A-08 9/27/95

Expedited Cleanup Completion Report for

Potential Release Site
8-003(a)
Abandoned Bunker Site Septic Tank

Field Unit 5

Environmental
Restoration
Project

September, 1995
Revision 1

A Department of Energy
Environmental Cleanup Project

Los Alamos
NATIONAL LABORATORY

LA-UR-96-466

3300

1.0 SUMMARY OF EXPEDITED CLEANUP

1.1 OVERVIEW

Potential Release Site (PRS) 8-003(a) is Septic Tank TA-8-59, an underground structure located north of the Abandoned Bunker Site in TA-8-3 within a controlled area of Los Alamos National Laboratory. This site is included in the Hazardous and Solid Waste Amendments (HSWA) Module of the Los Alamos National Laboratory's (Laboratory) Resource Conservation and Recovery Act Permit, EPA I.D. NM0890010515.

Septic Tank TA-8-59 was installed in 1943 and served Buildings TA-8-1 and -3. Both buildings were also built in 1943. Building TA-8-1 served as a control center for the adjacent gun-firing site, and after World War II was used for explosives development and crystal growth experiments. Building TA-8-3 served as a laboratory for the gun-firing site. Neither building is currently used and both are scheduled for decontamination and decommissioning. The septic tank was connected to the sanitary sewage piping systems of both buildings, and over the years a variety of activities were conducted in the buildings involving the use of photo-processing chemicals, radioactive materials, explosives and solvents.

The septic tank is located to the north of Building TA-8-3 (see map) in a small valley on the west side of Anchor Ranch Road. The access hole of the tank was at ground surface, at the edge of a parking area. A steel plate covering the access hole to the tank is readily identifiable.

1.2 EXPEDITED CLEANUP

The hazardous contents of the tank was removed by first removing the over burden, pumping part of the contents out and removing the tank's lid using the backhoe bucket. At this point the tank's contents were mainly sludge and concrete from the lid. The contents were removed using the backhoe bucket and the waste was placed into 55 gallon drums for disposal. The inside of the tank was then cleaned by pressure washing, and the washing material was sucked out using a Guzzler (Supper Sucker) truck.

2.0 DISCUSSION OF SAMPLING AND ANALYSIS

2.1 VERIFICATION SAMPLING AND ANALYSIS

As part of the expedited cleanup, ESH-19 Waste Studies Team collected soil samples from outside of the septic tank on all sides. Verification sampling, was done by the Spade and Scoop Method. LANL-ER-SOP-6.09,RO. We were unable to sample to depth using the hand auger method so the backhoe was used to expose the soil at 7 foot depth and samples were taken.

Sampling determined that contaminates of concern were not present, with the exception of, acetone and metheleneclorid. The data from the soil samples indicate that all analytes detected are well below the screening action levels adopted by the ER Project. Analytical results are presented in Appendix A also with this appendix is a copy of the raw data.

2.2 QA/QC

Samples were promptly hand delivered following chain of custody procedures to the ERM-Fast laboratory for volatile organic analysis using SW846 method 8260.

2.3 Site Restoration

The area was an old parking lot with gravel and deteriorated black top surfaces. Reseeding was not required because the backfilled overburden was consistent with the area.

3.0 MODIFICATIONS TO EC PLAN

The cleanup followed the scope of work submitted to EPA with three exceptions. 1) The work took longer than expected, starting August 16, and ending September 11, the work was not continuous and totaled 12 days instead of the expected 5 days. 2) The tank was expected to be a reinforced concrete structure with dimensions of approximately 4 ft x 10 ft and 4 ft deep, and to have a separate lid, but the tank was found to be 4 x 10 ft but was 7 ft deep and built in place with a solid lid. This changed the volume of the waste, volume of the fill sand, depth of verification sampling on the outside of tank, and removal of the lid. 3) During sampling the north end of the tank, a 2 foot section of the outlet pipe was broken, all the pipe pieces and sludge was contained and drummed as part of the cleanup. The pipe was plugged along with the tank's inlet and outlet to prevent the possibility of contamination leaking from the remaining drain line.

4.0 QUANTITIES AND TYPES OF WASTES GENERATED

Waste pumped into the tanker truck totaled 1500 gallons; drummed waste

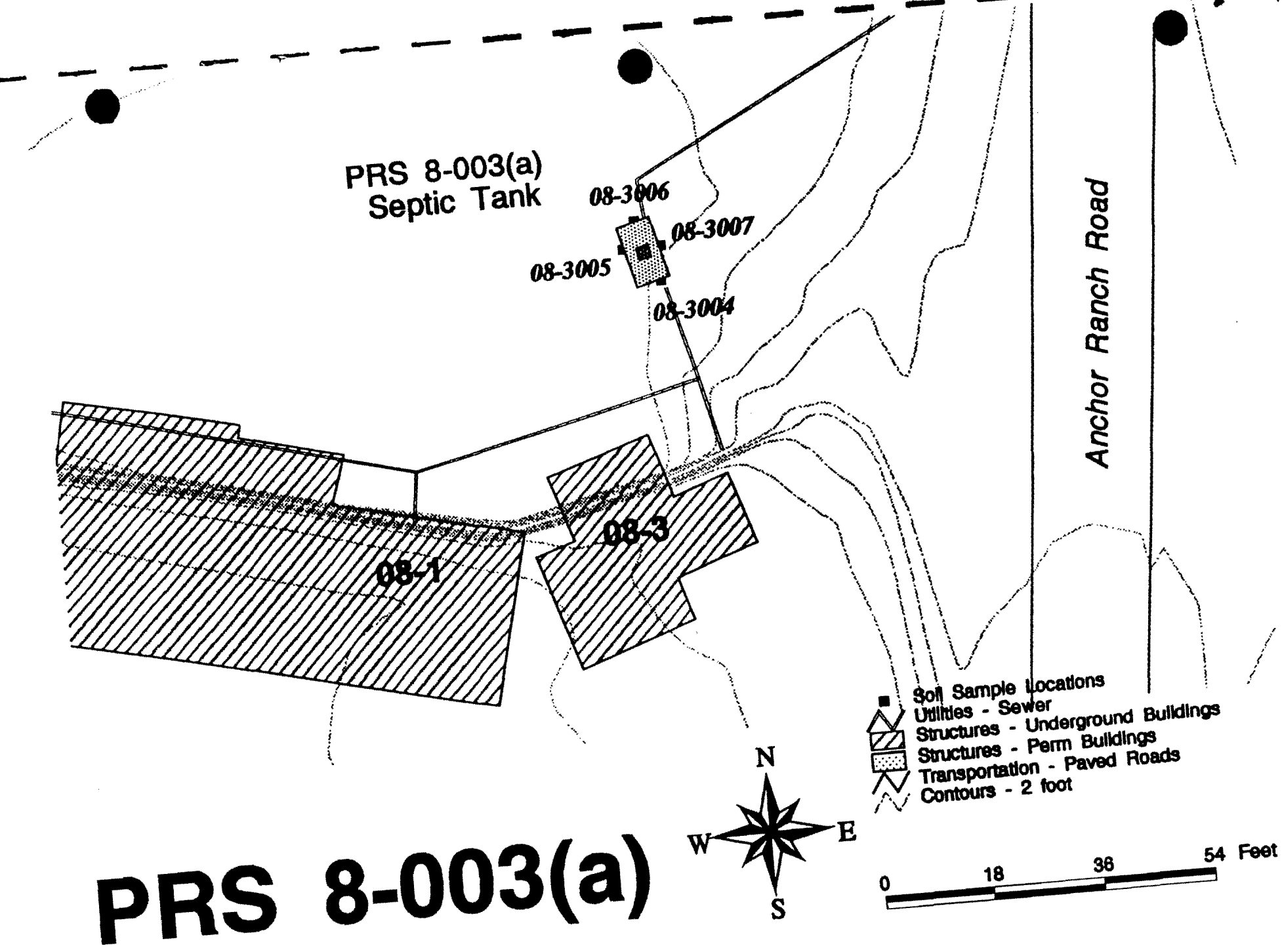
numbered 26 drums, with 3 PPE drums. The waste was delivered by Rollins ChemPack to, APTUS Incinerator, Aragonite, Utah, a Rollins ChemPack Company, for final disposal. Analysis of the contaminates in the water and sludge showed levels of chloroform, trichloroethane (1,1,1-), and trichloroethene that exceeded the SALs for soil.

5.0 OUTSTANDING ITEMS FROM THE ACCEPTANCE INSPECTION

None noted on the Independent Acceptance Inspection, see Attachment B

6.0 PROBLEMS ENCOUNTERED AND LESSONS LEARNED

Engineering drawings were not accurate of the size and design of the septic tank, because of that, additional time was spent on removing the concrete lid and the contents of the tank. In the future more detailed investigations of the physical size, shape and construction of the tank my be needed. If such investigations are not possible, be prepared to deal with changes in the plan.


PRS 8-003(a)
Septic Tank
08-3006
08-3007
08-3005
08-3004
08-1
08-3
Anchor Ranch Road
Soil Sample Locations
Utilities - Sewer
Structures - Underground Buildings
Structures - Perm Buildings
Transportation - Paved Roads
Contours - 2 foot
N
W
E
S
0
18
36
54 Feet

PRS 8-003(a)

Appendix A

Analytical Data

Appendix A: P. 8-003(a) Verification Volatile Samples (D cts Only)

Location ID	Depth of Sample	Sample ID	Analyte*	Results	Units	SAL
Lab Blank	NA	VBLK01	Acetone	20	UG/L	3500
			Methylene Chloride	27	UG/L	5
08-3004	4.2 - 4.8 ft	0508-95-0002	Acetone	36	UG/KG	8000000
			Methylene Chloride	28	UG/KG	5600
08-3004R	4.2 - 4.8 ft	0508-95-0003	Acetone	34	UG/KG	8000000
			Methylene Chloride	24	UG/KG	5600
08-3005	2.9 - 3.5 ft	0508-95-0004	Acetone	34	UG/KG	8000000
			Methylene Chloride	25	UG/KG	5600
08-3006	3.5 - 4.1 ft	0508-95-0005	Acetone	44	UG/KG	8000000
			Methylene Chloride	36	UG/KG	5600
08-3007	2.7 - 3.2 ft	0508-95-0005	Acetone	37	UG/KG	8000000
			Methylene Chloride	27	UG/KG	5600
Lab Blank	NA	VBLK01	Acetone	25	UG/L	3500
			Methylene Chloride	47	UG/L	5
08-3005	7 - 8 ft	0508-95-0011	Acetone	30	UG/KG	8000000
			Methylene Chloride	51	UG/KG	5600
08-3007	7 - 8 ft	0508-95-0013	Acetone	31	UG/KG	8000000
			Methylene Chloride	47	UG/KG	5600
Lab Blank	NA	VBLK01	Acetone	14	UG/L	3500
			Methylene Chloride	96	UG/L	5
08-3004	6 - 7 ft	0508-95-0010	Acetone	14	UG/KG	8000000
			Methylene Chloride	81	UG/KG	5600
08-3006	6 - 7 ft	0508-95-0012	Acetone	15	UG/KG	8000000
			Methylene Chloride	75	UG/KG	5600

* Acetone and Methylene Chloride are Laboratory Contaminants

Location_Id	Lab Blank	08-3004	08-3004R	08-3005	08-3006
Sample_Id	VBLK01	0508-95-0002	0508-95-0003	0508-95-0004	0508-95-0005
Collection Date	NA	8/17/95	8/17/95	8/17/95	8/17/95
Analysis Date	8/18/95	8/18/95	8/18/95	8/18/95	8/18/95
Depth Interval	NA	4 2-4 8 ft	4 2-4 8 ft	2 9-3 5 ft	3 5-4 1 ft
Beta/Gamma (cpm)	NA	235	235	252	265
HE	NA	negative	negative	negative	negative
Gross α (pCi/g)	NA	0.00	0.00	4.77	1.31
Gross β (pCi/g)	NA	4.61	4.61	5.50	14.00

CAS No.	Compound	ug/L	Q	ug/Kg	Q	ug/Kg	Q	ug/Kg	Q	ug/Kg	Q
67-64-1	Acetone	20		36	B	34	B	34	B	44	B
75-00-3	Chloroethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
74-87-3	Chloromethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
75-01-4	Vinyl chloride	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
75-35-4	1,1-Dichloroethene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
67-66-3	Chloroform	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
78-93-3	2-Butanone	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
74-83-9	Bromomethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
75-09-2	Methylene chloride	27		28	B	24	B	25	B	36	B
75-15-0	Carbon disulfide	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
75-34-3	1,1-Dichloroethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
156-59-2	cis 1,2-Dichloroethene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
156-60-5	trans 1,2-Dichloroethene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
74-97-5	Bromochloromethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
71-55-6	1,1,1-Trichloroethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
107-06-2	1,2-Dichloroethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
71-43-2	Benzene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
56-23-5	Carbon tetrachloride	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
75-27-4	Bromodichloromethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
78-87-5	1,2-Dichloropropane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
10061-02-6	trans-1,3-Dichloropropene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
10061-01-5	cis-1,3-Dichloropropene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
108-10-1	4-Methyl-2-pentanone	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
79-01-6	Trichloroethene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
108-88-3	Toluene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
79-00-5	1,1,2-Trichloroethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
591-78-6	2-Hexanone	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
124-48-1	Dibromochloromethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
127-18-4	Tetrachloroethene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
106-9-4	1,2-Dibromoethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
108-90-7	Chlorobenzene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
75-25-2	Bromoform	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
100-42-5	Styrene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
108-38-3	m,p-Xylene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
95-47-6	o-Xylene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
100-41-4	Ethylbenzene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
104-46-7	1,4-Dichlorobenzene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
541-73-1	1,3-Dichlorobenzene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
95-50-1	1,2-Dichlorobenzene	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U
79-34-5	1,1,2,2-Tetrachloroethane	< 10	U	< 12	U	< 13	U	< 12	U	< 14	U

Location_Id	08-3007	Lab Blank	08-3005	08-3007	**Lab Blank**
Sample_Id	0508-95-0005	VBLK01	0508-95-0011	0508-95-0013	VBLK01
Collection Date	8/17/95	NA	9/5/95	9/5/95	NA
Analysis Date	8/18/95	9/6/95	9/6/95	9/6/95	9/8/95
Depth Interval	2.7-3.2 ft	NA	7-8 ft	7-8 ft	NA
Beta/Gamma (cpm)	211	NA	269	206	NA
HE	negative	NA	negative	negative	NA
Gross α (pCi/g)	7 41	NA	0 48	3 01	NA
Gross β (pCi/g)	22 70	NA	27 8	32 7	NA

CAS No.	Compound	ug/Kg	Q	ug/L	Q	ug/Kg	Q	ug/Kg	Q	ug/L	Q
67-64-1	Acetone	37	B	25		30	B	31	B	14	
75-00-3	Chloroethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
74-87-3	Chloromethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
75-01-4	Vinyl chloride	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
75-35-4	1,1-Dichloroethene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
67-66-3	Chloroform	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
78-93-3	2-Butanone	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
74-83-9	Bromomethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
75-09-2	Methylene chloride	27	B	47		51	B	47	B	96	
75-15-0	Carbon disulfide	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
75-34-3	1,1-Dichloroethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
156-59-2	cis 1,2-Dichloroethene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
156-60-5	trans 1,2-Dichloroethene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
74-97-5	Bromochloromethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
71-55-6	1,1,1-Trichloroethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
107-06-2	1,2-Dichloroethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
71-43-2	Benzene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
56-23-5	Carbon tetrachloride	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
75-27-4	Bromodichloromethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
78-87-5	1,2-Dichloropropane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
10061-02-6	trans-1,3-Dichloropropene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
10061-01-5	cis-1,3-Dichloropropene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
108-10-1	4-Methyl-2-pentanone	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
79-01-6	Trichloroethene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
108-88-3	Toluene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
79-00-5	1,1,2-Trichloroethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
591-78-6	2-Hexanone	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
124-48-1	Dibromochloromethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
127-18-4	Tetrachloroethene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
106-9-4	1,2-Dibromoethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
108-90-7	Chlorobenzene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
75-25-2	Bromoform	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
100-42-5	Styrene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
108-38-3	m,p-Xylene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
95-47-6	o-Xylene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
100-41-4	Ethylbenzene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
104-46-7	1,4-Dichlorobenzene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
541-73-1	1,3-Dichlorobenzene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
95-50-1	1,2-Dichlorobenzene	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U
79-34-5	1,1,2,2-Tetrachloroethane	< 12	U	< 10	U	< 10	U	< 9	U	< 10	U

Location_Id	08-3004	08-3006
Sample_Id	0508-95-0010	0508-95-0012
Collection Date	9/8/95	9/8/95
Analysis Date	9/8/95	9/8/95
Depth Interval	6-7 ft	6-7 ft
Beta/Gamma (cpm)	241	212
HE	negative	negative
Gross α (pCi/g)	0.48	0
Gross β (pCi/g)	35.8	27.5

CAS No.	Compound	ug/Kg	Q	ug/Kg	Q
67-64-1	Acetone	14	B	15	B
75-00-3	Chloroethane	< 10	U	< 9	U
74-87-3	Chloromethane	< 10	U	< 9	U
75-01-4	Vinyl chloride	< 10	U	< 9	U
75-35-4	1,1-Dichloroethene	< 10	U	< 9	U
67-66-3	Chloroform	< 10	U	< 9	U
78-93-3	2-Butanone	< 10	U	< 9	U
74-83-9	Bromomethane	< 10	U	< 9	U
75-09-2	Methylene chloride	81	B	75	B
75-15-0	Carbon disulfide	< 10	U	< 9	U
75-34-3	1,1-Dichloroethane	< 10	U	< 9	U
156-59-2	cis 1,2-Dichloroethene	< 10	U	< 4	J
156-60-5	trans 1,2-Dichloroethene	< 10	U	< 9	U
74-97-5	Bromochloromethane	< 10	U	< 9	U
71-55-6	1,1,1-Trichloroethane	< 10	U	< 9	U
107-06-2	1,2-Dichloroethane	< 10	U	< 9	U
71-43-2	Benzene	< 10	U	< 9	U
56-23-5	Carbon tetrachloride	< 10	U	< 9	U
75-27-4	Bromodichloromethane	< 10	U	< 9	U
78-87-5	1,2-Dichloropropane	< 10	U	< 9	U
10061-02-6	trans-1,3-Dichloropropene	< 10	U	< 9	U
10061-01-5	cis-1,3-Dichloropropene	< 10	U	< 9	U
108-10-1	4-Methyl-2-pentanone	< 10	U	< 9	U
79-01-6	Trichloroethene	< 10	U	< 9	U
108-88-3	Toluene	< 10	U	< 9	U
79-00-5	1,1,2-Trichloroethane	< 10	U	< 9	U
591-78-6	2-Hexanone	< 10	U	< 9	U
124-48-1	Dibromochloromethane	< 10	U	< 9	U
127-18-4	Tetrachloroethene	< 10	U	< 9	U
106-9-4	1,2-Dibromoethane	< 10	U	< 9	U
108-90-7	Chlorobenzene	< 10	U	< 9	U
75-25-2	Bromoform	< 10	U	< 9	U
100-42-5	Styrene	< 10	U	< 9	U
108-38-3	m,p-Xylene	< 10	U	< 9	U
95-47-6	o-Xylene	< 10	U	< 9	U
100-41-4	Ethylbenzene	< 10	U	< 9	U
104-46-7	1,4-Dichlorobenzene	< 10	U	< 9	U
541-73-1	1,3-Dichlorobenzene	< 10	U	< 9	U
95-50-1	1,2-Dichlorobenzene	< 10	U	< 9	U
79-34-5	1,1,2,2-Tetrachloroethane	< 10	U	< 9	U

Appendix B

Acceptance Inspection Checklist

APPENDIX B

ACCEPTANCE INSPECTION CHECKLIST

Unit Number and Description

8-003(a), Septic Tank

✓ EPA and DOE notified at least 10 days in advance of field work.

✓ Verification samples and confirm integrity of tank.

✓ Tank contents removed and containerized.

✓ Tank inlet and outlet plugged.

✓ Tank interior washed.

✓ Wash liquid collected and containerized.

✓ All waste generated is characterized and managed appropriately.

✓ Tank backfilled.

✓ Site restored.

Reviewer David McInroy

Signature _____

Appendix C

Photographs

PRS 8-003(a) - Using "Super Sucker" to pump sludge out of septic tank

Appendix D

Certification of Completion

Certification of Completion

I certify that all the work pertaining to the Expedited Cleanup (EC) of PRS 8-003(a) has been completed in accordance with the Department of Energy approved EC Plan entitled **Expedited Cleanup Plan for Solid Waste Management Unit 8-003(a), June 1995, Revision 0.** Based on my personal involvement or inquiry of the person or persons who managed this cleanup, a review of all the data gathered, and a visit to this site, to the best of my knowledge and belief, all criteria have been met or exceeded. I believe that the completion of this EC is protective to both 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

September 27, 1995

Cheryl Rofer
Field Unit 5 Field Project Leader
Environmental Restoration Project
Los Alamos National Laboratory

Date Signed

Sept. 28, 1995

Dave McInroy
Regulatory Compliance Manager, Independent Review
Environmental Restoration Project Office
Los Alamos National Laboratory

Date Signed