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FILE LANL HSWA 4/129/42

ENTERED

Date: MAR 8 1995
Refer to: EM/ER:95-J066

Ms. Barbara Driscoll
RCRA Permit Branch
US Environmental Protection Agency, Region 6
1445 Ross Ave., Suite 1200
Dallas, TX 75202-2733

Dear Barbara:

SUBJECT: RESPONSE TO CONCERNS RELATED TO SOLID WASTE MANAGEMENT UNIT (SWMU) 42-003

Reference: Letter from the United States Environmental Protection Agency (EPA), January 9, 1995

Personnel at Los Alamos National Laboratory (the Laboratory) have received your letter in reference to SWMU No. 42-003. This response addresses your concerns about sampling in the tile drain field.

During a reconnaissance investigation of SWMU 42-003 conducted in January 1991, Laboratory personnel collected samples in the septic system and the tile drain field (which was called the canyon disposal area). The samples were analyzed for semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), and metals. The data gathered during the investigation were used as Phase I data to direct the accelerated characterization at former Technical Area (TA) -42, which was conducted in July 1992. Enclosed is a complete report of that accelerated characterization, *Fast-Turnaround RCRA Site Characterization of Former TA-42 at Los Alamos National Laboratory* (LA-UR-94-3260). See Figures 1 and 3 in the report for sample locations.

The analytical results of the 1991 investigation are presented in Attachments 1 through 3 of this letter. Attachment 1 lists the SVOC analytical results. Only the following SVOCs were found above the detection limit.

- Polyaromatic hydrocarbons, which are common constituents in paving materials (asphalt) and roofing tar (coal tar pitch), were found in the fill material that was put in place after the decontamination and decommissioning activities.

- Bis(2-ethylhexyl)phthalate was detected at 780 mg/kg, which is well below the screening action level (SAL) of 50,000 mg/kg.

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Received by ER-RPF
MAR 10 1995

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Attachment 2 lists the VOC analytical results. The only VOC found above the detection limit in any of the samples was methylene chloride. The case narrative returned with the sample analysis states that a problem with methylene chloride contamination in the analytical laboratory affected most of the samples. The amount of methylene chloride detected in the laboratory blanks was approximately 100 mg/L. According to the *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A)* (EPA 540/1-89/002), common laboratory contaminants (like acetone, 2-butanone, methylene chloride, toluene, and phthalate esters) are considered actual detects only if the concentration in a sample exceeds 10 times the maximum amount detected in any blank. Therefore, we concluded that the concentration of methylene chloride found in the samples was due to laboratory contamination.

Attachment 3 lists the analytical results for metals. Samples were analyzed for metals using the toxicity characteristic leaching procedure (TCLP). Only the following metals were found above detection limits.

- Barium was detected at a maximum of 0.83 mg/L TCLP (equivalent to 16.6 mg/kg total barium), which is well below the SAL of 5,600 mg/kg total barium. The upper tolerance limit for background or barium is 1,140 mg/kg. The equivalent total barium value was calculated using the methodology given in 40 CFR 261, Appendix II, Method 1311 (EPA 1993).

- Lead was also found at several concentrations. It was further investigated in July 1992; the results of that investigation are contained in the enclosed report (LA-UR-94-3260).

During the 1992 investigation, samples were not analyzed for SVOCs, VOCs, or metals (except lead) because no other contaminants of concern were identified during the 1991 investigation. Also, because SVOCs, VOCs, and metals were not found in the septic system or the tile drain field (the most likely locations), the canyon side (where an outfall was located) was not investigated. Therefore, we intend to propose SWMU 42-003 for no further action in the Resource Conservation and Recovery Act Facility Investigation report scheduled for delivery to your office in approximately July of 1995.

Sincerely,

Jorg Jansen, Project Manager
Environmental Restoration

Sincerely,

Theodore J. Taylor, Program Manager
Los Alamos Area Office

Environmental
Restoration

JJ/bp

Enc.: Report, "Fast-Turnaround RCRA Site Characterization of Former TA-42 at Los Alamos National Laboratory"

Attachments:
(1) SVOC Analytical Results for Former TA-42
(2) VOC Analytical Results for Former TA-42
(3) Metal Analytical Results for Former TA-42

Cy: w/o attachment or enclosure:
J. Jansen, EM/ER, MS M992
J. Levings, ERD, AL, MS A906
W. Spurgeon, EM-453, HQ

Cy: w/attachment only
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D. McInroy, EM/ER, MS M992
P. Shanley, ESH-19, MS K498
B. Swanton, AIP, MS J993
B. Sanner, LAAO, MS A316
T. Taylor, LAAO, MS A316
E. Merrill, EM-453, HQ
D. Griswold, ERD, MS A906
J. White, ESH-19, MS K490
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Benito Garcia
Hazardous and Radioactive Material Bureau
State of New Mexico Environment Department
525 Camino de los Marquez
Santa Fe, NM 87502

CERTIFICATION

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document Title:

Response to Concerns Related to Solid Waste Management Unit (SWMU) 42-003

Name: _____ Date: 3/2/95

Dennis Erickson, Division Director
Environment, Safety & Health Division
Los Alamos National Laboratory

Name: _____ Date: 3/6/95

Joseph C. Vozella
Acting Assistant Area Manager
Office of Environment & Projects
DOE-Los Alamos Area Office

or

Theodore J. Taylor
Program Manager
Environmental Restoration Program
DOE-Los Alamos Area Office

SVOC ANALYTICAL RESULTS FOR FORMER TA-42

SVOC Analytes	SAL	PF-ST-10[a, b, c] Result	PF-ST-15[c] Result	Unc[d]	PF-ST-20[c] Result	PF-ST-25[c] Result	PF-CDA[e] Result	Units
Acenaphthene	4,800,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Acenaphthylene		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Aniline	120,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Anthracene	24,000,000	< 330.	380	114	< 330.	< 330	< 330	µg/kg
Azobenzene	6,400	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
m-Benzidine	3	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Benzo[a]anthracene	1,000	< 330.	1500	450	< 330.	< 330	< 330	µg/kg
Benzo[a]pyrene	100	< 330.	790	237	< 330.	< 330	< 330	µg/kg
Benzo[b]fluoranthene	1,000	< 330.	1200	360	< 330.	< 330	< 330	µg/kg
Benzo[g,h,i]perylene		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Benzo[k]fluoroanthene	1,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Benzoic acid		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Benzyl alcohol	24,000,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Bis(2-chloroethoxy)methane		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Bis(2-chloroethyl)ether	120	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Bis(2-chloroisopropyl)ether		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Bis(2-ethylhexyl)phthalate	50,000	< 330.	780	234	< 330.	< 330	< 330	µg/kg
4-Bromophenyl phenyl ether		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Butyl benzyl phthalate	16,000,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
4-Chloro-3-methylphenol	16,000,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
4-Chloroaniline	320,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2-Chloronaphthalene	6,400,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
o-Chlorophenol	400,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
4-Chlorophenyl phenyl ether		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Chrysene	96,000	< 330.	1500	450	< 330.	< 330	< 330	µg/kg
Di-n-butyl phthalate	8,000,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Di-n-octyl phthalate	1,600,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Dibenzofuran		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Dibenzo[a,h]anthracene	100	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
o-Dichlorobenzene(1,2)	1,600,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
m-Dichlorobenzene(1,3)	7,200,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
p-Dichlorobenzene(1,4)	29,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
3,3'-Dichlorobenzidine	1,600	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2,4-Dichlorophenol	240,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Diethyl phthalate	64,000,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Dimethyl phthalate	800,000,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg

a. PF = Phil Fresquz (sample collector)
b. ST = Septic tank
c. The numeral 10, 15, 20, or 25 indicates the depth below the surface at which the samples were collected.
d. Unc = Uncertainty
e. CDA = Canyon disposal area (area of the tile drain field)

SVOC ANALYTICAL RESULTS FOR FORMER TA-42

SVOC Analytes	SAL	PF-ST-10[a, b, c] Result	PF-ST-15[c] Result	Unc[d]	PF-ST-20[c] Result	PF-ST-25[c] Result	PF-CDA[e] Result	Units
2,4-Dimethylphenol	1,600,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2,4-Dinitrophenol		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2,6-Dinitrotoluene		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Fluoranthene		< 330.	3000	900	< 330.	< 330	< 330	µg/kg
Fluorene		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Hexachlorobenzene		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Hexachlorobutadiene		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Hexachlorocyclopentadiene		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Hexachloroethane		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Ideno[1,2,3-cd]pyrene		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Isophorone		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2-Methyl-4,6-dinitrophenol		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2-Methylnaphthalene		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2-Methylphenol		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
4-Methylphenol		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Naphthalene	3,200,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2-Nitroaniline		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
3-Nitroaniline	240,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
4-Nitroaniline	240,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Nitrobenzene	5,300	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2-Nitrophenol		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
4-Nitrophenol	5,000,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
N-Nitrosodimethylamine		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
N-Nitrosodi-n-propylamine		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
N-Nitrosodiphenylamine		< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Pentachlorophenol	5,800	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Phenanthrene		< 330.	1800	540	< 330.	< 330	< 330	µg/kg
Phenol	48,000,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
Pyrene	2,400,000	< 330.	2800	840	< 330.	< 330	< 330	µg/kg
1,2,4-Trichlorobenzene	160,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2,4,5-Trichlorophenol	8,000,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg
2,4,6-Trichlorophenol	64,000	< 330.	< 330.		< 330.	< 330	< 330	µg/kg

a. PF = Phil Fresquz (sample collector)
b. ST = Septic tank
c. The numeral 10, 15, 20, or 25 indicates the depth below the surface at which the samples were collected.
d. Unc = Uncertainty
e. CDA = Canyon disposal area (area of the tile drain field)

VOC ANALYTICAL RESULTS FOR FORMER TA-42

VOC Analytes	SAL	PF-ST-10[a, b, c] Result	Unc[d]	PF-ST-15[c] Result	Unc	PF-ST-20[c] Result	Unc	PF-ST-25[c] Result	Unc	PF-CDA[e] Result	Units
Acetone	8,000,000	< 24.		< 20.		< 28.		< 32.		< 20.	µg/kg
Acrolein		< 120.		< 100.		< 140.		< 160.		< 100.	µg/kg
Acrylonitrile		< 120.		< 100.		< 140.		< 160.		< 100.	µg/kg
Benzene	670	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Bromobenzene		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Bromochloromethane		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Bromodichloromethane	11,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Bromoform	89,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Bromomethane	430	< 12.		< 10.		< 14.		< 16.		< 10.	µg/kg
2-Butanone	4,000,000	< 24.		< 50.		< 28.		< 32.		< 20.	µg/kg
n-Butylbenzene		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
sec-Butylbenzene		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
tert-Butylbenzene		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Carbon disulfide	7,400	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Carbon tetrachloride	210	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Chlorobenzene	67,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Chlorodibromomethane		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Chloroethane	2,900,000	< 12.		< 10.		< 14.		< 16.		< 10.	µg/kg
2-Chloroethyl vinyl ether		< 60.		< 50.		< 70.		< 80.		< 50.	µg/kg
Chloroform	210	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Chloromethane	6,400	< 12.		< 10.		< 14.		< 16.		< 10.	µg/kg
o-Chlorotoluene	1,600,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
p-Chlorotoluene		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,2-Dibromo-3-chloropropane	500	< 12.		< 10.		< 14.		< 16.		< 10.	µg/kg
1,2-Dibromomethane		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Dibromoethane	8.2	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
m-Dichlorobenzene (1,3)		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
o-Dichlorobenzene (1,2)		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
p-Dichlorobenzene (1,4)		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Dichlorordifluoromethane	16,000,000	< 12.		< 10.		< 14.		< 16.		< 10.	µg/kg
1,1-Dichloroethane	410,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,2-Dichloroethane	200	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,1-Dichloroethene	400	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
trans-1,2-Dichloroethene		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
cis-1,2-Dichloroethylene	800,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,2-Dichloropropane	6,500	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,3-Dichloropropane		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
2,2-Dichloropropane		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,2-Dichloropropene		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
cis-1,3-Dichloropropene	170	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
trans-1,3-Dichloropropene	170	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg

a. PF = Phil Fresquz (sample collector)
b. ST = Septic tank
c. The numeral 10, 15, 20, or 25 indicates the depth below the surface at which the samples were collected.
d. Unc = Uncertainty
e. CDA = Canyon disposal area (area of the tile drain field)

VOC ANALYTICAL RESULTS FOR FORMER TA-42

VOC Analytes	SAL	PF-ST-10[a, b, c] Result	PF-ST-10[a, b, c] Unc[d]	PF-ST-15[c] Result	PF-ST-15[c] Unc	PF-ST-20[c] Result	PF-ST-20[c] Unc	PF-ST-25[c] Result	PF-ST-25[c] Unc	PF-CDA[e] Result	Units
Ethyl benzene	3,100,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
2-Hexanone		< 24.		< 20.		< 28.		< 32.		< 20.	µg/kg
Isopropyl benzene	3,200,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
4-Isopropyl toluene		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Methyl iodide		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
4-Methyl-2-pentanone		< 24.		< 20.		< 28.		< 32.		< 20.	µg/kg
Methylene chloride		510.	153.	500.	150.	100.	30.	110.	33.	< 5.	µg/kg
Propyl benzene		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Styrene	3,300,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,1,1,2-Tetrachloroethane	270,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,1,2,2-Tetrachloroethane	3,900	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Tetrachloroethylene	5,900	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Toluene	910,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,1,2-Trichloro-1,2,2-trifluoroethane		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,1,1-Trichloroethane	1,000,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,1,2-Trichloroethane	6,300	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Trichloroethene	3,200	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Trichlorofluoromethane	24,000,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,2,3-Trichloropropane	480,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,2,4-Trimethyl benzene	40,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
1,3,5-Trimethyl benzene	32,000	< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg
Vinyl acetate		< 12.		< 10.		< 14.		< 16.		< 10.	µg/kg
Vinyl chloride	13	< 12.		< 10.		< 14.		< 16.		< 10.	µg/kg
Mixed xylenes (o, m, p)		< 6.		< 5.		< 7.		< 8.		< 5.	µg/kg

a. PF = Phil Fresquz (sample collector)
b. ST = Septic tank
c. The numeral 10, 15, 20, or 25 indicates the depth below the surface at which the samples were collected.
d. Unc = Uncertainty
e. CDA = Canyon disposal area (area of the tile drain field)

METAL ANALYTICAL RESULTS FOR FORMER TA-42

Metal Analytes	PF-ST-10[a, b, c] Result	Unc[d]	PF-ST-15[c] Result	Unc	PF-ST-20[c] Result	Unc	PF-ST-25[c] Result	Unc	PF-CDA-0[e] Result	Unc	Units
Arsenic	< 2.0		< 2.0		< 2.0		< 2.0		2	2	µg/L
Barium	0.53	0.05	0.74	0.07	0.83	0.08	0.2	0.02	0.74	0.07	mg/L
Cadmium	< 0.01		< 0.01		< 0.01		< 0.01		< 0.01		mg/L
Chromium (Total)	< 0.02		< 0.02		< 0.02		< 0.02		< 0.02		mg/L
Lead	2.2	0.2	0.45	0.04	< 0.1		< 0.1		0.17	0.02	mg/L
Mercury	< 0.2		< 0.2		< 0.2		< 0.2		< 0.2		µg/L
Selenium	< 2.0		< 2.0		< 2.0		< 2.0		< 2.0		µg/L
Silver	< 10.		< 10.		< 10.		< 10.		< 10.		µg/L
Uranium	4.17	0.4	5.2	0.5	3.34	0.3	3.9	0.4	1.86	0.2	µg/g

a. PF = Phil Fresquz (sample collector)
b. ST = Septic tank
c. The numeral 10, 15, 20, or 25 indicates the depth below the surface at which the samples were collected.
d. Unc = Uncertainty
e. CDA = Canyon disposal area (area of the tile drain field)

NOTE: SALs are not listed on this table because they measure total amounts of metals and are expressed in mg/kg, whereas the amounts of metal analytes are determined by TCLP and are expressed in mg/L. Therefore, the two values cannot be compared to each other.