.260	-1.312
1850.000	8.280	-1.264
1845.000	8.520	-1.228
1840.000	8.760	-1.131
1835.000	8.400	-1.119

1830.000	8.280	-1.168
1825.000	8.280	-1.240
1820.000	8.580	-1.360
1815.000	8.639	-1.408
1810.000	8.520	-1.396
1805.000	8.280	-1.445
1800.000	8.700	-1.312
1795.000	8.820	-1.276
1790.000	8.700	-1.264
1785.000	8.460	-1.264
1780.000	8.460	-1.264
1775.000	8.340	-1.300
1770.000	8.100	-1.360
1765.000	7.860	-1.481
1760.000	8.639	-1.348
1755.000	8.940	-1.336
1750.000	8.700	-1.288
1745.000	8.580	-1.228
1740.000	8.940	-1.288
1735.000	9.599	-1.264
1730.000	9.660	-1.168
1725.000	9.480	-1.168
1720.000	9.240	-1.143
1715.000	9.000	-1.143
1710.000	8.520	-1.276
1705.000	8.460	-1.276
1700.000	8.520	-1.312
1695.000	8.700	-1.324
1690.000	8.880	-1.300
1685.000	8.820	-1.276
1680.000	8.820	-1.180
1675.000	8.700	-1.180
1670.000	8.580	-1.119
1665.000	8.760	-1.180
1660.000	8.580	-1.168
1655.000	8.940	-1.168
1650.000	9.059	-1.180
1645.000	9.000	-1.156
1640.000	8.520	-1.216
1635.000	8.340	-1.107
1630.000	8.160	-1.059
1625.000	7.740	-1.071
1620.000	7.440	-1.252
1615.000	7.620	-1.204
1610.000	7.620	-1.276
1605.000	7.080	-1.336
1600.000	6.900	-1.276
1595.000	7.080	-1.288
1590.000	7.140	-1.288
1585.000	7.140	-1.228
1580.000	7.320	-1.240
1575.000	7.440	-1.228
1570.000	7.560	-1.204
1565.000	7.320	-1.252
1560.000	7.260	-1.228
1555.000	6.840	-1.276
1550.000	6.840	-1.276
1545.000	6.960	-1.264
1540.000	7.440	-1.360
1535.000	7.020	-1.481

1530.000	7.980	-1.469
1525.000	11.220	-1.432
1520.000	12.360	-0.722
1515.000	11.700	-0.602
1510.000	10.620	-0.722
1505.000	10.680	-0.517
1500.000	11.880	-0.349
1495.000	12.420	-0.529
1490.000	13.680	-0.578
1485.000	15.780	-0.578
1480.000	16.440	-0.541
1475.000	18.480	-0.602
1470.000	22.620	-0.385
1465.000	31.080	0.000
1460.000	41.280	0.493
1455.000	50.220	0.830
1450.000	57.000	0.915
1445.000	63.360	1.059
1440.000	41.820	-3.504
1435.000	-7.200	-10.211
1430.000	-77.580	-16.112
1425.000	-68.640	-4.335
1420.000	-36.780	-8.453
1415.000	58.980	0.794
1410.000	50.760	0.758
1405.000	25.500	-0.830
1400.000	23.700	-0.903
1395.000	22.020	-0.854
1390.000	21.120	-0.891
1385.000	20.160	-1.047
1380.000	19.140	-1.071
1375.000	18.480	-1.047
1370.000	18.660	-0.987
1365.000	19.380	-1.011
1360.000	19.800	-0.987
1355.000	18.960	-1.264
1350.000	17.220	-0.830
1345.000	16.140	-1.131
1340.000	15.960	-1.204
1335.000	16.320	-1.047
1330.000	16.380	-0.963
1325.000	16.380	-0.722
1320.000	16.260	-0.927
1315.000	16.260	-0.915
1310.000	15.960	-0.818
1305.000	15.600	-1.023
1300.000	21.420	-0.602
1295.000	21.360	-0.626
1290.000	21.480	-0.626
1285.000	20.880	-0.638
1280.000	20.580	-0.770
1275.000	19.980	-0.806
1270.000	20.220	-0.879
1265.000	20.820	-0.867
1260.000	23.160	-0.650
1255.000	41.220	0.578
.250.000	26.000	-0.553
1245.000	23.200	-0.722
1240.000	24.200	-0.590
1235.000	24.800	-0.565

1230.000	25.600	-0.493
1225.000	27.400	-0.493
1220.000	30.600	-0.192
1215.000	33.000	-0.108
1210.000	33.400	-0.204
1205.000	35.200	0.036
1200.000	36.400	0.024
1195.000	37.200	0.012
1190.000	38.000	0.108
1185.000	38.800	0.301
1180.000	39.600	0.421
1175.000	43.600	0.722
1170.000	52.400	0.927
1165.000	66.200	1.673
1160.000	82.000	2.516
1155.000	105.800	3.504
1150.000	213.000	18.869
1145.000	230.200	19.676
1140.000	127.400	7.152
1135.000	125.000	4.624
1130.000	166.200	6.032
1125.000	142.400	3.961
1120.000	143.800	4.250
1115.000	140.400	3.865
1110.000	125.400	3.179
1105.000	118.200	2.938
1100.000	109.800	2.432
1095.000	83.000	1.131
1090.000	56.800	-0.060
1085.000	38.200	-0.891
1080.000	29.000	-1.131
1075.000	23.800	-1.228
1070.000	22.200	-1.240
1065.000	20.000	-1.312
1060.000	18.000	-1.336
1055.000	17.400	-1.384
1050.000	17.000	-1.469
1045.000	16.600	-1.445
1040.000	16.800	-1.420
1035.000	16.000	-1.445
1030.000	15.600	-1.505
1025.000	15.200	-1.469
1020.000	15.400	-1.384
1015.000	15.200	-1.384
1010.000	14.800	-1.396
1005.000	14.800	-1.457
1000.000	14.600	-1.481
995.000	14.800	-1.481
990.000	15.800	-1.505
985.000	16.200	-1.481
980.000	15.800	-1.517
975.000	15.800	-1.505
970.000	15.400	-1.517
965.000	14.800	-1.529
960.000	14.800	-1.529
955.000	15.200	-1.517
950.000	15.400	-1.517
945.000	15.200	-1.457
940.000	14.600	-1.517
935.000	14.600	-1.541

930.000	14.800	-1.517
925.000	14.200	-1.541
920.000	14.200	-1.493
915.000	14.200	-1.469
910.000	14.200	-1.469
905.000	13.800	-1.384
900.000	13.600	-1.396
895.000	14.000	-1.384
890.000	14.200	-1.348
885.000	14.200	-1.228
880.000	14.400	-1.252
875.000	14.600	-1.348
870.000	14.200	-1.396
865.000	13.800	-1.408
860.000	13.600	-1.408
855.000	13.200	-1.360
850.000	13.000	-1.396
845.000	13.200	-1.445
840.000	13.600	-1.481
835.000	13.800	-1.553
830.000	13.600	-1.517
825.000	13.600	-1.469
820.000	13.600	-1.300
815.000	13.400	-1.131
810.000	13.200	-1.047
805.000	13.400	-0.951
800.000	13.200	-0.794
795.000	13.400	-0.987
790.000	13.200	-0.879
785.000	12.600	-0.999
780.000	12.400	-1.059
775.000	12.600	-1.023
770.000	13.000	-0.987
765.000	13.800	-0.891
760.000	14.200	-0.891
755.000	14.200	-0.915
750.000	13.800	-1.095
745.000	13.800	-1.204
740.000	16.600	-0.686
735.000	18.000	-0.734
730.000	17.800	-1.204
725.000	16.400	-1.035
720.000	14.800	-1.047
715.000	14.400	-1.095
710.000	15.400	-1.011
705.000	15.600	-1.240
700.000	16.600	-1.264
695.000	17.400	-1.432
690.000	18.200	-1.445
685.000	19.800	-1.276
680.000	19.200	-1.216
675.000	19.200	-1.360
670.000	20.600	-1.204
665.000	21.800	-1.276
660.000	21.200	-1.228
655.000	19.200	-1.168
650.000	17.600	-1.276
645.000	16.800	-1.276
640.000	16.400	-0.686
635.000	15.600	0.000

630.000	15.000	0.084
625.000	14.600	-0.060
620.000	14.600	-0.409
615.000	14.800	-0.626
610.000	15.200	-0.734
605.000	15.400	-0.830
600.000	15.200	-0.830
595.000	14.800	-0.830
590.000	15.400	-0.325
585.000	15.000	-0.469
580.000	15.400	-0.614
575.000	16.000	-0.746
570.000	17.000	-0.867
565.000	17.400	-1.047
560.000	17.200	-1.107
555.000	17.200	-1.071
550.000	17.400	-1.119
545.000	17.600	-1.107
540.000	17.800	-1.011
535.000	17.800	-1.011
530.000	17.400	-1.035
525.000	16.800	-1.035
520.000	17.000	-0.927
515.000	16.600	-0.842
510.000	16.600	-0.698
505.000	16.400	-0.662
500.000	16.000	-0.662
495.000	16.000	-0.421
490.000	16.400	-0.746
485.000	16.400	-0.818
480.000	16.400	-0.891
475.000	16.600	-1.023
470.000	17.200	-1.035
465.000	17.400	-0.951
460.000	17.400	-0.770
455.000	17.000	-0.722
450.000	17.000	-0.734
445.000	16.800	-0.854
440.000	16.400	-0.939
435.000	16.600	-0.867
430.000	17.200	-0.806
425.000	17.200	-0.854
420.000	17.200	-0.939
415.000	17.000	-0.963
410.000	16.600	-1.047
405.000	16.600	-1.095
400.000	16.400	-1.216
395.000	16.000	-0.830
390.000	15.000	-0.469
385.000	14.800	-0.553
380.000	14.800	-0.674
375.000	15.000	-0.674
370.000	15.200	-0.734
365.000	14.800	-0.903
360.000	14.800	-0.915
355.000	14.800	-0.674
350.000	14.800	-0.746
345.000	16.200	-0.734
340.000	18.400	-1.011
335.000	20.400	-0.951

330.000	24.000	-0.999
325.000	-0.800	-0.999
320.000	8.200	-1.035
315.000	23.800	-1.288
310.000	24.200	-1.300
305.000	21.400	-1.324
300.000	17.000	-1.336
295.000	17.400	-1.348
290.000	16.000	-1.252
285.000	14.600	-1.107
280.000	12.800	-1.107
275.000	12.000	-1.168
270.000	11.800	-1.216
265.000	11.200	-1.204
260.000	10.600	-1.180
255.000	10.600	-1.192
250.000	10.600	-1.107
245.000	10.600	-1.180
240.000	10.600	-1.228
235.000	10.600	-1.300
230.000	10.000	-2.083
225.000	12.200	44.567
220.000	11.000	29.611
215.000	9.400	-4.852
210.000	10.200	-1.143
205.000	10.200	-0.782
200.000	10.000	-0.915
195.000	10.400	-0.854
190.000	10.600	-0.867
185.000	11.000	-0.842
180.000	11.600	-0.818
175.000	12.400	-0.638
170.000	13.000	-0.782
165.000	13.200	-0.999
160.000	14.600	-0.710
155.000	11.600	-0.818
150.000	2.400	-1.300
145.000	1.400	-1.553
140.000	23.400	0.361
135.000	40.000	1.914
130.000	40.400	-0.204
125.000	34.000	-1.059
120.000	29.200	-0.590
115.000	25.800	-0.349
110.000	22.600	-1.035
105.000	22.400	-0.553
100.000	21.800	-0.493
95.000	21.400	-0.674
90.000	21.800	-0.686
85.000	22.200	-0.638
80.000	22.000	-0.686
75.000	21.600	-0.758
70.000	21.800	-0.830
65.000	22.800	-0.650
60.000	22.200	-0.698
55.000	20.600	-0.818
50.000	20.000	-0.734
45.000	19.800	-0.710
40.000	20.400	-0.734
35.000	23.600	-0.722

30.000	18.600	-0.746
25.000	17.000	-0.710
20.000	18.200	-0.698
15.000	20.000	-0.650
10.000	20.200	-0.662
5.000	20.400	-0.650
0.000	21.600	-0.626

LINE: 0 Direction: N
Date: 19- 2-97 Time: 22:30
Component: Both Dipole mode: Vertical Instrument Orientation: 1
ırt station:-200 Final station: 50

Kiva 1 Data

Station	Cond. [mS/m]	Inphase [ppt]
-200.000	7.440	-0.433
-190.000	7.560	-0.806
-180.000	8.400	-0.794
-170.000	10.500	-0.385
-160.000	16.080	0.228
-150.000	28.800	2.817
-140.000	28.740	1.914
-130.000	27.800	2.119
-120.000	28.800	2.119
-110.000	32.400	2.348
-100.000	32.800	2.227
-90.000	26.800	1.408
-80.000	21.400	0.385
-70.000	20.800	0.072
-60.000	19.800	-0.180
-50.000	17.800	-0.373
-40.000	16.400	-0.782
-30.000	16.000	-0.794
-20.000	14.200	-0.590
-10.000	13.600	-0.650
0.000	12.400	-0.722
10.000	11.800	-0.722
20.000	10.600	-0.686
30.000	11.000	-0.204
40.000	9.400	-0.313
50.000	9.200	-0.409

LINE: ~~2~~ ~~60.0~~ 20 Direction: W
Date: 19- 2-97 Time: 22:32
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 50 Final station:-200

Station	Cond. [mS/m]	Inphase [ppt]
50.000	6.000	-1.119
40.000	6.800	-0.818
30.000	7.200	-1.156
20.000	7.000	-1.336
10.000	7.600	-1.372
0.000	7.600	-1.589
-10.000	7.400	-1.649
-20.000	8.000	-1.493
-30.000	7.800	-1.432
-40.000	8.000	-1.396
-50.000	8.200	-1.469
-60.000	8.200	-1.384
-70.000	8.400	-1.023
-80.000	8.000	-0.529
-90.000	8.000	-0.276
-100.000	8.600	-0.541
-110.000	8.600	-0.529
-120.000	8.600	-0.493
-130.000	9.000	-0.746
-140.000	8.600	-1.156
-150.000	8.600	-1.143
-160.000	8.000	-0.734

-170.000	7.600	-1.180
-180.000	7.400	-1.481
-190.000	7.200	-1.493
-200.000	7.000	-1.348

LINE: -40 Direction: N
Date: 19- 2-97 Time: 22:34
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-200 Final station: 50

Station	Cond. [mS/m]	Inphase [ppt]
-200.000	6.800	-1.481
-190.000	6.800	-1.493
-180.000	7.000	-1.577
-170.000	6.800	-1.649
-160.000	7.000	-1.264
-150.000	7.200	-0.782
-140.000	7.400	-0.842
-130.000	7.400	-1.276
-120.000	7.200	-1.396
-110.000	7.400	-1.180
-100.000	7.600	-0.770
-90.000	7.400	-0.746
-80.000	7.400	-0.638
-70.000	7.400	-0.565
-60.000	7.400	-0.963
-50.000	7.600	-1.276
-40.000	7.600	-1.408
-30.000	7.400	-1.529
-20.000	7.400	-1.541
-10.000	7.200	-1.336
0.000	7.200	-1.541
10.000	7.200	-1.782
20.000	7.200	-1.770
30.000	7.200	-1.613
40.000	7.000	-1.312
50.000	6.800	-1.071

LINE: -60 Direction: S
Date: 19- 2-97 Time: 22:36
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 50 Final station:-200

Station	Cond. [mS/m]	Inphase [ppt]
50.000	6.200	-1.505
40.000	6.200	-1.721
30.000	6.400	-1.794
20.000	6.800	-1.396
10.000	6.400	-1.469
0.000	6.400	-1.673
-10.000	6.400	-1.300
-20.000	6.600	-1.156
-30.000	6.600	-1.613
-40.000	6.600	-1.493
-50.000	6.600	-1.324
-60.000	6.400	-0.975
-70.000	6.600	-0.854
-80.000	6.600	-0.301
-90.000	6.800	-0.650
-100.000	6.600	-0.842
-110.000	6.600	-0.915
-120.000	7.000	-1.276

-130.000	7.000	-1.396
-140.000	6.800	-1.228
-150.000	7.000	-0.770
-160.000	7.000	-0.975
-170.000	6.800	-1.288
-180.000	6.600	-1.529
-190.000	6.800	-1.445
-200.000	6.600	-1.384

LINE: -80 Direction: N
Date: 19- 2-97 Time: 22:37
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-200 Final station:-200

Station	Cond. [mS/m]	Inphase [ppt]	
-200.000	7.000	-0.939	
-190.000	6.800	-1.216	
-180.000	6.600	-1.432	
-170.000	6.600	-1.505	
-160.000	6.600	-1.107	
-150.000	6.600	-0.975	
-140.000	6.600	-1.156	
-130.000	6.800	-1.312	
-120.000	6.600	-1.252	
-110.000	6.800	-1.432	
-100.000	6.800	-1.288	
-90.000	6.800	-1.192	
-80.000	6.600	-1.011	
-70.000	6.400	-0.698	
-60.000	6.400	-0.698	
-50.000	6.200	-1.095	
-40.000	6.400	-1.336	
-30.000	6.400	-1.264	
-20.000	4.800	-1.408	
-10.000	5.400	-1.445	
0.000	6.200	-1.216	
10.000	5.800	-1.673	
20.000	6.000	-1.469	
30.000	5.800	-1.288	
40.000	6.000	-1.806	
50.000	6.000	-1.902	
60.000	5.800	-1.529	
60.000	4.600	-1.312	New segment
50.000	4.600	-1.818	
40.000	5.000	-1.673	
30.000	5.200	-1.288	
20.000	5.200	-1.457	
10.000	5.200	-1.300	
0.000	5.600	-1.047	
-10.000	5.200	-1.071	
-20.000	5.600	-0.927	
-30.000	5.800	-1.119	
-40.000	5.000	-0.602	
-50.000	6.000	-0.758	
-60.000	6.000	-0.830	
-70.000	6.000	-0.927	
-80.000	6.400	-1.180	
-90.000	6.400	-1.143	
-100.000	6.600	-0.638	
-110.000	6.400	-0.867	
-120.000	6.400	-1.071	

-130.000	6.200	-1.011
-140.000	6.200	-1.083
-150.000	6.400	-1.047
-160.000	6.200	-1.384
-170.000	6.600	-0.939
-180.000	6.600	-0.999
-190.000	6.600	-0.891
-200.000	6.800	-0.867

LINE: -120 Direction: N
Date: 19- 2-97 Time: 22:45
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-160 Final station: 60

Station	Cond.[mS/m]	Inphase [ppt]
-160.000	6.400	-0.963
-150.000	6.200	-1.240
-140.000	6.200	-0.951
-130.000	6.000	-0.903
-120.000	6.000	-0.927
-110.000	6.200	-0.746
-100.000	6.200	-0.590
-90.000	6.000	-0.818
-80.000	6.200	-0.782
-70.000	4.800	-0.951
-60.000	2.800	-0.541
-50.000	4.400	-0.746
-40.000	6.000	-0.867
-30.000	5.400	-0.818
-20.000	5.200	-1.168
-10.000	5.400	-0.891
0.000	5.200	-0.963
10.000	5.000	-0.951
20.000	4.800	-0.830
30.000	4.400	-1.481
40.000	4.400	-1.240
50.000	4.200	-1.685
60.000	3.800	-1.505

LINE: -140 Direction: S
Date: 19- 2-97 Time: 22:47
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 60 Final station:-200

Station	Cond.[mS/m]	Inphase [ppt]
60.000	3.800	-1.469
50.000	4.000	-1.758
40.000	4.000	-1.541
30.000	4.200	-0.854
20.000	4.400	-0.867
10.000	4.600	-0.999
0.000	4.800	-0.975
-10.000	4.800	-0.927
-20.000	5.000	-0.794
-30.000	5.000	-0.228
-40.000	5.400	-0.337
-50.000	4.000	-0.903
-60.000	2.800	-0.662
-70.000	5.800	-1.336
-80.000	5.800	-0.879
-90.000	5.800	-1.372
-100.000	6.000	-1.457

-110.000	6.200	-1.360
-120.000	6.000	-1.324
-130.000	6.000	-1.432
-140.000	6.000	-1.589
-150.000	6.000	-1.673
-160.000	6.400	-1.240
-170.000	6.600	-0.867
-180.000	6.800	-1.119
-190.000	6.600	-1.348
-200.000	6.400	-1.336

LINE: -160 Direction: N
Date: 19- 2-97 Time: 22:49
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-170 Final station: 60

Station	Cond.[mS/m]	Inphase [ppt]
-170.000	6.200	-1.661
-160.000	6.400	-1.324
-150.000	6.000	-1.047
-140.000	6.200	-0.999
-130.000	6.000	-1.192
-120.000	6.000	-1.192
-110.000	5.800	-1.288
-100.000	6.000	-1.180
-90.000	5.800	-1.180
-80.000	5.800	-1.083
-70.000	5.400	-0.891
-60.000	-1.400	0.770
-50.000	2.000	-1.818
-40.000	-1.200	-0.469
-30.000	5.400	-1.324
-20.000	4.800	-0.879
-10.000	4.600	-0.951
0.000	4.600	-0.963
10.000	4.600	-1.288
20.000	4.200	-1.119
30.000	4.200	-1.059
40.000	4.000	-1.131
50.000	3.800	-1.902
60.000	3.800	-2.010

LINE: -180 Direction: S
Date: 19- 2-97 Time: 22:51
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 60 Final station:-160

Station	Cond.[mS/m]	Inphase [ppt]
60.000	3.400	-1.770
50.000	3.800	-1.758
40.000	4.000	-1.998
30.000	4.000	-1.926
20.000	4.200	-1.216
10.000	4.400	-1.288
0.000	4.600	-0.939
-10.000	4.600	-0.903
-20.000	4.600	-1.180
-30.000	4.600	-1.457
-40.000	4.800	-1.119
-50.000	5.200	-1.059
-60.000	5.200	-1.276
-70.000	5.800	-1.216

-80.000	6.000	-1.059
-90.000	5.800	-1.204
-100.000	6.000	-1.059
-110.000	5.800	-1.204
-120.000	6.200	-1.156
-130.000	5.800	-1.529
-140.000	6.000	-1.360
-150.000	6.000	-1.565
-160.000	6.000	-1.360

LINE: -200 Direction: N
Date: 19- 2-97 Time: 22:52
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-160 Final station: 80

Station	Cond. [mS/m]	Inphase [ppt]
-160.000	6.800	-1.649
-150.000	6.600	-1.505
-140.000	5.800	-1.734
-130.000	6.400	-1.432
-120.000	6.200	-1.264
-110.000	6.000	-1.348
-100.000	6.200	-1.372
-90.000	6.000	-1.420
-80.000	6.000	-1.577
-70.000	6.000	-1.324
-60.000	5.600	-1.156
-50.000	5.400	-1.107
-40.000	5.400	-1.119
-30.000	4.800	-1.071
-20.000	4.600	-1.143
-10.000	4.400	-0.722
0.000	4.600	-1.023
10.000	4.400	-1.384
20.000	4.400	-1.384
30.000	4.200	-1.770
40.000	4.000	-1.758
50.000	3.800	-1.794
60.000	3.600	-1.432
70.000	3.400	-1.709
80.000	3.200	-1.372

LINE: -220 Direction: S
Date: 19- 2-97 Time: 22:55
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 80 Final station:-120

Station	Cond. [mS/m]	Inphase [ppt]
80.000	2.800	-1.156
70.000	3.400	-1.228
60.000	3.400	-1.276
50.000	3.800	-1.156
40.000	4.000	-1.192
30.000	4.000	-1.372
20.000	4.400	-1.709
10.000	4.400	-1.697
0.000	4.600	-0.879
-10.000	4.400	-0.999
-20.000	4.800	-0.746
-30.000	5.000	-0.734
-40.000	5.400	-0.674
-50.000	5.600	-0.891

-60.000	6.000	-1.204
-70.000	6.000	-1.240
-80.000	5.600	-1.324
-90.000	6.600	-1.469
-100.000	6.200	-1.577
-110.000	6.400	-1.240
-120.000	6.600	-1.709

LINE: -240 Direction: N
Date: 19- 2-97 Time: 22:57
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-120 Final station: 80

Station	Cond. [mS/m]	Inphase [ppt]
-120.000	6.800	-1.914
-110.000	6.200	-1.697
-100.000	6.000	-1.565
-90.000	6.200	-1.372
-80.000	5.800	-1.300
-70.000	6.000	-1.396
-60.000	5.800	-1.384
-50.000	5.200	-1.493
-40.000	5.200	-1.673
-30.000	5.600	-1.529
-20.000	5.200	-1.493
-10.000	5.200	-0.770
0.000	4.600	-0.818
10.000	4.400	-1.312
20.000	4.400	-1.974
30.000	4.000	-1.854
40.000	4.200	-1.553
50.000	4.000	-1.348
60.000	3.600	-1.493
70.000	3.400	-1.613
80.000	3.200	-1.589

LINE: -260 Direction: S
Date: 19- 2-97 Time: 22:59
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 80 Final station:-120

Station	Cond. [mS/m]	Inphase [ppt]
80.000	3.400	-1.553
70.000	3.400	-1.529
60.000	3.200	-1.613
50.000	3.800	-1.637
40.000	4.000	-1.348
30.000	4.200	-1.481
20.000	4.400	-1.986
10.000	4.200	-1.625
0.000	4.800	-0.903
-10.000	5.000	-0.879
-20.000	5.200	-0.818
-30.000	5.800	-1.059
-40.000	5.200	-1.481
-50.000	5.800	-1.613
-60.000	6.000	-1.336
-70.000	5.800	-1.276
-80.000	5.800	-1.457
-90.000	6.200	-1.372
-100.000	6.000	-1.830
-110.000	6.400	-1.866

-120.000	7.000	-1.324

LINE: -280 Direction: N
Date: 19- 2-97 Time: 23: 0
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-120 Final station: 80

Station	Cond. [mS/m]	Inphase [ppt]
-120.000	6.200	-1.613
-110.000	7.400	-1.613
-100.000	6.400	-1.746
-90.000	6.600	-1.493
-80.000	6.400	-1.312
-70.000	6.000	-1.240
-60.000	6.000	-1.216
-50.000	6.000	-1.312
-40.000	6.000	-1.107
-30.000	5.400	-1.517
-20.000	5.600	-1.469
-10.000	5.400	-1.300
0.000	5.400	-0.939
10.000	4.800	-1.517
20.000	4.600	-1.914
30.000	4.400	-1.697
40.000	4.920	-1.493
50.000	4.020	-1.505
60.000	3.780	-1.445
70.000	3.360	-1.348
80.000	3.180	-1.240

LINE: -300 Direction: S
Date: 19- 2-97 Time: 23: 2
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 80 Final station:-120

Station	Cond. [mS/m]	Inphase [ppt]
80.000	3.300	-1.384
70.000	3.360	-1.372
60.000	3.900	-1.264
50.000	3.960	-1.469
40.000	4.680	-1.432
30.000	5.040	-1.685
20.000	5.520	-1.806
10.000	5.280	-2.047
0.000	5.820	-0.915
-10.000	5.700	-0.626
-20.000	5.580	-1.312
-30.000	5.580	-1.204
-40.000	5.940	-1.276
-50.000	6.000	-0.951
-60.000	5.760	-0.951
-70.000	6.240	-1.131
-80.000	6.240	-1.252
-90.000	6.780	-1.445
-100.000	7.560	-1.517
-110.000	8.040	-1.553
-120.000	7.980	-1.288

LINE: -320 Direction: N
Date: 19- 2-97 Time: 23: 3
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-120 Final station: 80

Station	Cond. [mS/m]	Inphase [ppt]
-120.000	5.760	-1.481
-110.000	5.580	-1.577
-100.000	7.320	-1.408
-90.000	7.740	-1.360
-80.000	6.660	-1.288
-70.000	6.480	-1.059
-60.000	6.360	-0.927
-50.000	6.120	-0.903
-40.000	5.700	-1.047
-30.000	5.640	-1.011
-20.000	6.000	-0.999
-10.000	5.880	-0.710
0.000	5.940	-0.662
10.000	5.820	-1.770
20.000	5.940	-1.914
30.000	5.640	-1.950
40.000	5.580	-1.842
50.000	4.920	-1.661
60.000	4.260	-1.637
70.000	4.140	-1.517
80.000	3.840	-1.469

LINE: -340 Direction: S
Date: 19- 2-97 Time: 23: 5
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 80 Final station:-110

Station	Cond. [mS/m]	Inphase [ppt]
80.000	4.260	-1.649
70.000	4.320	-1.577
60.000	4.620	-1.637
50.000	5.100	-1.770
40.000	6.060	-1.878
30.000	6.360	-1.974
20.000	6.180	-1.914
10.000	6.360	-1.806
0.000	5.940	-0.939
-10.000	5.940	-0.867
-20.000	5.880	-0.698
-30.000	5.880	-0.698
-40.000	5.820	-0.915
-50.000	6.000	-0.987
-60.000	6.060	-0.927
-70.000	6.300	-1.119
-80.000	6.600	-1.240
-90.000	7.260	-1.420
-100.000	6.780	-1.553
-110.000	7.440	-1.553

LINE: -360 Direction: N
Date: 19- 2-97 Time: 23: 7
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-120 Final station: 80

Station	Cond. [mS/m]	Inphase [ppt]
-120.000	7.560	-0.999
-110.000	7.620	-0.662
-100.000	7.440	-0.722
-90.000	7.380	-0.879
-80.000	7.140	-1.384
-70.000	6.720	-1.926

-60.000	6.480	-1.601
-50.000	6.240	-0.903
-40.000	6.360	-0.228
-30.000	5.940	-0.602
-20.000	5.940	-0.529
-10.000	5.760	-0.578
0.000	6.180	-0.734
10.000	5.820	-1.914
20.000	6.660	-2.155
30.000	6.660	-2.143
40.000	6.600	-2.143
50.000	6.360	-1.974
60.000	5.340	-2.047
70.000	4.980	-1.818
80.000	4.500	-1.878

LINE: -380 Direction: S
Date: 19- 2-97 Time: 23: 9
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 80 Final station:-120

Station	Cond. [mS/m]	Inphase [ppt]
80.000	4.680	-1.962
70.000	5.400	-1.998
60.000	6.420	-2.035
50.000	6.900	-2.095
40.000	7.140	-2.155
30.000	7.200	-2.167
20.000	6.840	-2.107
10.000	6.420	-2.083
0.000	6.240	-1.252
-10.000	6.180	-0.794
-20.000	6.000	-1.047
-30.000	6.060	-0.794
-40.000	6.060	-0.650
-50.000	6.300	-1.529
-60.000	6.480	-0.939
-70.000	6.360	-0.854
-80.000	6.300	-1.180
-90.000	6.480	-0.939
-100.000	6.660	-0.662
-110.000	6.960	-0.686
-120.000	6.960	-0.903

LINE: -400 Direction: N
Date: 19- 2-97 Time: 23:10
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-120 Final station: 80

Station	Cond. [mS/m]	Inphase [ppt]
-120.000	6.720	-0.927
-110.000	6.720	-0.939
-100.000	6.360	-0.710
-90.000	6.540	-0.264
-80.000	6.060	-0.903
-70.000	5.880	-1.095
-60.000	5.940	-1.312
-50.000	6.360	-1.264
-40.000	6.600	-1.613
-30.000	6.660	-0.710
-20.000	6.360	-0.758
-10.000	6.420	-0.939

0.000	6.240	-1.962
10.000	6.420	-2.179
20.000	6.780	-2.179
30.000	7.080	-2.143
40.000	7.560	-2.384
50.000	7.440	-2.300
60.000	7.320	-2.155
70.000	7.200	-2.059
80.000	6.900	-2.131

Kiva 2 Data

LINE: 0 Direction: S
Date: 19- 2-97 Time: 0:41
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 60 Final station:-80

Station	Cond. [mS/m]	Inphase [ppt]
60.000	22.600	-0.072
50.000	28.800	0.048
40.000	30.400	-0.433
30.000	36.000	-0.325
20.000	34.800	-0.903
10.000	32.400	-0.891
0.000	29.000	-1.360
-10.000	30.000	-1.300
-20.000	13.400	-1.372
-30.000	24.400	-1.252
-40.000	22.000	-0.710
-50.000	26.600	0.084
-60.000	38.800	1.541
-70.000	-6.600	-4.901
-80.000	40.200	1.998

LINE: 10 Direction: N
Date: 19- 2-97 Time: 0:44
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-80 Final station: 80

Station	Cond. [mS/m]	Inphase [ppt]
-80.000	35.400	1.505
-70.000	7.600	-2.890
-60.000	13.200	-1.806
-50.000	34.000	0.830
-40.000	23.600	-0.337
-30.000	22.600	-1.011
-20.000	13.400	-1.445
-10.000	7.600	-1.469
0.000	22.200	-1.613
10.000	17.600	-1.481
20.000	18.200	-1.276
30.000	18.800	-1.396
40.000	18.600	-1.481
50.000	18.800	-1.059
60.000	16.800	-1.192
70.000	15.000	-1.047
80.000	13.400	-0.867

LINE: 20 Direction: S
Date: 19- 2-97 Time: 0:45
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 80 Final station:-90

Station	Cond. [mS/m]	Inphase [ppt]
80.000	7.600	-0.999
70.000	9.200	-1.276
60.000	10.600	-1.252
50.000	11.000	-1.276
40.000	10.800	-1.156
30.000	10.600	-2.552
20.000	12.800	-1.505
10.000	13.800	-1.143
0.000	15.600	-1.529
-10.000	22.000	-1.661

-20.000	0.200	-1.782
-30.000	17.000	-1.300
-40.000	24.400	-0.939
-50.000	25.000	-0.421
-60.000	42.200	1.721
-70.000	-12.000	-5.430
-80.000	34.200	1.095
-90.000	23.000	-0.036

LINE: 30 Direction: N
Date: 19- 2-97 Time: 0:47
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-90 Final station: 80

Station	Cond. [mS/m]	Inphase [ppt]
-90.000	21.200	-0.337
-80.000	28.600	0.433
-70.000	2.200	-3.769
-60.000	26.000	-0.337
-50.000	34.400	0.662
-40.000	25.400	-0.541
-30.000	26.400	-0.975
-20.000	-1.600	-1.601
-10.000	21.400	-1.589
0.000	15.400	-1.625
10.000	14.200	-1.396
20.000	13.200	-1.553
30.000	7.200	-4.286
40.000	11.800	-1.192
50.000	11.800	-1.288
60.000	10.600	-1.288
70.000	9.600	-1.264
80.000	7.800	-1.336

LINE: 40 Direction: N
Date: 19- 2-97 Time: 0:49
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 80 Final station:-90

Station	Cond. [mS/m]	Inphase [ppt]
80.000	6.400	-1.432
70.000	7.400	-1.216
60.000	8.400	-1.264
50.000	8.800	-1.288
40.000	9.600	-1.336
30.000	13.200	-1.469
20.000	13.800	-1.180
10.000	14.800	-1.348
0.000	15.600	-1.348
-10.000	21.000	-1.228
-20.000	6.800	-1.252
-30.000	9.600	-1.011
-40.000	25.400	-0.349
-50.000	27.600	0.204
-60.000	36.400	0.782
-70.000	-8.400	-4.262
-80.000	28.800	0.397
-90.000	24.200	-0.072

LINE: 50 Direction: N
Date: 19- 2-97 Time: 0:50
Component: Both Dipole mode: Vertical Instrument Orientation: 1

Start station:-90 Final station: 60

Station	Cond. [mS/m]	Inphase [ppt]
-90.000	21.000	-0.313
-80.000	25.200	0.036
-70.000	9.600	-2.047
-60.000	13.400	-1.336
-50.000	28.000	0.264
-40.000	27.200	-0.361
-30.000	13.200	-1.047
-20.000	4.800	-1.300
-10.000	21.000	-1.276
0.000	16.000	-1.276
10.000	13.600	-0.903
20.000	10.200	-2.263
30.000	8.800	-2.890
40.000	11.400	-1.252
50.000	9.600	-1.493
60.000	1.600	-1.119

LINE: 60 Direction: S
Date: 19- 2-97 Time: 0:51
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 60 Final station:-90

Station	Cond. [mS/m]	Inphase [ppt]
60.000	14.200	-1.252
50.000	12.800	-1.240
40.000	11.400	-1.432
30.000	13.400	-1.396
20.000	13.600	-1.192
10.000	14.400	-1.192
0.000	16.600	-1.131
-10.000	26.200	-0.927
-20.000	7.800	-1.216
-30.000	6.000	-0.879
-40.000	26.600	-0.349
-50.000	26.800	0.289
-60.000	20.800	-0.505
-70.000	1.400	-2.649
-80.000	23.200	-0.541
-90.000	20.800	-0.349

LINE: 70 Direction: N
Date: 19- 2-97 Time: 0:57
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-80 Final station: 50

Station	Cond. [mS/m]	Inphase [ppt]
-80.000	21.600	-0.240
-70.000	27.200	0.168
-60.000	0.800	-2.721
-50.000	20.000	-0.590
---> Comment : TWEEDS		
-40.000	25.400	-0.132
-30.000	27.600	-0.289
-20.000	-5.200	-1.445
-10.000	25.400	-0.842
0.000	18.600	-0.999
10.000	14.800	-1.119
20.000	13.200	-1.360
30.000	11.600	-1.457
40.000	14.000	-1.324

50.000	16.800	-1.529

LINE: 80 Direction: S
Date: 19- 2-97 Time: 0:59
nponent: Both Dipole mode: Vertical Instrument Orientation: 1
art station: 40 Final station:-90

Station	Cond. [mS/m]	Inphase [ppt]
40.000	18.800	-1.481
30.000	13.200	-1.240
20.000	14.200	-1.168
10.000	16.200	-1.264
0.000	17.400	-1.095
-10.000	24.400	-0.698
-20.000	25.400	-0.770
-30.000	-6.600	-1.276
-40.000	27.000	-0.638
-50.000	25.800	-0.180
-60.000	22.400	-0.626
-70.000	2.000	-2.613
-80.000	27.400	0.084
-90.000	21.800	-0.289

LINE: 90 Direction: N
Date: 19- 2-97 Time: 1: 0
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-80 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
-80.000	22.800	-0.024
-70.000	26.600	-0.048
-60.000	3.000	-2.757
-50.000	25.800	-0.289
-40.000	26.600	-0.602
-30.000	-7.200	-1.432
-20.000	27.600	-0.722
-10.000	26.800	-0.903
0.000	18.000	-1.059
10.000	14.400	-1.601
20.000	14.200	-1.372
30.000	13.800	-1.288
40.000	6.600	-1.047

LINE: 100 Direction: S
Date: 19- 2-97 Time: 1: 1
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station:-90

Station	Cond. [mS/m]	Inphase [ppt]
40.000	2.800	-1.035
30.000	16.400	-1.288
20.000	15.800	-1.288
10.000	17.000	-1.168
0.000	18.000	-0.975
-10.000	24.000	-0.818
-20.000	33.000	-0.590
-30.000	-8.600	-1.637
-40.000	21.000	-0.830
-50.000	24.400	-0.409
-60.000	24.200	-0.325
-70.000	2.600	-2.528
-80.000	29.200	0.325
-90.000	28.200	0.409

LINE: 110 Direction: N
Date: 19- 2-97 Time: 1: 3
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-80 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
-80.000	29.800	1.143
-70.000	33.600	0.734
-60.000	3.800	-2.420
-50.000	23.400	-0.409
-40.000	24.000	-0.481
-30.000	17.800	-1.035
-20.000	18.200	-1.264
-10.000	25.200	-2.107
0.000	19.000	-1.095
10.000	17.400	-1.071
20.000	17.400	-1.276
30.000	16.000	-1.240
40.000	18.800	-1.348

LINE: 120 Direction: S
Date: 19- 2-97 Time: 1: 4
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station:-80

Station	Cond. [mS/m]	Inphase [ppt]
40.000	10.600	-1.204
30.000	22.800	-1.408
20.000	22.000	-1.204
10.000	23.200	-1.071
0.000	24.800	-1.228
-10.000	33.600	-0.385
-20.000	34.800	-0.867
-30.000	-8.000	-1.661
-40.000	23.000	-0.770
-50.000	20.000	-0.975
-60.000	12.000	-1.432
-70.000	8.400	-2.010
-80.000	43.600	1.541

LINE: 130 Direction: N
Date: 19- 2-97 Time: 1: 5
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-80 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
-80.000	18.200	-0.915
-70.000	12.800	-1.673
-60.000	10.800	-1.782
-50.000	16.000	-1.047
-40.000	17.800	-0.842
-30.000	16.800	-1.083
-20.000	-1.800	-1.854
-10.000	49.000	2.468
0.000	40.200	-1.324
10.000	31.400	-1.228
20.000	23.000	-1.252
30.000	8.200	-1.252
40.000	5.800	-1.192

LINE: 140 Direction: S
Date: 19- 2-97 Time: 1: 6

-70.000	15.200	-1.565
-80.000	16.400	-1.119

LINE: 210 Direction: N
Date: 19- 2-97 Time: 1:15
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-80 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
-80.000	18.000	-1.481
-70.000	17.000	-1.408
-60.000	15.200	-1.420
-50.000	13.800	-1.396
-40.000	12.400	-1.228
-30.000	11.200	-1.095
-20.000	11.000	-0.903
-10.000	10.400	-0.867
0.000	9.800	-1.107
10.000	10.000	-1.023
20.000	10.000	-1.047
30.000	10.400	-1.240
40.000	10.400	-1.047

LINE: 220 Direction: S
Date: 19- 2-97 Time: 1:16
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station:-70

Station	Cond. [mS/m]	Inphase [ppt]
40.000	10.400	-1.168
30.000	10.400	-0.987
20.000	10.600	-1.168
10.000	10.600	-1.360
0.000	9.400	-4.744
-10.000	13.600	44.892
-20.000	10.000	-3.720
-30.000	11.200	-1.059
-40.000	11.400	-1.457
-50.000	13.000	-1.541
-60.000	14.400	-1.541
-70.000	16.200	-1.589

LINE: 230 Direction: N
Date: 19- 2-97 Time: 1:17
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-70 Final station: 30

Station	Cond. [mS/m]	Inphase [ppt]
-70.000	16.800	-1.577
-60.000	16.000	-1.577
-50.000	13.600	-1.517
-40.000	11.600	-1.360
-30.000	11.000	-1.384
-20.000	10.000	2.372
-10.000	11.800	36.222
0.000	10.000	10.223
10.000	9.800	-3.817
20.000	10.200	-2.420
30.000	10.400	-1.529

LINE: 240 Direction: S
Date: 19- 2-97 Time: 1:18
Component: Both Dipole mode: Vertical Instrument Orientation: 1

Start station: 40 Final station:-70

Station	Cond. [mS/m]	Inphase [ppt]
40.000	10.000	-1.818
30.000	10.600	-0.830
20.000	10.400	-0.638
10.000	10.000	-0.770
0.000	9.800	-0.529
-10.000	11.000	-1.083
-20.000	11.200	-1.168
-30.000	11.000	-1.481
-40.000	12.200	-1.589
-50.000	14.000	-1.613
-60.000	15.000	-1.541
-70.000	15.600	-1.493

LINE: 250 Direction: N
Date: 19- 2-97 Time: 1:19
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-70 Final station: 50

Station	Cond. [mS/m]	Inphase [ppt]
-70.000	17.400	-1.818
-60.000	16.200	-1.601
-50.000	13.200	-1.493
-40.000	11.800	-1.541
-30.000	10.800	-1.577
-20.000	10.200	-1.529
-10.000	10.200	-1.529
0.000	10.400	-1.481
10.000	9.800	-1.625
20.000	11.000	-1.493
30.000	12.600	-1.360
40.000	13.200	-1.673
50.000	13.600	-1.589

LINE: 260 Direction: S
Date: 19- 2-97 Time: 1:20
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 50 Final station:-70

Station	Cond. [mS/m]	Inphase [ppt]
50.000	16.800	-1.192
40.000	12.200	-0.867
30.000	10.400	-1.312
20.000	10.000	-1.396
10.000	10.200	-1.517
0.000	10.600	-1.408
-10.000	10.600	-1.469
-20.000	10.800	-1.432
-30.000	11.800	-1.336
-40.000	12.800	-1.529
-50.000	14.200	-1.529
-60.000	16.200	-1.661
-70.000	17.800	-1.577

LINE: 270 Direction: N
Date: 19- 2-97 Time: 1:21
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-70 Final station: 50

Station	Cond. [mS/m]	Inphase [ppt]
-70.000	20.800	-1.565
-60.000	18.000	-1.288

-50.000	15.000	-1.469
-40.000	13.800	-1.372
-30.000	12.800	-1.288
-20.000	11.600	-1.432
-10.000	11.600	-1.372
0.000	11.400	-1.204
10.000	10.800	-1.023
20.000	14.600	-1.059
30.000	16.800	-0.915
40.000	19.000	-0.734
50.000	16.600	-0.650

LINE: 280 Direction: S
Date: 19- 2-97 Time: 1:22
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 50 Final station:-60

Station	Cond. [mS/m]	Inphase [ppt]
50.000	18.600	-0.903
40.000	17.400	-0.854
30.000	19.600	-0.770
20.000	18.600	-1.131
10.000	15.200	-0.951
0.000	9.200	-1.252
-10.000	14.000	-1.553
-20.000	13.600	-1.481
-30.000	14.200	-1.469
-40.000	15.800	-1.408
-50.000	16.800	-1.252
-60.000	18.200	-1.228

LINE: 290 Direction: N
Date: 19- 2-97 Time: 1:24
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-60 Final station: 50

Station	Cond. [mS/m]	Inphase [ppt]
-60.000	27.800	-1.721
-50.000	18.200	-1.517
-40.000	15.800	-1.420
-30.000	15.000	-1.457
-20.000	14.800	-1.469
-10.000	14.800	-1.601
0.000	17.400	-1.300
10.000	9.600	-0.951
20.000	16.800	-0.891
30.000	20.600	-1.252
40.000	21.200	-1.168
50.000	21.800	-1.083

LINE: 300 Direction: N
Date: 19- 2-97 Time: 1:25
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 50 Final station:-60

Station	Cond. [mS/m]	Inphase [ppt]
50.000	11.200	-0.276
40.000	14.600	-0.445
30.000	22.400	-0.854
20.000	19.600	-1.095
10.000	11.400	-1.240
0.000	15.600	-1.276
-10.000	19.600	-1.577

-20.000	17.600	-1.589
-30.000	17.600	-1.300
-40.000	18.400	-1.264
-50.000	20.800	-1.493
-60.000	29.200	-1.770

LINE: 310 Direction: N
Date: 19- 2-97 Time: 1:26
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-60 Final station: 50

Station	Cond. [mS/m]	Inphase [ppt]
-60.000	-2.400	-1.252
-50.000	18.000	-1.770
-40.000	39.000	-1.902
-30.000	31.800	-1.505
-20.000	27.400	-1.529
-10.000	27.400	-1.673
0.000	31.000	-1.408
10.000	25.000	-1.192
20.000	23.400	-1.204
30.000	29.600	-0.951
40.000	12.800	-0.638
50.000	13.800	-0.313

LINE: 320 Direction: S
Date: 19- 2-97 Time: 1:27
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 50 Final station:-60

Station	Cond. [mS/m]	Inphase [ppt]
50.000	28.600	-0.048
40.000	28.200	-0.168
30.000	16.200	-0.662
20.000	6.000	-1.011
10.000	11.800	-1.131
0.000	25.800	-1.408
-10.000	23.600	-1.565
-20.000	16.200	-1.252
-30.000	14.400	-1.408
-40.000	0.600	-1.457
-50.000	14.200	-1.577
-60.000	14.000	-1.493

LINE: 330 Direction: N
Date: 19- 2-97 Time: 1:28
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-50 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
-50.000	15.800	-1.637
-40.000	16.200	-1.637
-30.000	18.200	-1.276
-20.000	13.400	-1.493
-10.000	13.400	-1.493
0.000	19.200	-1.240
10.000	15.600	-1.192
20.000	3.200	-0.879
30.000	17.800	-0.505
40.000	24.200	-0.192

LINE: 340 Direction: S
Date: 19- 2-97 Time: 1:29

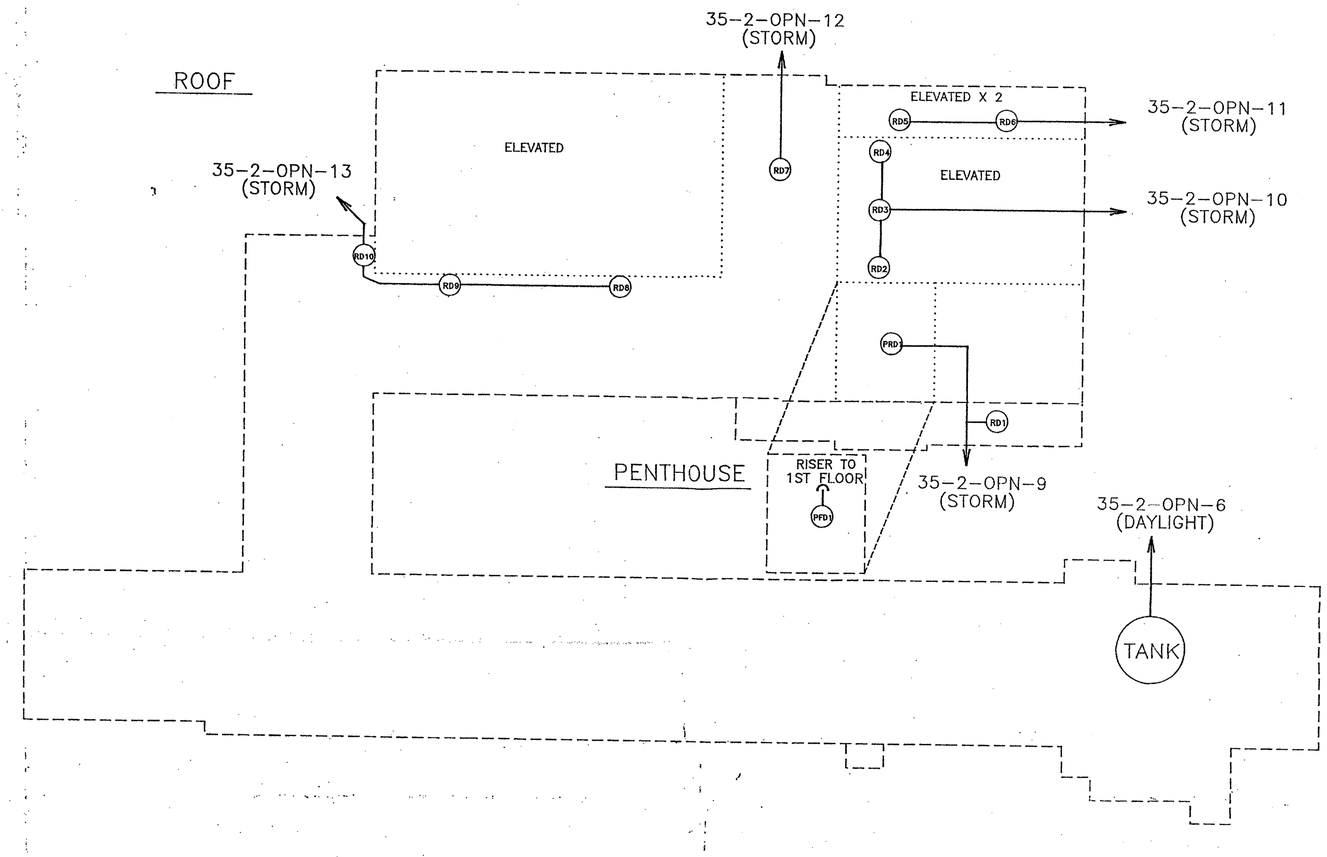
N

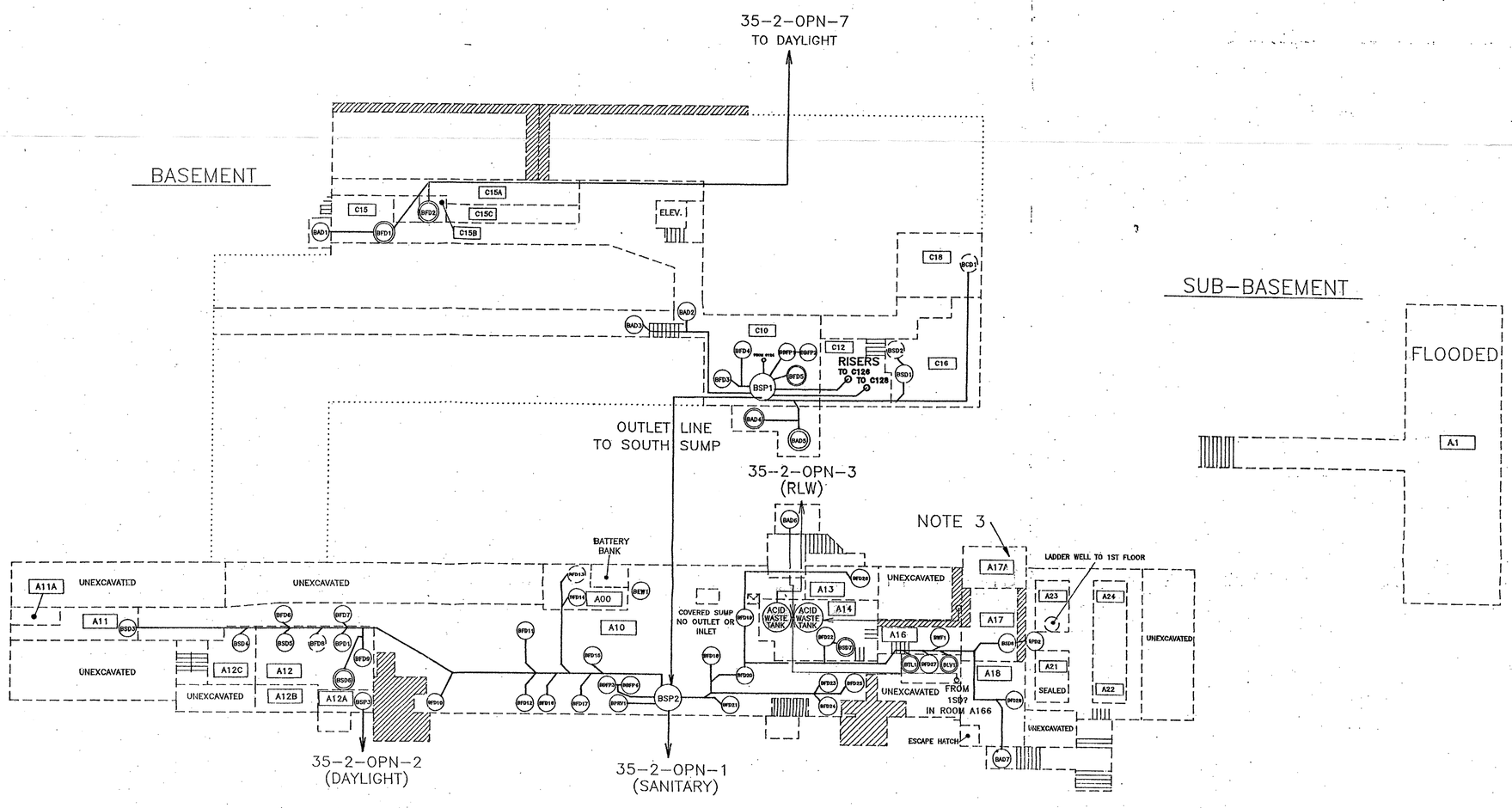
LEGEND

- OVERHANG
- DYE TESTED DRAIN
- FD – FLOOR DRAIN
- SD – SINK DRAIN
- SH – SHOWER
- TL – TOILET
- UR – URINAL
- WF – WATER FOUNTAIN

NOTES

1) ACTUAL PIPING DETERMINED FROM ENGINEERING DRAWINGS R3292, SHEET1, R3293, SHEET 2, C42859, SHEET 3, C–29351, SHEET 50, C29315, SHEET 14, C–42864, SHEET 3, AND ON–SITE INSPECTION.
2) THE SOUTH WING OF THE BASEMENT IS LABELLED AS A CONTROLLED AREA.
3) ROOM A17A IS A LOCKED CLOSET UNACCESSIBLE TO BUILDING PERSONNEL AND ABSENCE OF DRAINAGE SHOULD BE VERIFIED BY THE APPROPRIATE USER GROUP OR INDIVIDUAL. ACCESS TO ROOMS A21 AND A23 WAS NOT GRANTED DUE TO HIGH EXPOSURE LEVELS OF RADIATION. ABSENCE OF DRAINAGE WAS VERIFIED BY SITE PERSONNEL.





15842-I

SANTA FE ENGINEERING, LTD.		
TA–35–2 BASEMENT AND ROOF DRAIN SCHEMATIC	DRAWN	EJH
	DESIGN	EJH
	CHECKED	PEB
	DATE	1/18/93
SUBMITTED / RECOMMENDED / APPROVED		
Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545	SHEET	1 OF 1
CLASSIFICATION / REVIEWER / DATE		
REQUESTING DIVISION / LAB JOB NO. / DRAWING NO. / REV.		
REQUESTING GROUP EM–8	11056–57	FIGURE 4

Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 50 Final station:-50

Station	Cond. [mS/m]	Inphase [ppt]
50.000	30.400	0.433
40.000	25.400	-0.445
30.000	16.000	-0.746
20.000	8.200	-0.903
10.000	21.200	-1.083
0.000	29.000	-1.240
-10.000	27.400	-1.529
-20.000	23.200	-1.107
-30.000	20.000	-1.204
-40.000	18.800	-1.119
-50.000	17.200	-1.228

LINE: 350 Direction: N
Date: 19- 2-97 Time: 1:30
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-50 Final station: 50

Station	Cond. [mS/m]	Inphase [ppt]
-50.000	12.000	-1.180
-40.000	12.600	-1.300
-30.000	14.000	-1.180
-20.000	14.600	-1.107
-10.000	15.400	-1.168
0.000	18.400	-1.240
10.000	22.200	-0.903
20.000	7.400	-0.722
30.000	13.200	-0.457
40.000	25.600	-0.120
50.000	27.800	0.132

LINE: 360 Direction: S
Date: 19- 2-97 Time: 1:31
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 50 Final station:-50

Station	Cond. [mS/m]	Inphase [ppt]
50.000	34.200	1.228
40.000	31.800	0.794
30.000	31.000	0.529
20.000	4.800	-0.638
10.000	18.800	-0.927
0.000	19.000	-1.168
-10.000	16.200	-0.963
-20.000	14.800	-1.131
-30.000	14.800	-1.095
-40.000	14.600	-0.927
-50.000	14.200	-0.722

LINE: 370 Direction: N
Date: 19- 2-97 Time: 1:32
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station:-50 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
-50.000	13.000	-1.264
-40.000	12.800	-1.300
-30.000	13.600	-1.360
-20.000	14.200	-1.240
-10.000	14.600	-1.432
0.000	17.400	-1.372

SWMU 27-001(a) Data

LINE: 0 Direction: N
Date: 20- 2-97 Time: 0: 1
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	9.780	-1.601
5.000	9.540	-1.625
10.000	8.820	-1.432
15.000	8.520	-1.300
20.000	6.600	-1.396
25.000	5.580	-1.613
30.000	5.580	-1.577
35.000	5.640	-1.601
40.000	5.520	-1.589

LINE: 5 Direction: S
Date: 20- 2-97 Time: 0: 2
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station: 0

Station	Cond. [mS/m]	Inphase [ppt]
40.000	5.340	-1.565
35.000	5.460	-1.529
30.000	6.660	-1.589
25.000	7.620	-1.505
20.000	8.400	-1.469
15.000	8.639	-1.601
10.000	9.000	-1.625
5.000	9.360	-1.625
0.000	9.059	-1.770

LINE: 10 Direction: N
Date: 20- 2-97 Time: 0: 3
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	9.180	-1.794
5.000	9.180	-1.758
10.000	9.240	-1.721
15.000	8.580	-1.589
20.000	7.980	-1.541
25.000	7.080	-1.372
30.000	6.540	-1.372
35.000	5.640	-1.481
40.000	5.340	-1.577

LINE: 15 Direction: S
Date: 20- 2-97 Time: 0: 3
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station: 0

Station	Cond. [mS/m]	Inphase [ppt]
40.000	5.280	-1.553
35.000	5.580	-1.517
30.000	6.180	-1.697
25.000	6.900	-1.577
20.000	8.219	-1.469
15.000	8.520	-1.432
10.000	8.880	-1.577
5.000	9.180	-1.577
0.000	9.240	-1.697

LINE: 20 Direction: N
Date: 20- 2-97 Time: 0: 4
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	8.760	-1.806
5.000	9.000	-1.830
10.000	9.059	-1.770
15.000	9.000	-1.589
20.000	8.700	-1.445
25.000	8.340	-1.228
30.000	7.740	-1.312
35.000	7.140	-1.553
40.000	7.080	-1.709

LINE: 25 Direction: S
Date: 20- 2-97 Time: 0: 4
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station: 0

Station	Cond. [mS/m]	Inphase [ppt]
40.000	6.840	-1.505
35.000	6.900	-1.601
30.000	7.080	-1.601
25.000	7.080	-1.505
20.000	7.440	-1.493
15.000	7.920	-1.529
10.000	8.100	-1.589
5.000	8.280	-1.601
0.000	8.340	-1.613

LINE: 30 Direction: N
Date: 20- 2-97 Time: 0: 5
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	8.580	-1.854
5.000	8.219	-1.986
10.000	7.740	-2.155
15.000	8.040	-1.902
20.000	8.460	-1.625
25.000	8.580	-1.697
30.000	8.400	-1.601
35.000	8.160	-1.469
40.000	7.740	-1.372

LINE: 35 Direction: S
Date: 20- 2-97 Time: 0: 5
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station: 0

Station	Cond. [mS/m]	Inphase [ppt]
40.000	5.760	-1.601
35.000	5.880	-1.589
30.000	5.820	-1.577
25.000	6.480	-1.457
20.000	7.860	-1.589
15.000	8.100	-1.589
10.000	8.400	-1.637
5.000	8.700	-1.709
0.000	8.700	-1.625

LINE: 40 Direction: N
Date: 20- 2-97 Time: 0: 6
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	8.040	-1.758
5.000	8.100	-1.746
10.000	7.980	-1.746
15.000	8.160	-1.697
20.000	8.580	-1.565
25.000	7.800	-1.589
30.000	7.680	-1.384
35.000	7.080	-1.324
40.000	6.420	-1.360

SWMU 27-001(b) Data

LINE: 0 Direction: N
Date: 20- 2-97 Time: 0: 7
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	7.860	-1.420
5.000	7.860	-1.348
10.000	7.620	-1.432
15.000	7.680	-1.240
20.000	7.860	-1.047
25.000	7.800	-0.818
30.000	7.620	-0.710
35.000	7.320	-0.867
40.000	7.380	-1.035

LINE: 5 Direction: S
Date: 20- 2-97 Time: 0: 8
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station: 0

Station	Cond. [mS/m]	Inphase [ppt]
40.000	7.380	-0.903
35.000	7.320	-0.830
30.000	7.560	-0.758
25.000	7.800	-0.674
20.000	7.860	-0.867
15.000	7.740	-0.927
10.000	7.740	-1.131
5.000	7.860	-1.143
0.000	8.100	-1.168

LINE: 10 Direction: N
Date: 20- 2-97 Time: 0: 8
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	8.100	-1.131
5.000	8.100	-1.204
10.000	7.980	-1.372
15.000	7.800	-1.432
20.000	7.620	-1.168
25.000	7.740	-1.204
30.000	7.980	-0.891
35.000	7.920	-0.722
40.000	7.680	-0.818

LINE: 15 Direction: S
Date: 20- 2-97 Time: 0: 9
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station: 0

Station	Cond. [mS/m]	Inphase [ppt]
40.000	7.620	-0.879
35.000	7.500	-0.867
30.000	7.680	-0.842
25.000	7.920	-0.758
20.000	7.920	-1.035
15.000	7.980	-1.119
10.000	8.160	-1.143
5.000	7.980	-1.156
0.000	7.920	-1.119

LINE: 20 Direction: N
Date: 20- 2-97 Time: 0: 9
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	7.860	-1.228
5.000	7.860	-1.288
10.000	7.980	-1.300
15.000	7.920	-1.264
20.000	7.980	-1.131
25.000	7.980	-1.059
30.000	7.920	-0.891
35.000	7.740	-0.782
40.000	7.620	-0.963

LINE: 25 Direction: S
Date: 20- 2-97 Time: 0:10
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station: 0

Station	Cond. [mS/m]	Inphase [ppt]
40.000	7.560	-1.288
35.000	7.440	-1.288
30.000	7.620	-1.119
25.000	7.740	-1.047
20.000	7.860	-0.927
15.000	7.980	-1.059
10.000	8.219	-1.011
5.000	8.340	-0.915
0.000	8.100	-0.842

LINE: 30 Direction: N
Date: 20- 2-97 Time: 0:10
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	8.100	-0.903
5.000	8.040	-0.891
10.000	8.100	-0.975
15.000	8.160	-0.975
20.000	8.340	-1.035
25.000	8.219	-1.035
30.000	8.100	-0.939
35.000	7.740	-1.023
40.000	7.500	-1.168

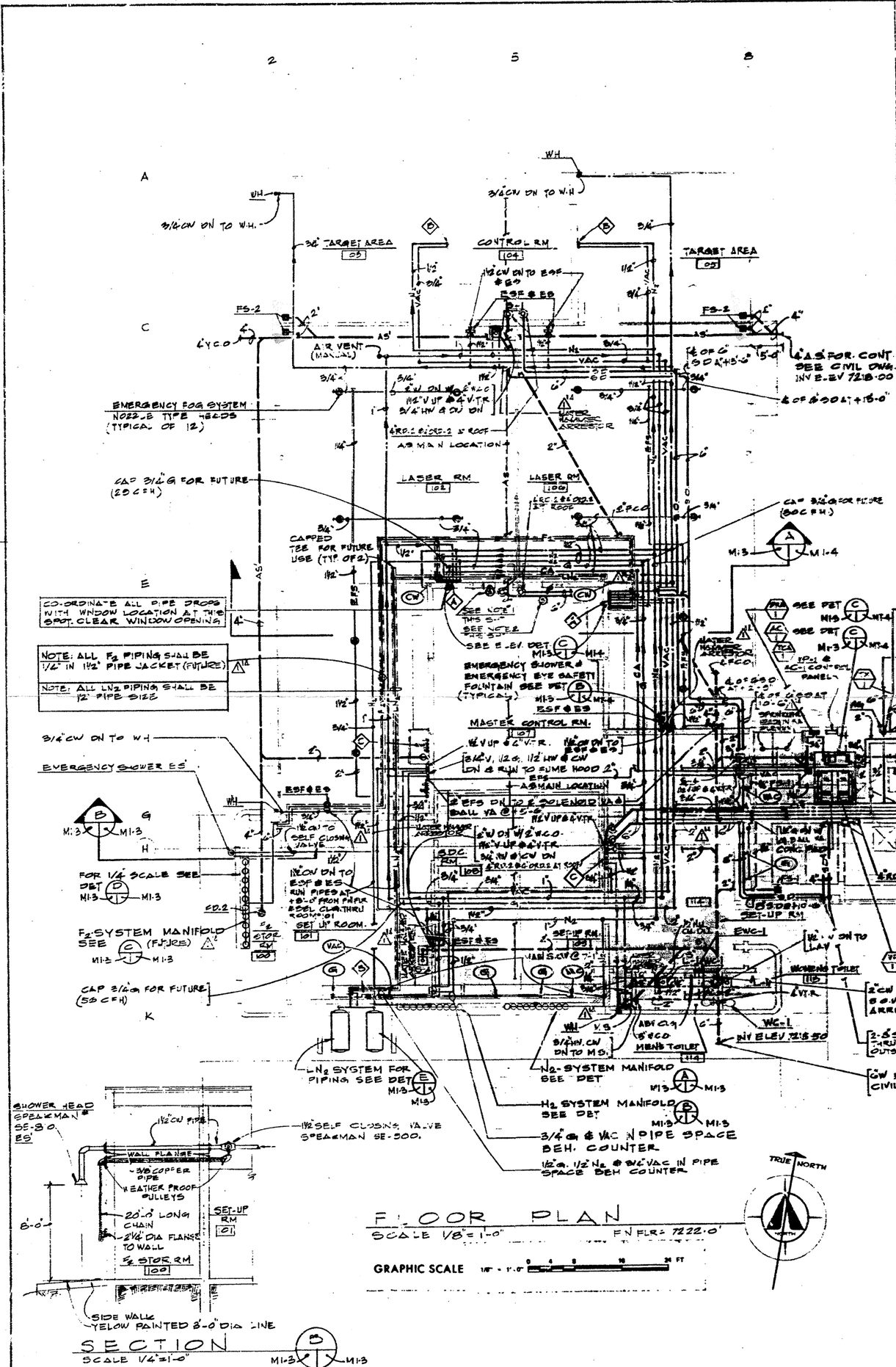
LINE: 35 Direction: S
Date: 20- 2-97 Time: 0:11
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 40 Final station:-5

Station	Cond. [mS/m]	Inphase [ppt]
40.000	7.500	-1.156
35.000	7.500	-1.204
30.000	7.560	-1.216
25.000	7.560	-1.180
20.000	7.680	-1.107
15.000	7.980	-1.023
10.000	8.340	-1.035
5.000	8.400	-0.854
0.000	8.219	-0.842

-5.000	8.280	-0.746

LINE: 40 Direction: N
Date: 20- 2-97 Time: 0:11
Component: Both Dipole mode: Vertical Instrument Orientation: 1
Start station: 0 Final station: 40

Station	Cond. [mS/m]	Inphase [ppt]
0.000	8.100	-0.662
5.000	8.280	-0.674
10.000	8.219	-0.650
15.000	8.100	-0.818
20.000	8.100	-1.023
25.000	8.400	-0.842
30.000	8.219	-0.963
35.000	8.100	-0.987
40.000	7.980	-1.083



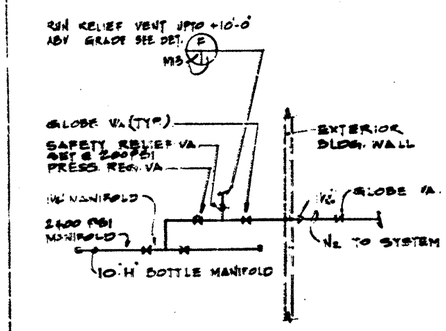
FLOOR PLAN

SCALE 1/8" = 1'-0"

GRAPHIC SCALE

SECTION

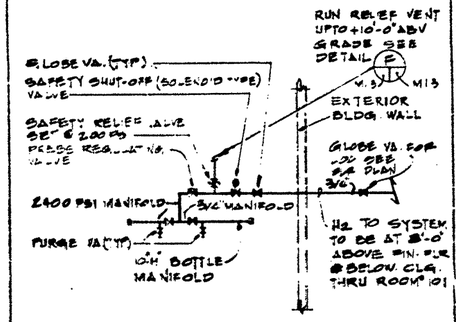
SCALE 1/4" = 1'-0"



NOTE: TOTAL SYSTEM DEMAND 25 CFM.

N2-SYSTEM MANIFOLD

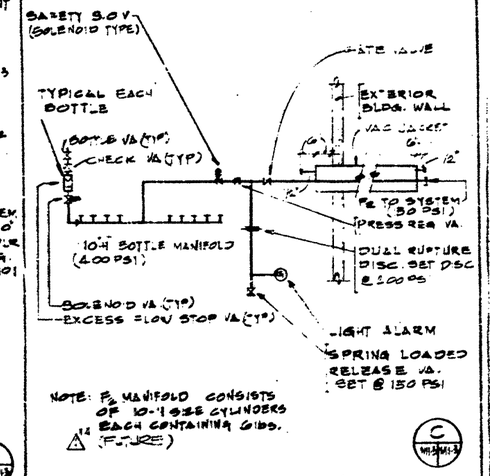
N.T.S.



NOTE: TOTAL SYSTEM DEMAND 25 CFM.

H2-SYSTEM MANIFOLD

N.T.S.



NOTE: F2 MANIFOLD CONSISTS OF 10-H SIZE CYLINDERS EACH CONTAINING 6 LBS. (FUTURE)

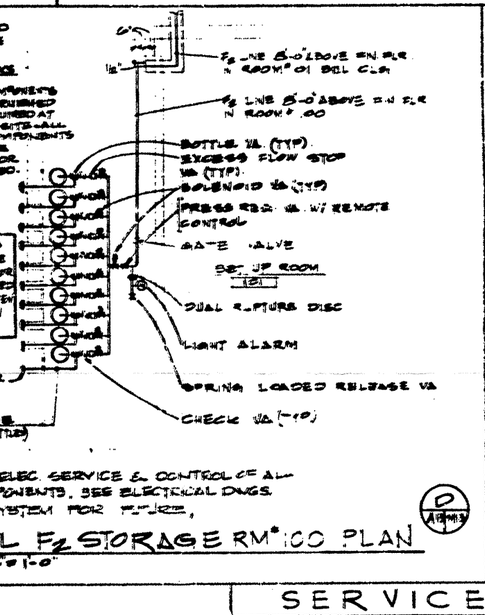
F2-SYSTEM MANIFOLD

N.T.S.

NOTE:

FLORINE MANIFOLD SYSTEM GOVERNMENT FURNISHED PROPERTY (COMPONENT PARTS) LISTED BELOW TO BE INSTALLED IN THE WORK

DESCRIPTION	QUANTITY	REMARKS
BOTTLE VALVES W/EXTENDED HANDLE	10 EA.	ALL OTHER COMPONENTS WILL BE FURNISHED WHEN REQUIRED AT THE WORK SITE. ALL OTHER COMPONENTS ARE TO BE CONTRACTOR FURNISHED.
EXCESS FLOW STOP	10 EA.	
SOLENOID VALVE	11 EA.	
DUAL RUPTURE DISC	1 EA	
LIGHT ALARM	1 EA	
SPRING LOADED RELEASE	1 EA	
PRESS REGULATOR W/ REMOTE CONTROL	1 EA	
GATE VALVE	1 EA	
[illegible]	1 LOT	



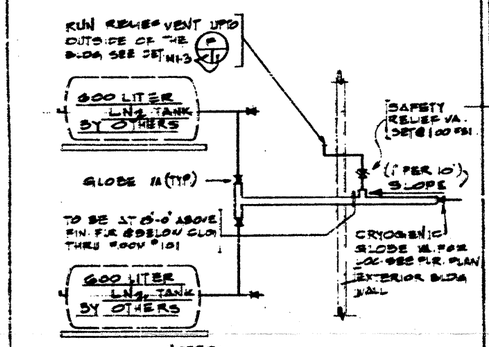
EXACT LOCATIONS OF VALVE HANDLE HOLES IN EXTERIOR WALL TO BE VERIFIED BY CONTRACTOR WHEN MATERIALS ARE ON HAND.

NOTE: FOR ELEC. SERVICE & CONTROL OF ALL COMPONENTS, SEE ELECTRICAL DWGS.

△14 2 F2 SYSTEM FOR FUTURE.

PARTIAL F2 STORAGE RM # 100 PLAN

SCALE 1/4" = 1'-0"



NOTES:

1. TOTAL SYSTEM DEMAND = 20 LIT/MIN
2. ALL LINES TO BE [illegible] 1/2" OD 0.035 WALL (PER ISOLATED)

LN2-SYSTEM PIPING DETAIL

N.T.S.

SERVICES GROUPING

SYMBOL	LN2	N2	CA	V	H2	G	HW	CW	F2	REMARKS
	1/2"	1/2"	1/2"	•	1/2"	1/2"	1/2"	1/2"	1/2"#	PROVIDE V.B. ON HW & CW
	•	1/2"	•	3/4"	•	•	•	•	•	
	•	•	•	3/4"	•	1/2"	1/2"	1/2"	•	PROVIDE V.B. ON HW & CW

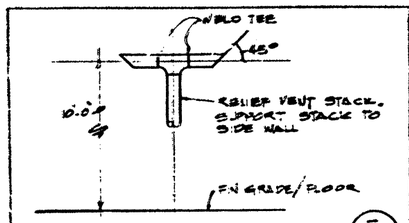
EXTEND 1/2" LINE 1'-0" BEYOND VAC JACKET & CAP THE END (FUTURE) △4

W/S 4.25 FULL	[illegible] FOR PIPING SEE GAS LOADS
SPACE HTG.	1750 CFH
WATER HTG	68 CFH
LAB USAGE	27 CFH
FUTURE	115 CFH
TOTAL	1960 CFH
DEVELOPED LENGTH	177'-0"

NOTE #1: PROVIDE TAG TO READ "EMERGENCY FOG SPRAY SYSTEM FOR ROOM # 102"

NOTE #2: PROVIDE TAG TO READ "EMERGENCY FOG SPRAY SYSTEM FOR ROOM # 100"

NOTE #3: FIRE SPRINKLE ENTIRE BUILDING (BELOW CLG. ONLY) EXCEPT S.D.C. ROOM # 108



TYPICAL VENT ELEVATION

N.T.S.

△13 AS BUILT

U.S. ATOMIC ENERGY COMMISSION

LASER FUSION LABORATORY
CHEMICAL LASER BUILDING
PLUMBING FLOOR PLAN

TSL-85 TA-35

Albert C. Martin and Associates
Planning Architecture Engineering
WO # 731167

LA-NL-M13-1 | 58 | 87

4640-35 | ENG-C 43117

15842-J

NOTE:
CONCRETE VAULT SHALL BE PRECAST PRODUCT, DESIGNED FOR H-20-44 LOADING

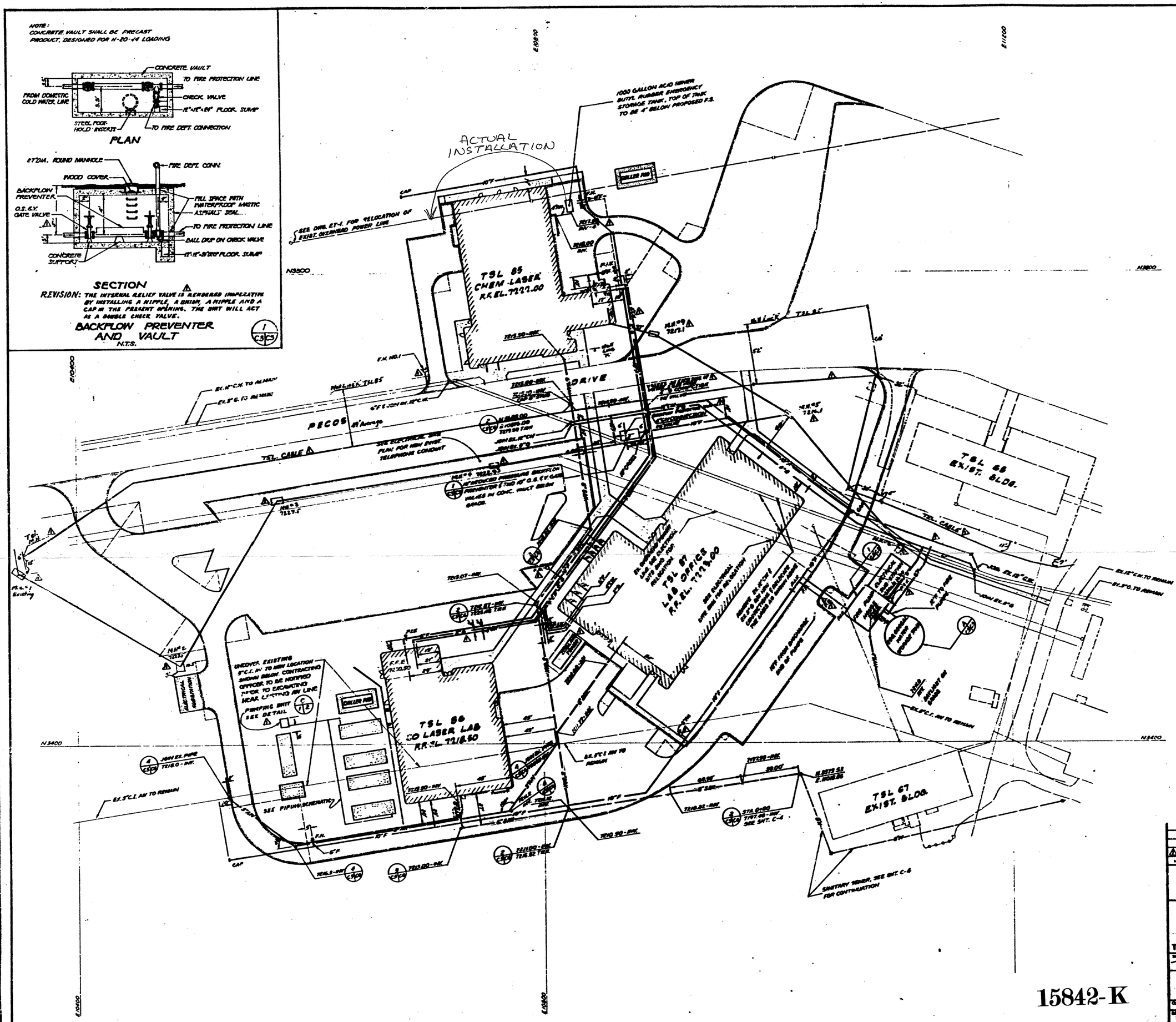
PLAN

SECTION

REVISION: THE INTERNAL RELIEF VALVE IS RENDERED INOPERATIVE BY INSTALLING A NIPPLE, A BRIDP, A NIPPLE AND A CAP IN THE PRESENT OPENING. THE UNIT WILL ACT AS A DOUBLE CHECK VALVE.

BACKFLOW PREVENTER AND VAULT
N.T.S.

1 C5 C9



UTILITY LEGEND

	EXISTING OVERHEAD POWER LINE
	EXISTING GAS MAIN
	EXISTING WATER MAIN
	EXISTING UNDERGROUND TELEPHONE DUCT
	EXISTING ACID WASTE LINE
—CW—	DOMESTIC COLD WATER LINE
—SAN—	SANITARY SEWER LINE
—G—	GAS LINE
—F—	FIRE PROTECTION LINE
—SD—	STORM DRAIN LINE
—O—	MAN HOLE
—•—	CLEAN OUT
—F.H.—	FIRE HYDRANT
—P.I.V.—	POST INDICATOR VALVE
—G.V.—	GATE VALVE
—AW—	ACID WASTE LINE

NOTE:
CONNECTION TO F.H. NO. 1 SHALL BE NOT TAPPED AND MADE WITH FITTINGS SUITABLE FOR TAPPING WHILE THE EXISTING PIPE LINE IS STILL UNDER NORMAL PRESSURE. ALL OTHER CONNECTIONS SHALL BE MADE WITH TEES AND/OR FITTINGS. ALL CONNECTIONS TO EXISTING SERVICES SHALL BE PERFORMED BY ZIA COMPANY.

THE POINT OF CONNECTION OF SANITARY SEWER LINE FOR PUMP HOUSE ON SHEET No. LA-NL-C-3 SHALL BE LOCATED TO THE OUTSIDE OF SOUTH WALL. THE PIPE SIZE SHALL BE 6" IN DIAMETER, INVERT ELEVATIONS SHALL BE HELD THE SAME.

SCALE: 1"=30'

GRAPHIC SCALE

15842-K

NO	DATE	REVISIONS	BY	CK	DES	ASS
1	7/1/76	As Built	E.R.			

U.S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO

LASER FUSION LABORATORY
UTILITY PLAN

TSL-85 THRU 88-100 1/101 TA-35

A.E. APPROVED: T.T.; H. BINGELLI; SCALE 1"=30'; DATE 6-10-76

Albert C. Martin and Associates
Planning | Architecture | Engineering
Vol. 79167

A&E DRAWING NO. LA-NL-C-3 SHEET 4 OF 87

MAB-35 ENG-C 4317

35-006

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 4, 1998

Mr. Theodore Taylor, Project Manager
Los Alamos Area Office-DOE
528 35th Street
Los Alamos, NM 87544

Dr. John Browne, Director
Los Alamos National Laboratory
P.O. Box 1663, MS-A100
Los Alamos, NM 87545

RE: Approval of the Amended Closure Certification Report for the Technical Area 35, Ten Site Laboratory 85 Surface Impoundment dated September 1996 EPA I.D. No. NM 0890010515

Dear Mr. Taylor and Dr. Browne:

The New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau (HRMB) is in receipt of the DOE/LANL (LANL) Amended Closure Certification Report dated September 1996, for the closure of the Ten Site Laboratory (TSL) 85 Surface Impoundment at Technical Area 35.

HRMB has completed an administrative and technical review of Revision 1.0 and finds that it is complete and technically adequate. HRMB acknowledges deviations from the March 31, 1995 TA-35, TSL 85 Amended Closure Plan. These deviations were deemed either technically reasonable or not significant and do not affect the Closure Plan criteria. HRMB also recognizes the use of Toxicity Characteristic Leaching Procedure (TCLP) was approved in the Closure Plan to determine the nature, rate and extent of contamination as well as its use in the assessment of risk. Because TCLP is "designed to simulate the leaching a waste will undergo if disposed of in a sanitary landfill" (EPA, 1994), the use of

TCLP is not appropriate for and will no longer be accepted by HRMB in the assessment of risk and in the determination of nature, rate and extent of contamination in future closure plan submittals.

The Amended Closure Certification Report dated September 1996, for the Closure of the Surface Impoundment at Ten Site Laboratory 85 at Technical Area 35 is hereby approved. If there are any questions please feel free to contact either Mr. Robert S. "Stu" Dinwiddie or Mr. John Kieling of my staff at (505) 827-1561.

Sincerely,

Ed Kelley

Ed Kelley, Ph.D., Director
Water and Waste Management Division

EK/jry(HRMB)

cc: Robert S. (Stu) Dinwiddie, HRMB
Benito J. Garcia, HRMB
John Kieling, HRMB
Stephanie Kruse, HRMB
Herman LeDoux, DOE LAAO, MS A316
Jody Plum, DOE-LAAO, MS A316
David Neleigh, EPA (6PD-N)
File: Red LANL TA-35 '97
Track: LANL, doc. date, NA, NMED/WWMD/KELLEY, DOE/LANL, Re, File

EPA, 1994, Test Methods for Evaluating Solid Waste, *EPA-SW-846*, U.S. Goverment Printing Office, Washington, D.C.

35-011(a)

TABLE 3: TA 35-2 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
35-002-OPN-01 SANITARY CONTINUED	BAD5	EXTERNAL STAIRWELL	STRWY	REPIPE TO DAYLIGHT	NO
	BAD6	EXTERNAL STAIRWELL	STRWY	REPIPE TO DAYLIGHT	
	BAD7	COVERED EXTERNAL STAIRS	STRWY	PLUG	
	BCD1	LASER LABORATORY	C18	PLUGGED	
	BFD3	EQUIPMENT ROOM	C10	CONTAINERIZE PUMPS	
	BFD4	EQUIPMENT ROOM	C10	NO CHANGE	
	BFD5	EQUIPMENT ROOM	C10	NO CHANGE	
	BFD6	HALLWAY	A12	PLUG	
	BFD7	HALLWAY	A12	PLUG	
	BFD8	ORGANIC SYNTHESIS LAB	A12	PLUG	
	BFD9	ORGANIC SYNTHESIS LAB	A12	PLUG	
	BFD10	CONTROLLED EQUIP RM	A10	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS, CONTAINERIZE PUMPS	
	BFD11	CONTROLLED EQUIP RM	A10	PLUG	
	BFD12	CONTROLLED EQUIP RM	A10	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS	
	BFD13	CONTROLLED EQUIP RM	A00	PLUGGED	
	BFD14	CONTROLLED EQUIP RM	A00	PLUG & CONTAINERIZE BATTERIES	
	BFD15	CONTROLLED EQUIP RM	A10	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS	
	BFD16	CONTROLLED EQUIP RM	A10		
	BFD17	CONTROLLED EQUIP RM	A10	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS	
	BFD18	CONTROLLED EQUIP RM	A10	CONTAINERIZE PUMPS	
	BFD19	CONTROLLED EQUIP RM	A10	PLUG & REMOVE ACID WASTE TANKS	
	BFD20	CONTROLLED EQUIP RM	A10	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS	
	BFD21	CONTROLLED EQUIP RM	A10	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS, CONTAINERIZE PUMPS	
	BFD22	CONTROLLED OFFICE AREA	A14	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS	
	BFD23	CONTROLLED EQUIP RM	A10	PLUG	
	BFD24	CONTROLLED EQUIP RM	A10	PLUG	
	BFD25	CONTROLLED EQUIP RM	A10	PLUG	
	BFD26	CONTROLLED OFFICE AREA	A14	VERIFY & PLUG	
	BFD27	CONTROLLED RESTROOM	A16A	PLUG	

TABLE 3: TA 35-2 DRAIN SUMMARY

OUTFALL NUMBER	ID NUMBER	ROOM ACTIVITY	ROOM NUMBER	STATUS OR RECOMMENDATIONS	EPA FORM PREPARED
35-002-OPN-01 SANITARY	BFD28	CONTROLLED CONF. ROOM	A17	PLUG	NO
	BLV1	CONTROLLED RESTROOM	A16A	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS	
CONTINUED	BED1	ORGANIC SYNTHESES LAB	A12	CAPPED	
	BED2	CONTAMINATED PIPE CHASE	A17	PLUG	
	BSD1	LASER LABORATORY	C16	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS	
	BSD2	LASER LABORATORY	C16	CAPPED	
	BSD3	CONFERENCE ROOM	A11	CONTROLLED AREA-- REPIPE OR CHANGE STATUS, CONTAINERIZE AIR EQUIP	
	BSD4	ORGANIC SYNTHESES LAB	A12C		
	BSD5	ORGANIC SYNTHESES LAB	A12		
	BSD6	ORGANIC SYNTHESES LAB	A12		
	BSD7	CONTROLLED OFFICE AREA	A14		
	BSD8	CONTROLLED CONF. ROOM	A17		
	BSP1	EQUIPMENT ROOM	C10	NO CHANGE	
	BSP2	CONTROLLED EQUIP RM.	A10	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS	
	BTL1	CONTROLLED RESTROOM	A16A	CONTROLLED AREA-- PLUG, REPIPE OR CHANGE STATUS	
	BWF1	CONTROLLED AREA HALLWAY	A16		
35-002-OPN-02 DAYLIGHT	BSP3	CONTROLLED EQUIP RM.	A12A	REMOVE	NO
35-002-OPN-03 RLW	1SD09	LABORATORY	A164	PLUGGED	NO
	1SD10	LABORATORY	A164	PLUGGED	
	1SD11	LABORATORY	A166	PLUG OR REPIPE	
	N/A	ACID TANK #1	A10	ELIMINATE	
	N/A	ACID TANK #1	A10	ELIMINATE	
35-002-OPN-04 SANITARY	1FD10	MACHINE SHOP	C139	PLUG	NO
	1FD11	LOCKER ROOM	C121	NO CHANGE	
	1FD12	LOCKER ROOM	C121	NO CHANGE	
	1FD13	RESTROOM	C121	NO CHANGE	
	1LV6	RESTROOM	C121	NO CHANGE	
	1LV7	RESTROOM	C121	NO CHANGE	
	1LV8	RESTROOM	C121	NO CHANGE	
	1ED1	MACHINE SHOP	C139	PLUG	
	1SD30	MACHINE SHOP	C139	LABEL	
	1SD31	MACHINE SHOP	C154	LABEL	
	1SD32	KITCHEN AREA	C150	LABEL	
	1SH3	LOCKER ROOM	C121	NO CHANGE	

EM/ER TELEPHONE LOG

CALL TO: John Jennings, TA-35-2 Facility Coordinator
667-6535, 094-3865 (pager) FAX: 665-5236.
CALL FROM: Linda Nonno
DATE: 7/15/99

BACKGROUND:
SWMU 35-011(a) consists of two former, above ground storage tanks located in the basement of Building TA-35-2. The building houses administrative offices and research laboratories. At a 7/7/99 meeting discussing SWMUs proposed for NFA in March 1995, September 1995, and September 1996, NMED requested that the Regulatory Compliance NFA team find out additional information about the 35-011(a) storage tanks:

DISCUSSION:

II called John Jennings, the Facility Coordinator for the building (TA-35-2) in which the tanks were located. Mr. Jennings has been the facility coordinator for this building since 1994. During our conversation, he gave me the following information:

1.) The tanks have not been active since at least 1992. Because of their inactivity, they were removed in 1997. At the time of their removal, the tanks were totally dry and of sound structural condition. There were no cracks or leaks. The concrete floor beneath and surrounding the tanks was also of sound structural condition and showed no staining.
2.) The tanks were never operated as a <-90-day accumulation area to Mr. Jennings knowledge.
3.) Periodically, liquids from the tanks were pumped to a TA-50 transport truck and transported to TA-50 for treatment. Mr. Jennings was not aware of any documented releases from the tanks. The tanks were used prior to FMU-75 being founded.
4.) The tanks were never plumbed to the Laboratory's sanitary sewer system.
5.) It was not possible for the tanks to overflow. The tanks were equipped with an alarm system that was designed to sound off when a tank became 3/4 full. Mr. Jennings was not aware of the alarm ever sounding (the tank contents were transported to TA-50 very regularly, so the 3/4 mark was never reached). Before removing the tanks in 1997, the alarms were tested by filling the tanks to the 3/4 mark with water. The alarm sounded when the water reached the halfway mark in each tank.

Linda Nonno

Linda Nonno

John Jennings

John Jennings

35-013(d)

15842-M

SCALE

200' 100' 0 200' 400' 600' 800'

NO.	DATE	REVISIONS	BY	CHKD.	GRP.	D.O.	CHK. ENGR. LDR.	DR. ENGR. D.O.
27	1-11-82	REVISED TO STATUS OF 1-11-82	BD					
26	9-13-77	REVISED TO STATUS OF 9-13-77 REVISED DWG. NO. (FORMERLY 82416)	M.M.					
25	10-9-75	REVISED TO STATUS OF 10-9-75	B.H.					
24	11-11-74	REVISED PER ENG. DWG 42189	B.H.					
23	9-26-74	REMOVED STRS. NOS. 347, 348, 349 & 350 REPLACED WITH NO. 404	B.H.					
22	7-26-74	REVISED TO STATUS OF 7-26-74	B.H.					
21	7-23-73	REVISED TO STATUS OF 7-23-73	DAD					
20	12-29-72	REVISED TO STATUS OF 12-29-72	DAD					
19	9-19-72	REVISED TO STATUS OF 9-19-72	CRA					
18	8-11-71	REVISED TO STATUS OF 8-11-71	DAD					
17	12-11-70	REDRAWN & REVISED TO STATUS OF 12-11-70	RHS					

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY ENG-4 PHONE

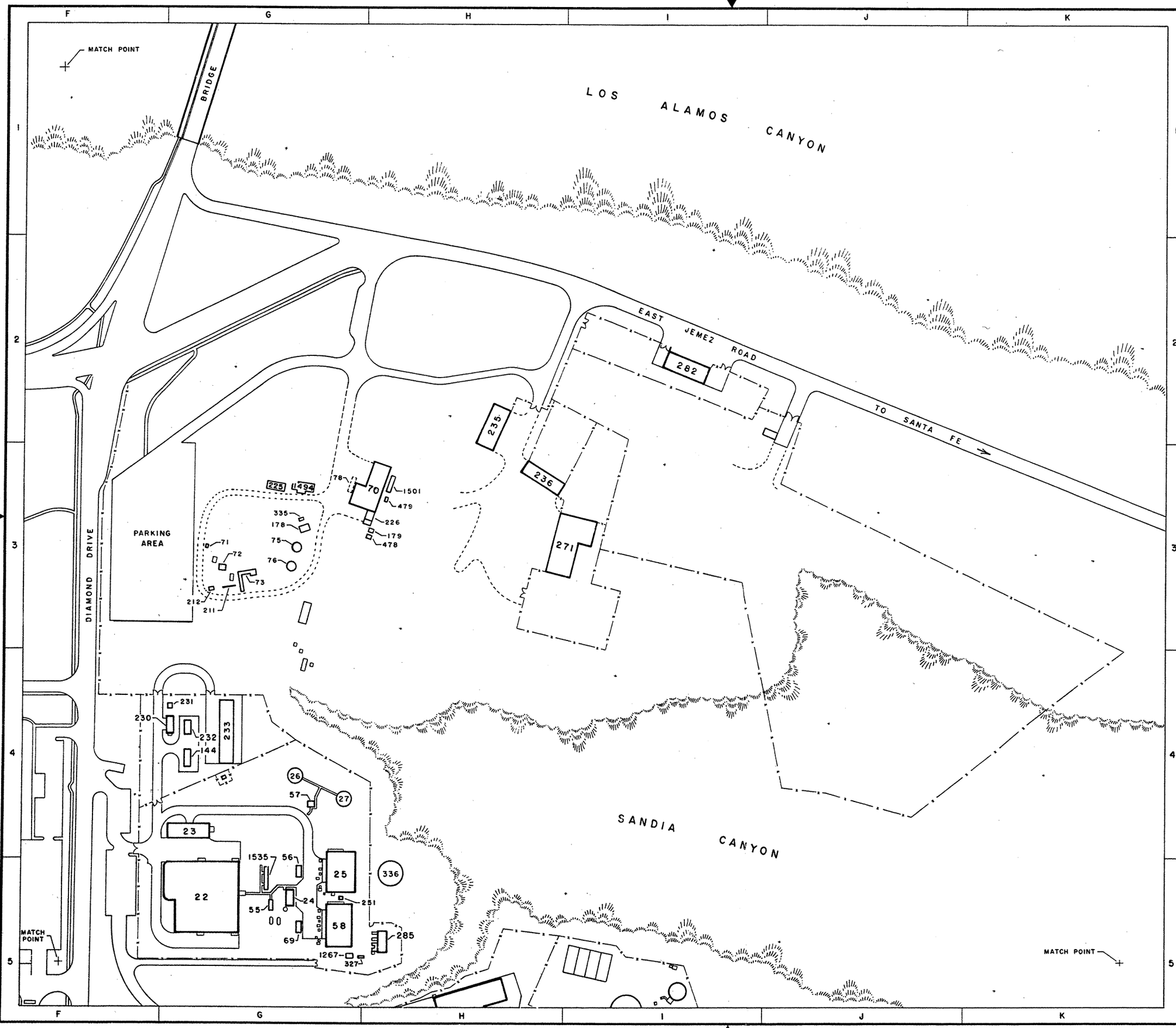
LOS ALAMOS NATIONAL LABORATORY
FACILITIES AND ADMINISTRATIVE SUPPORT DIVISION
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN

TA-3 SOUTH MESA SITE

SUBMITTED: PROJ. ENGR.
APPROVED: ENGR. GROUP LEADER
APPROVED: ENGR. DIV. OFFICE
CHECKED BERNSTEIN CA BA
DATE 9-2-70
SHEET NO. 6
DESIGNED
LAB JOB NUMBER 1
DRAWN SUMMERS
DRAWING NO. ENG-R 5103

REVIEWER Broadrud
CLASS U DATE 1-29-82



FEET 0 50 100 200 300
METERS 0 25 50 75 100
GRAPHIC SCALE

SHT. NO. 10	SHT. NO. 12
SHT. NO. 11	SHT. NO. 13

MAIN BUILDINGS

SHT. NO. 14	SHT. NO. 16
SHT. NO. 15	SHT. NO. 17

UTILITY STRUCTURES

TA-3 MAP GUIDE

15842-M

REV.	DATE	REVISION	BY	CKD.	APP
29	1-3-86	REDRAWN & REVISED TO STATUS OF 12-2-85	NB		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

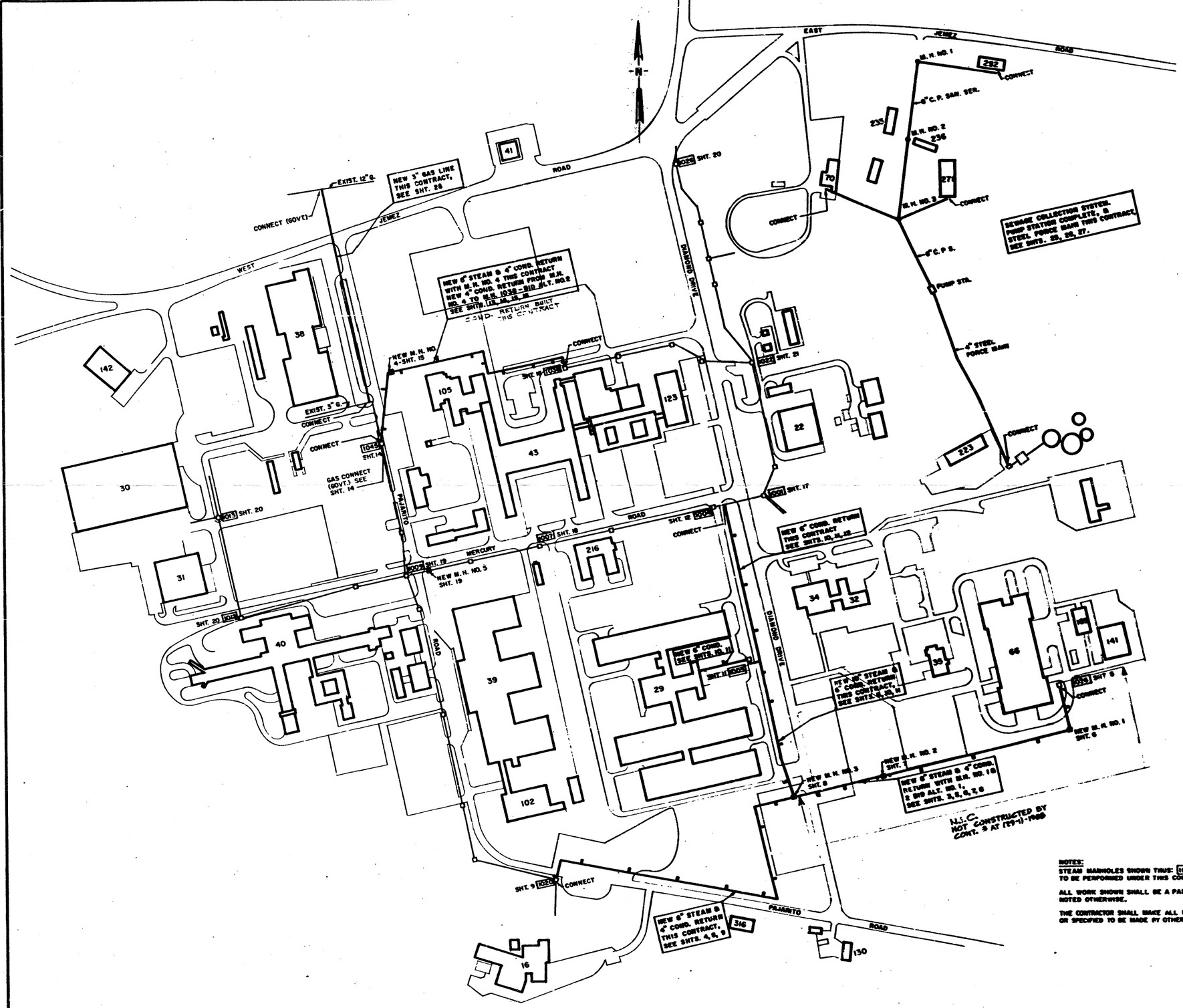
FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION PLAN
MAIN BUILDINGS
TA-3 SOUTH MESA SITE

SEC. CLASSIFICATION
CLASS U
REVIEWER
DATE

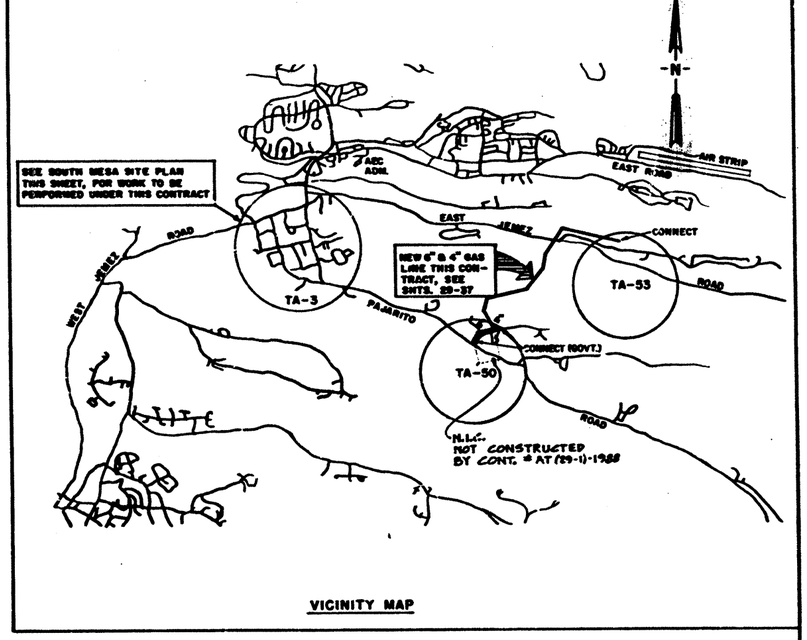
SUBMITTED	RECOMMENDED	APPROVED

DRAWN	N. BYERS	DATE 1-3-86	SHEET NO. 12 OF 17
CHECKED			DRAWING NO. ENG-R5103



TA-3 SOUTH MESA SITE

SCALE: 1" = 200'



VICINITY MAP

NOTES:

STEAM MANHOLES SHOWN THUS: 1001 HAVE MODIFICATION WORK TO BE PERFORMED UNDER THIS CONTRACT.

ALL WORK SHOWN SHALL BE A PART OF "BASE BID" UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL MAKE ALL UTILITY CONNECTIONS NOT SHOWN OR SPECIFIED TO BE MADE BY OTHERS.

15842-M

NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A.E.C. APP.
	7/19/72	AS BUILT				

U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO

UTILITY SYSTEM IMPROVEMENTS AND REHABILITATION (MECHANICAL)

VICINITY MAP & TA-3 SITE PLAN

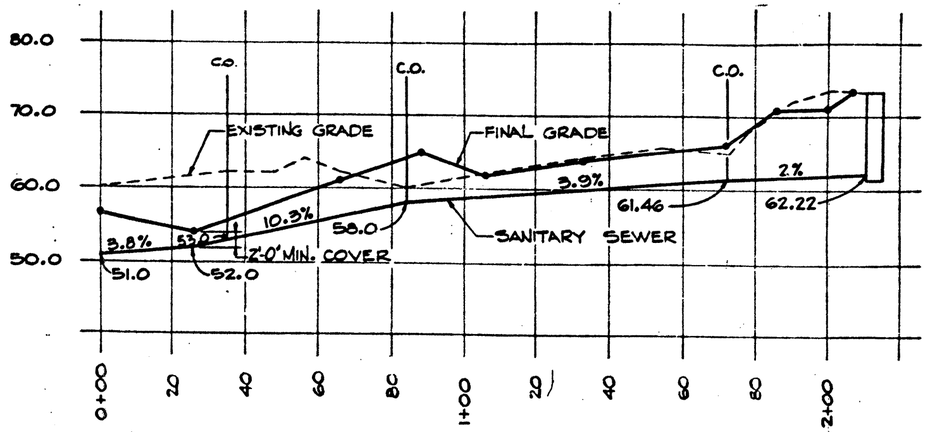
CONTRACT NO. (A-E)	
A.E.C. ACC'T. NO.	
DRAWN	RB
CHECKED	RF, JC
A-E APPROVED	
DESIGN	RF
PROJ. ENGR.	JC
CHIEF ENG'R.	
SCALE	AS SHOWN
DATE	10-22-71

SUBMITTED: Robert P. Grigsone, ARCHITECT-ENGINEER
RECOMMENDED: ARC
APPROVED: Jack Kahl, ARC
DRAWING NO. LA-JO-101.1
SHEET 2 OF 38

ALLISON ENGINEERING, INC.
2502 GARFIELD S.E.
ALBUQUERQUE, NEW MEXICO

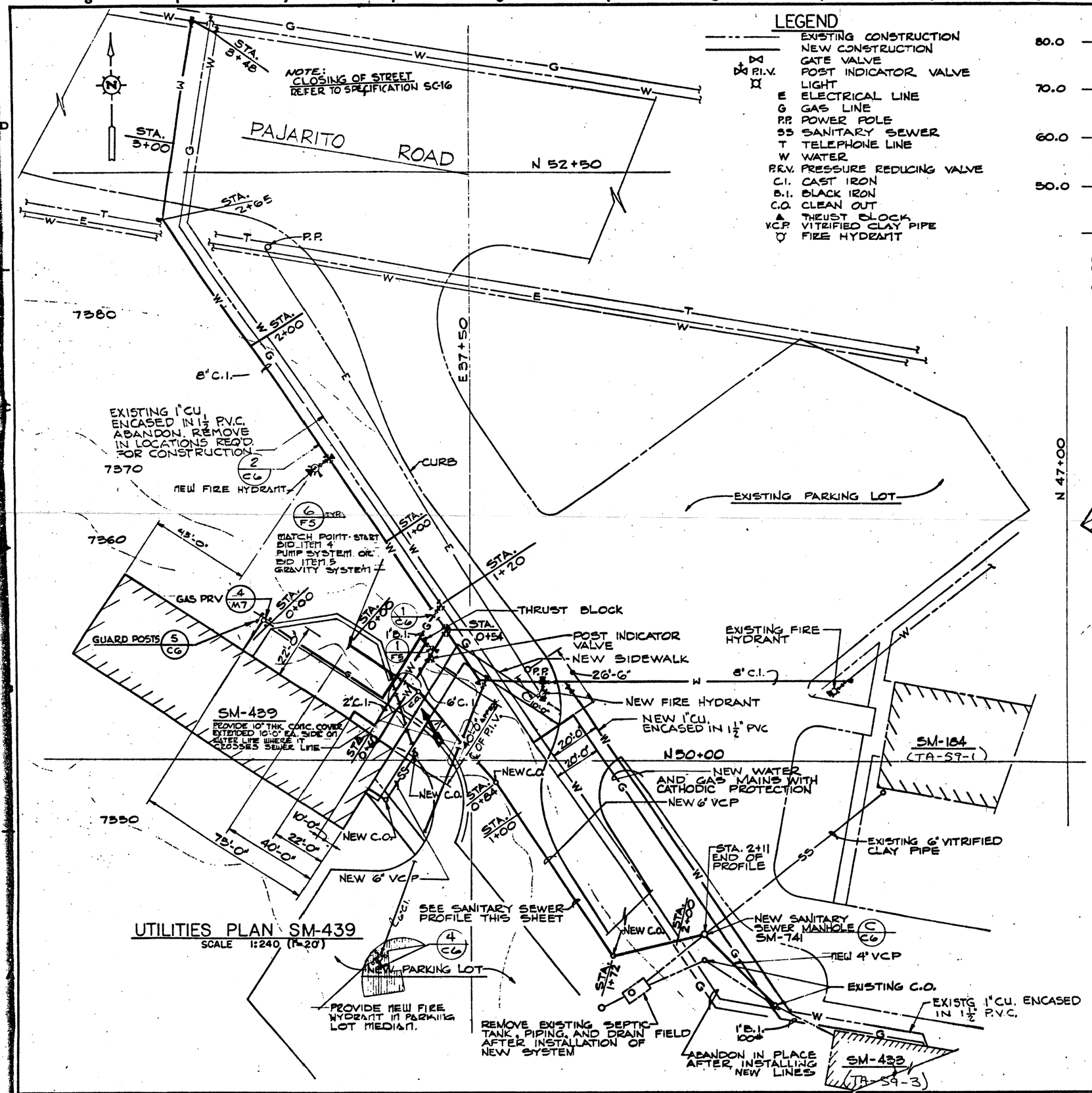
LEGEND

- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- GATE VALVE
- P.I.V. POST INDICATOR VALVE
- LIGHT
- E ELECTRICAL LINE
- G GAS LINE
- P.P. POWER POLE
- SS SANITARY SEWER
- T TELEPHONE LINE
- W WATER
- P.R.V. PRESSURE REDUCING VALVE
- C.I. CAST IRON
- B.I. BLACK IRON
- C.O. CLEAN OUT
- THRUST BLOCK
- V.C.P. VITRIFIED CLAY PIPE
- FIRE HYDRANT



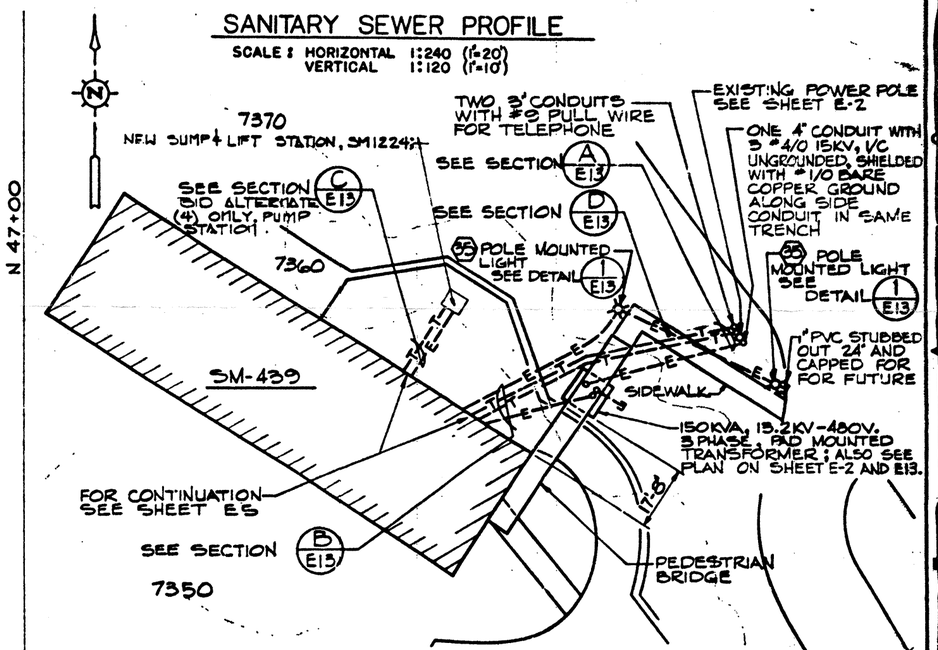
SANITARY SEWER PROFILE

SCALE: HORIZONTAL 1:240 (1"=20')
VERTICAL 1:120 (1"=10')



UTILITIES PLAN SM-439

SCALE 1:240 (1"=20')



ELECTRICAL UTILITY PLAN, SM-439

SCALE 1:240 (1"=20')

NOTE:
1. THE 3 NEW FIRE HYDRANTS SHALL BE IN SERVICE BEFORE THE INSULATING SYSTEM IS INSTALLED ON THE BUILDING.
2. SEE SHEET C8 FOR GAS AND WATER PROFILE
3. SEE SHEET C9 FOR SANITARY SEWER PLAN & PROFILE.

NO	DATE	CLASS REVIEW	REVIEWER	REVISIONS	BY	CHKD	ENG	D.O.	ENG OF D.O.	PROJ D.O.	DOE APPR
4		U		ADDED C.O.							

AUTHORIZED FOR: SECURITY DEE 33000; SAFETY H-3 32994; HEALTH H-1 32993; FIRE PR. H-3 32995; ENGINEER H-DO; GROUP H-5, H-6; CONST. 33001; ENG-1 32981; ENG-2 32989; ENG-11 32990; H-7 32997; H-7 32998

UNITED STATES ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
LOS ALAMOS AREA OFFICE - LOS ALAMOS, NEW MEXICO

OCCUPATIONAL HEALTH OFFICE BUILDING
CIVIL: UTILITY PLANS AND SEWER PROFILE
BLDG. SM-439

TA-59 TA-3

DRAWN: RIEDEL; CHECKED: DWB; A. E. APPROVED: HUNT/ALLEN; DESIGN: HUNT/ALLEN; CHECKED: DWB/ELE; SECTION: Hugo; SCALE: NOTED; DATE: 1-6-78

SUBMITTED: R.F. Henning; RECOMMENDED: 9/4/78; APPROVED: Don W. Bell 9/6/78

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPT. LOS ALAMOS, N. M.

D.O.E. DRAWING NO. LA-SO-C 7.1; SHEET C 7 OF 8 / 66

CLASSIFICATION U; REVIEWER R.F. Henning; DATE 12/5/77

BA; LAB JOB NO. 5670-3; LABEL DWG NO. ENG-C-43442

CLOSURE CERTIFICATION REPORT

TA-35 TSL-85
SURFACE IMPOUNDMENT

Facility ID No.:	NM0890010515
Facility Name:	Los Alamos National Laboratory
Legal Owner:	United States Department of Energy
Legal Operator:	University of California
Address:	Los Alamos Area Office
City, State:	Los Alamos, New Mexico 87544
Contact Person:	Mr. Jerry Bellows, Area Manager
Phone:	(505) 667-5105
Date:	December 1991

TABLE OF CONTENTS

		PAGE
EXECUTIVE SUMMARY		1
1.0	INTRODUCTION	3
2.0	WASTE REMOVAL PROCEDURES	14
3.0	DECONTAMINATION AND REMOVAL PROCEDURES FOR THE INACTIVE UNDERGROUND STORAGE TANK AND PIPING	15
4.0	VERIFICATION SAMPLING AND ANALYSIS FOR DECONTAMINATION OF THE LINER AND SUBSEQUENT LINER REMOVAL PROCEDURES	17
5.0	SOIL REMOVAL, SAMPLING AND ANALYTICAL RESULTS, AND RISK ASSESSMENT	18
5.1	PHASE 1 AND 2 - SOIL REMOVAL AND COREHOLE VERIFICATION SAMPLING	20
5.2	PHASE 3 - UNDERGROUND STORAGE TANK/LINES VERIFICATION SAMPLING	22
5.3	PHASE 4 - CANYON VERIFICATION SAMPLING	24
6.0	COMPARISON OF PROCESS KNOWLEDGE	27
7.0	CONCLUSIONS	30
8.0	REFERENCES	32
ENCLOSURE 1	INTERIM STATUS CLOSURE PLAN TA-35 TSL-85 SURFACE IMPOUNDMENT	
ENCLOSURE 2	CLOSURE CERTIFICATIONS	
ENCLOSURE 3	CERTIFICATE OF DESTRUCTION	
ENCLOSURE 4	LABORATORY SUBMITTAL/CHAIN-OF-CUSTODY FORMS, REPORTS AND ANALYTICAL SUMMARIES	
ENCLOSURE 5	RISK ASSESSMENT CALCULATION RESULTS AND METHODOLOGY	
ENCLOSURE 6	SIGMA MESA: BACKGROUND ELEMENTAL CONCENTRATIONS IN SOIL AND VEGETATION, 1979	

3.0 DECONTAMINATION AND REMOVAL PROCEDURES FOR THE INACTIVE UNDERGROUND STORAGE TANK AND PIPING

A 48-hour pressure test was performed on the underground storage tank by a contractor prior to its removal. The tank held constant pressure during this test, as exhibited by the time-pressure chart in Enclosure 3. However, during the initial portions of this test, fluids in the tank were apparently forced back into Building 85 through an undocumented drain connected to the underground storage tank by a bottom-tank steel pipeline. This pipeline was subsequently disconnected and capped so that the pressure test could be completed. Response to the spill was implemented by a Laboratory contractor and all response actions were documented.

To facilitate decontamination of the underground storage tank, it was placed in a bermed and lined containment area after the pressure test was completed and steam-cleaned using a high-pressure, hot-water washer. The underground storage tank and the two six-inch schedule 40 PVC pipes leading to the surface impoundment were decontaminated using a rinse containing a surfactant such as Liquinox or Alconox. All rinseate was collected in the bermed area and subsequently transferred to DOT-approved containers. Representative samples of the rinseate were composited from the containers and analyzed for volatile organic compounds, EP toxic metals, and PCBs. The rinseate was disposed as a hazardous waste, using the same procedures outlined previously for the surface impoundment waste. In addition, the underground storage tank could never be certified as completely decontaminated after several washings and was, therefore, declared hazardous waste. The underground storage tank, including its lining, was then transported offsite for proper disposal as a hazardous waste.

All ancillary PVC piping that was connected between the underground storage tank and the surface impoundment was excavated. In addition, the drain from the bermed storage pad was disconnected from the pipe, the drain was capped, and the pipe was removed. Piping located inside Building 85 was not removed, but instead, was grouted in place and all outside connections were sealed.

54-015(h)

EM/ER TELEPHONE LOG

CALL TO: Jack Vigil, TA-54-38 Facility Interface
665-6423, FAX: 665-8346
CALL FROM: Paula Bertino
DATE: 11/16/99

BACKGROUND:
SWMU 54-015(h) is an active drum storage area located inside the Nondestructive Testing Facility (NDT), TA-54-38. Building TA-54-38 was constructed in 1988 to screen drums of TRU waste, and operated until the stand-down of the facility in 1990. During its brief period of operation, a total of 900 were tested at the facility. All tests are recorded in a logbook and consisted of an x-ray and neutron activation assay of each sealed drum. Drums were swiped-tested for radioactive and hazardous contamination before being allowed into the facility. Drums that failed the swipe test were never brought into the facility. Each drum was moved on a multi-wheel drum dolly. No drums were ever opened, breached, or spilled in the facility. At any one time, no more than 20 drums were located in the storage area inside the building. Therefore SWMU 54-015(h) is appropriate for NFA under Criterion 3 because no release to the environment has occurred, nor is likely to occur in the future. At the 11/9/99 meeting at which SWMUs proposed for NFA in March 1995, September 1995, and September 1996, NMED requested that the Regulatory Compliance NFA team find out the following additional information about the PRS 54-015(h) drum storage area:

1. What was the cause of the facility stand down in 1990?
2. What was done to address the issue of concern?
3. What is the nature of current operations?

DISCUSSION:

To answer NMED's questions, I called Jack Vigil, the Facility Interface for the TA-54-38 in which the storage area is located. Mr. Vigil has been the Facility Interface for this building since 1988. During our conversation, he gave me the following information:

1. The facility stand down, which occurred in 1990, was due to the fact that a safety assessment had not been completed for the facility in accordance with Laboratory policy. During the stand down which lasted from 1990 to 1997, all equipment in the facility was tested weekly to keep in proper working condition.
2. The first safety assessment was completed and approved in 1997. There were a few pre-start finding that needed to be addressed prior to approval of the safety assessment.
3. Since coming back on line in 1997, the drum storage area in the TA-54-38 has been occupied by the High Efficiency Neutron Counter, which completes radioassays of closed TRU drums in accordance with the WIPP certification process.
4. The storage area is currently proposed for inclusion in the Laboratory's Hazardous Waste Facility Permit and will be operated and regulated in accordance with applicable permit requirements.

11/16/99
Paula Bertino

11/18/99
Jack Vigil

59-001

59-001

Excavated parking lot at TA-59 where septic tank TA-59-04 was formerly located

Excavated parking lot at TA-59 where septic tank TA-59-04 was formerly located

Former location of septic tank TA-59-04

61-004(a)