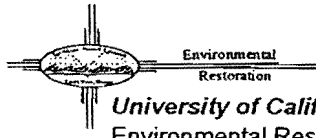


# Los Alamos National Laboratory

ENVIRONMENTAL RESTORATION



*University of California*  
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  
Los Alamos, New Mexico 87544  
505-665-7203  
FAX 505-665-4504



Date: April 19, 1996  
Refer to: EM/ER:96-220

Mr. Benito Garcia  
NMED-HRMB  
P.O. Box 26110  
Santa Fe, NM 87502

SUBJECT: FINAL ACCELERATED CLEANUP REPORTS 08-005

Dear Mr. Garcia:


Enclosed are the final reports and Certifications of Completion for the voluntary corrective actions completed in Fiscal Year 1995. The reports with potential release sites (PRs) listed in the Hazardous and Solid Waste Amendments (HSWA) Module of the Los Alamos National Laboratory's Resource Conservation and Recovery Act operating permit contain our request for no further action (NFA). Upon your approval of these reports, we will submit a permit modification request for NFA of these PRs.

For PRs not listed in the HSWA Module, reports are included as informational copies for your records.

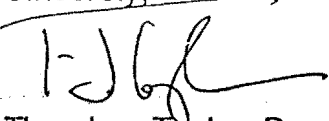
If you have any questions, please call David Bradbury at 505-665-6208.

Thank you for your timely attention to this matter.

Sincerely,

  
Jorg Jansen, Program Manager  
Environmental Restoration

Sincerely,

  
Theodore Taylor, Program Manager  
Los Alamos Area Office

JJ/TT/rfr



3302

- Enclosures: (1) Final Reports for HSWA: C-9-001, 6-007(f), 8-005, 16-016(b), 18-001(a), 19-002, 21-013(c), 21-013(d), 21-013(e), 21-024(d), 21-024(e), 21-024(h), 31-001, 33-016, 39-007(a), and 69-001  
(2) Final Reports for non-HSWA: C-0-036(a-d), C-0-041, C-10-001, C-21-027, C-36-001, 0-032, 1-001(f), 3-003(p), 3-022, 3-047(d), 3-051(c), 9-010(a-b), 16-011, 16-016(f), 20-003(c), 21-022(j), 39-002(c), 53-010, and 57-006  
(3) Certifications of Completion

Cy (w/enclosures):

B. Driscoll, EPA, R.6, 6PD-N, (2 copies of HSWA)  
D. Griswold, ERD, AL, MS A906  
/ J. Harry, EM/ER, MS M992  
B. Hoditschek, NMED-HRMB  
/ R. Kern, NMED-HRMB  
N. Naraine, EM-453, DOE-HQ  
M. Shaner, P&PI, MS J591 (5 copies)  
N. Weber, Bureau Chief, NMED-AIP, MS J993  
J. White, ESH-19, MS K490  
S. Yanicak, NMED-AIP, MS J993  
RPF, MS M707

Cy (w/o enclosures):

T. Baca, EM, MS J591  
D. Bradbury, EM/ER, MS M992  
T. Glatzmaier, DDEES/ER, MS M992  
D. McInroy, EM/ER, MS M992  
G. Rael, ERD, AL, MS A906  
W. Spurgeon, EM-453, DOE-HQ  
T. Taylor, LAAO, MS A316  
J. Vozella, LAAO, MS A316  
EM/ER File, MS M992

# **Voluntary Corrective Action Completion Report for**

**Potential Release Site  
8-005  
Former Waste Storage Vessel**

**Field Unit 5**

**Environmental  
Restoration  
Project**

**February 1996  
Revision 1**

**A Department of Energy  
Environmental Cleanup Program**

**Los Alamos**  
**NATIONAL LABORATORY**

**LA-UR-96-468**

## CERTIFICATION OF COMPLETION

I certify that all the work pertaining to the voluntary corrective action (VCA) 8-005 has been completed in accordance with the Environmental Protection Agency approved RFI Work Plan for Operable Unit 1157. Based on my personal involvement or inquiry of the person or persons who managed the cleanup at PRS 8-005, a review of all data gathered and a visit to the site, to the best of my knowledge and belief, all criteria of the plan have been met or exceeded. I believe that the completion of this VCA is both protective to human health and the environment. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

  
\_\_\_\_\_

Cheryl Rofer  
Field Unit Five Project Leader  
Environmental Restoration Project  
Los Alamos National Laboratory

9/15/95  
Date Signed

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## 1.0 DESCRIPTION

Potential Release Site 8-005, a 4 ft. by 4 ft. metal vessel, was an abandoned oven used in the 1950s for crystal growth experiments. The inside of the vessel was contaminated with naphthalene and asbestos. This site is included in the Hazardous and Solid Waste Amendments module to the Los Alamos National Laboratory, Resource Conservation and Recovery Act, EPA I.D. NM0890010515.

This square-shaped storage vessel was located on the ground outside the west end of Building TA-8-2, a machine shop and storage building (see Figures 1 and 2). Group J-16 used the vessel to conduct crystal-growth experiments in the now-abandoned bunker buildings. Crystal growth residue from photographic equipment crystal experiments at Building TA-8-1 (next to TA-8-2) was contained in this storage vessel. Other chemicals used were terphenyl, alpha naphthyl oxazole, styrene, methyl chloroform, and thalious iodide. Residue with a strong camphor-like odor was found at the bottom of the vessel, and sample analysis indicated the presence of naphthalene. There were no visible signs of stained ground around the vessel.

The Johnson Controls Asbestos Abatement team confirmed the presence of asbestos in the form of a gasket and strap on the vessel (LANL 1995, EES-5:95-290). There was also a cord under the vessel which was found to contain asbestos. Field screening indicated that radioactive contaminants and high explosives were not present in or on the vessel.

The landlords of the technical area had no objections to removing this vessel, and it was recommended that this work be done as a voluntary corrective action (LANL 1995, EES-5:95-290; LANL 1993, 1092).

## 2.0 CORRECTIVE ACTION

The cleanup was completed as a voluntary corrective action as referenced in the RFI Work Plan for OU 1157. Activities began on 20 September, 1994 and ended on 7 August, 1995.

Preliminary field investigations determined that the storage vessel could be removed safely, and possibly salvaged once the hazardous constituents were removed. Four steps were involved in the remediation of this site. First, on 20 September, 1994, approximately one cubic foot of solid naphthalene was removed from the vessel, placed in an appropriate container, and disposed of by the Laboratory's Waste Services Group (LANL 1995, EES-5:95-290). The next step was to remove and dispose of an asbestos strap and gasket from the vessel. A cord that had been under the vessel was also removed, and disposed of because it contained asbestos. Then, on 30 September, 1994, the

2  
3 How was the confirmation of removal of hazardous constituents performed?

Laboratory contractor's rigging crew transported the vessel to the salvage yard, where it was inspected, and found to contain no cracks or holes. In October 1994, the site was inspected and a site reconnaissance was done with radiation and organic field instruments at the location of the vessel. No elevated readings were detected. Finally, on July 26, 1995 a surface soil sample was taken at the former location of the vessel.

The sampling data were reviewed, and no contaminants were found. Analytical results are presented in Tables 1 through 3. These data are available and will be provided upon request.

The sample was analyzed for semivolatile organics by method SW846-8270, percent solids by SW2540-G, and RCRA metals by SW846-6010, -6010A, -7060A, -7471, -7740, and -7841. Screening Action Levels (SALs) are conservative, risk-based levels (primarily based on RCRA Subpart S) that are used for preliminary screening of data. Appendix K of the installation work plan (LANL 1993, 1017) provides an in-depth explanation of how SALs are derived. All the analytes for the sample taken at Potential Release Site 8-005 were below SALs.

No site restoration was needed because the surrounding vegetation did not show any evidence of stress.

This report serves as the formal request for regulator concurrence to remove PRS 8-005 from the HSWA Module.

### 3.0 REFERENCES

LANL (Los Alamos National Laboratory), July 1993. "RFI Work Plan for Operable Unit 1157", Final Report, Los Alamos National Laboratory Report LA-UR-93-1230, Los Alamos, New Mexico. (LANL 1993, 1092)

LANL (Los Alamos National Laboratory), November 1993. "Installation Work Plan for Environmental Restoration", Revision 3, Los Alamos National Laboratory Report LA-UR-93-3987, Los Alamos, New Mexico. (LANL 1993, 1017)

LANL (Los Alamos National Laboratory), June 1995. "Removal of Storage Vessel from TA-8", Los Alamos National Laboratory Memorandum EES-5:95-290, Los Alamos, New Mexico. (LANL 1995, EES-5:95-290)

*was the oven classified as an empty container  
based on criteria for empty container & then  
released for salvage - need more info -*

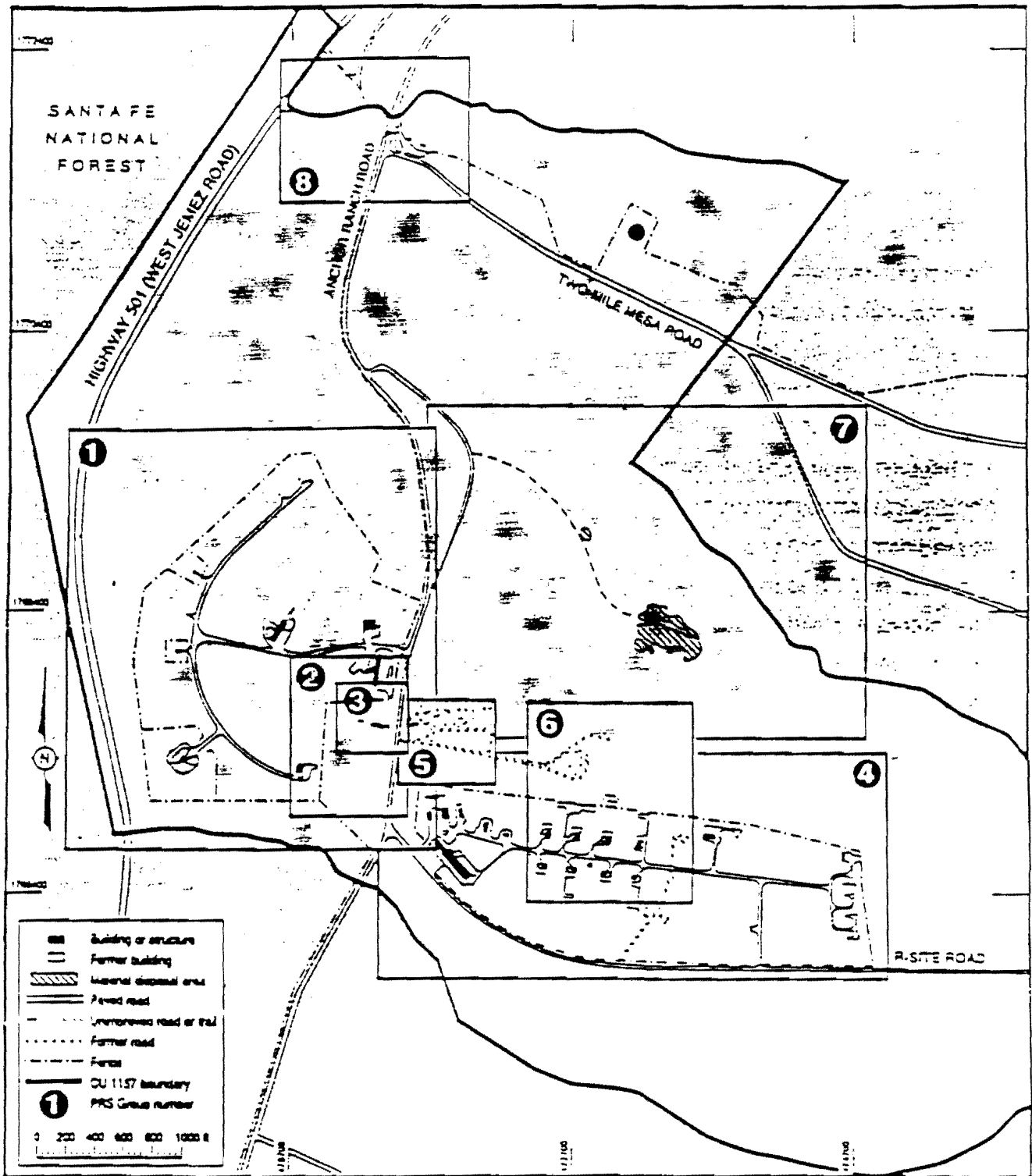


Figure 1 Location of PRS Groups.



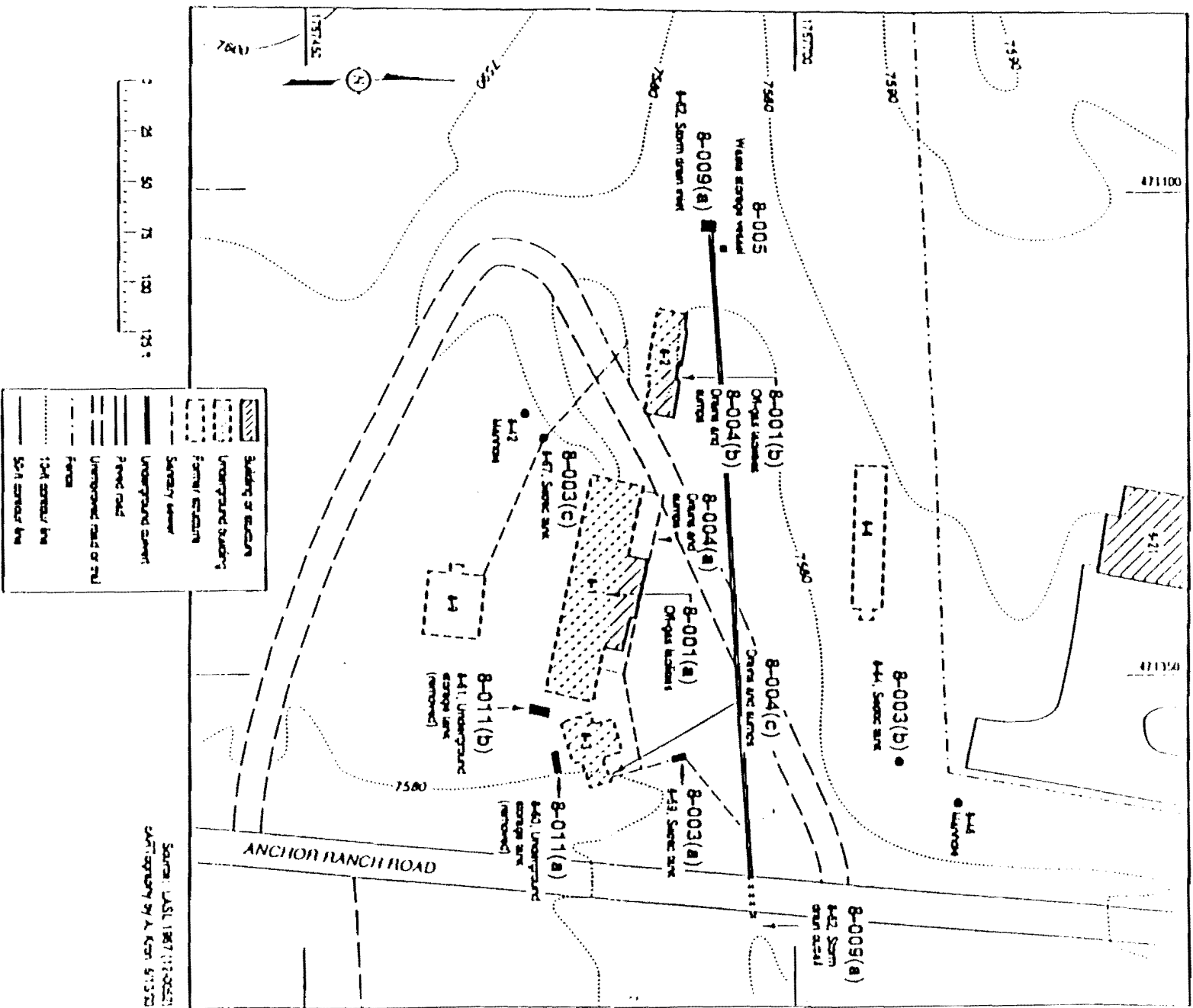


Figure 2 Location of PRSSs in Group 3, abandoned bunker site.

Order # NS-07-445  
 August 8, 1995 16:40

KEMRON ENVIRONMENTAL SERVICES  
 RESULTS BY SAMPLE

*This is to certify that the following samples were analyzed using good laboratory practices to show the following results.*

SAMPLE ID: 01 0508-95-0008/02 Collected: 07/26/95 Category: SOIL

TEST DESCRIPTION	RESULT	DETECTION LIMIT	UNITS	DATE ANALYZED	BY	METHOD
Percent Solids	94	1	% wt.	07/28/95	PJH	890340-0

SAMPLE ID: 02 0508-95-0008/01 Collected: 07/26/95 Category: SOIL

TEST DESCRIPTION	RESULT	DETECTION LIMIT	UNITS	DATE ANALYZED	BY	METHOD
Percent Solids	94	1	% wt.	07/28/95	PJH	890340-0
Aluminum, Total	7800	43	mg/kg Al	07/31/95	JTH	6010A
Antimony, Total	<13	13	mg/kg Sb	07/31/95	JTH	6010A
Arsenic, Total	<2.1	2.1	mg/kg As	08/02/95	TMO	7841
Barium, Total	180	43	mg/kg Ba	07/31/95	JTH	6010A
Beryllium, Total	<1.1	1.1	mg/kg Be	07/31/95	JTH	6010A
Cadmium, Total	<1.1	1.1	mg/kg Cd	07/31/95	JTH	6010A
Calcium, Total	1800	1100	mg/kg Ca	07/31/95	JTH	6010A
Chromium, Total	7.4	2.1	mg/kg Cr	07/31/95	JTH	6010
Cobalt, Total	<11	11	mg/kg Co	07/31/95	JTH	6010A
Copper, Total	8.5	9.3	mg/kg Cu	07/31/95	JTH	6010
Iron, Total	10000	21	mg/kg Fe	07/31/95	JTH	6010A
Lead, Total	29	9.3	mg/kg Pb	07/31/95	JTH	6010A
Magnesium, Total	1500	1100	mg/kg Mg	07/31/95	JTH	6010
Manganese, Total	310	3.2	mg/kg Mn	07/31/95	JTH	6010
Mercury, Total	<0.11	0.11	mg/kg Hg	08/02/95	KBA	7841
Nickel, Total	<9.5	9.5	mg/kg Ni	07/31/95	JTH	6010
Potassium, Total	1400	1100	mg/kg K	07/31/95	JTH	6010A
Selenium, Total	<1.1	1.1	mg/kg Se	07/31/95	TMO	7841
Silver, Total	<2.1	2.1	mg/kg Ag	07/31/95	JTH	6010A
Sodium, Total	<1100	1100	mg/kg Na	07/31/95	JTH	6010
Thallium, Total	<2.1	2.1	mg/kg Tl	07/31/95	AJB	7841
Vanadium, Total	15	11	mg/kg V	07/31/95	JTH	6010A
Zinc, Total	170	4.3	mg/kg Zn	07/31/95	JTH	6010A

Table 1. Priority Release Site 8-005 Surface Soil Sampling Data

Order # NS-07-445  
 August 3, 1995 16:40

KEMRON ENVIRONMENTAL SERVICES  
 TEST RESULTS BY SAMPLE

Test Code: LA8270  
 Sample Description: 0508-95-0008/02  
 Test Description: Semivolatile Compounds

Lab No: 01A

Collected: 07/26/95  
 Category: SOIL  
 Method: S270

Analyst: MDC  
 Instrument: HPMS\_3

Extracted: 07/27/95  
 Injected: 08/01/95

File #: LA03056  
 Factor: 33

Units: ug/kg

Verified: SDT

CAS#	COMPOUND	RESULT	DETECTION LIMIT
103-95-2	Phenol	ND	170
111-44-4	bis(2-Chloroethyl) ether	ND	170
95-57-8	2-Chlorophenol	ND	170
541-73-1	1,3-Dichlorobenzene	ND	170
106-46-7	1,4-Dichlorobenzene	ND	170
100-51-6	Benzyl alcohol	ND	350
95-50-1	1,2-Dichlorobenzene	ND	170
95-48-7	2-Methylphenol	ND	170
106-44-5	4-Methylphenol	ND	170
621-64-7	N-Nitroso-di-n-propylamine	ND	170
67-72-1	Hexachlorocyclohexane	ND	170
98-95-3	Nitrobenzene	ND	170
73-59-1	Isophorone	ND	170
88-75-5	2-Nitrophenol	ND	170
105-67-9	2,4-Dimethylphenol	ND	170
65-85-0	Benzoic acid	ND	370
111-91-1	bis(2-Chloroethoxy)methane	ND	170
120-83-2	2,4-Dichlorophenol	ND	170
120-82-1	1,2,4-Trichlorobenzene	ND	170
91-20-3	Naphthalene	ND	170
106-47-8	4-Chloroaniline	ND	350
87-58-3	Hexachlorobutadiene	ND	170
59-50-7	4-Chloro-3-methylphenol	ND	350
91-57-6	2-Methylnaphthalene	ND	170
77-47-4	Hexachlorocyclopentadiene	ND	170
88-06-2	2,4,6-Trichlorophenol	ND	170
95-95-4	2,4,5-Trichlorophenol	ND	370
91-58-7	2-Chloronaphthalene	ND	170
88-74-4	2-Nitroaniline	ND	370
111-11-3	Dimethylphthalate	ND	170
203-96-8	Acenaphthylene	ND	170
606-20-2	2,6-Dinitrotoluene	ND	170
99-09-2	3-Nitroaniline	ND	370
83-32-9	Acenaphthene	ND	170
51-28-5	2,4-Dinitrophenol	ND	370
100-02-7	4-Nitrophenol	ND	370
132-64-9	Dibenzofuran	ND	170
121-14-2	2,4-Dinitrotoluene	ND	170
84-66-2	Diethylphthalate	ND	170
7005-72-3	4-Chlorophenyl-phenyl ether	ND	170
86-73-7	Fluorene	ND	170
100-01-6	4-Nitroaniline	ND	350
514-52-1	4,6-Dinitro-2-methylphenol	ND	370
26-30-6	N-Nitrosodiphenylamine	ND	170
101-55-3	4-Bromophenyl-phenylether	ND	170
118-74-1	Hexachlorobenzene	ND	170
87-86-5	Pentachlorophenol	ND	370
85-01-8	Phenanthrene	ND	170
120-12-7	Anthracene	ND	170
84-74-2	Di-n-butylphthalate	ND	170
206-44-0	Fluoranthene	ND	170
129-00-0	Pyrene	ND	170
85-68-7	Butylbenzylphthalate	ND	170
91-94-1	3,3'-Dichlorobenzidine	ND	350
56-55-3	Benzo(a)anthracene	ND	170
218-01-9	Chrysene	ND	170
117-81-7	bis(2-Ethylhexyl)phthalate	ND	170
117-84-0	Di-n-octylphthalate	ND	170
103-33-3	Acbenzene	ND	170
205-99-2	Benzo(b)fluoranthene	ND	170
107-08-9	Benzo(k)fluoranthene	ND	170

Table 2. Priority Release Site 8-005 Surface Soil Sampling Data (continued)

Order # NS-07-445  
 August 3, 1995 16:40

KEMRON ENVIRONMENTAL SERVICES  
 TEST RESULTS BY SAMPLE

Test Code: LA8270  
 Sample Description: 0508-95-0008/02  
 Test Description: Semivolatile Compounds

Lab No: 01A

Collected: 07/26/95  
 Category: SOIL  
 Method: 8270

Analyst: MDC  
 Instrument: HPMS\_3

Extracted: 07/27/95  
 Injected: 08/01/95

File #: LA03056  
 Factor: 33

Units: ug/kg

Verified: SD

CAS#	COMPOUND	RESULT	DETECTION LIMIT
50-32-8	Benzo(a)pyrene	ND	170
193-39-5	Indeno(1,2,3-cd)pyrene	ND	170
53-70-3	Dibenzo(a,h)anthracene	ND	170
191-24-2	Benzo(g,h,i)perylene	ND	170
62-53-3	Aniline	ND	170
62-75-9	N-Nitrosodimethylamine	ND	170

LIBRARY SEARCH COMPOUNDS:

CAS#	COMPOUND	RESULT
108-60-1	2,2'-Oxybis(1-Chloropropane)	NF

SURROGATES:

2-Fluorophenol	46 % Recovery (25% - 121%)
2-Fluorobiphenyl	44 % Recovery (30% - 115%)
Phenol-d6	54 % Recovery (24% - 113%)
2,4,6-Tribromophenol	71 % Recovery (13% - 122%)
Nitrobenzene-d5	40 % Recovery (23% - 120%)
p-Terphenyl-d14	55 % Recovery (18% - 117%)

NOTES AND DEFINITIONS FOR THIS SAMPLE  
 ND = NOT DETECTED AT OR ABOVE THE METHOD  
 DETECTION LIMIT (MDL)  
 NA = NOT ANALYZED  
 DL = DILUTED OUT  
 NF = NOT FOUND