Metcalf & Eddy

February 4, 1993

2349
General

Ms. Barbara Driscoll
U.S. EPA, Region 6
RCRA Technical Section (6H-PN)
1445 Ross Avenue
Dallas, Texas 75202-2733

Re: TES X Work Assignment No. R06022 - Los Alamos National Laboratory
Tables of Analytical Results of Oversight Sampling

Dear Ms. Driscoll:

Enclosed you will find four (4) copies of the Tables of Analytical Results of Oversight Sampling for the oversight sampling performed at Los Alamos National Laboratory. Only those sample parameters which exceeded detection limits are included in the tables.

If you have any questions or comments on the enclosed tables, please contact me in Metcalf & Eddy's Houston, Texas office.

Sincerely,

METCALF & EDDY, INC.

Pamela D. Jones

Pamela D. Jones
Contractor Project Manager

PJ/cmg

Enclosure

cc: RPMO File
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TABLE 1

Analytical Results of Surface Soil Samples

Los Alamos National Laboratory
Los Alamos, New Mexico

Date	Sample Location	M&E Sample Number	LANL Sample Number	Analytical Results	
Metals Analyses					
08/27/92	Hillside 138	92ME05-S01	01-5084	Silver	5.0 mg/kg
				Arsenic	2.0 mg/kg
				Barium	35.5 mg/kg
				Beryllium	0.68 mg/kg
				Chromium	197 mg/kg
				Mercury	189 mg/kg (J)
				Lead	180 mg/kg
		92ME05-S03	01-5080	Silver	26.7 mg/kg
				Arsenic	1.9 mg/kg
				Barium	44.1 mg/kg
				Beryllium	0.61 mg/kg
				Cadmium	1.3 mg/kg
				Chromium	298 mg/kg
				Mercury	202 mg/kg(J)
				Lead	170 mg/kg
		92ME05-S07	01-5086	Silver	10.4 mg/kg
				Arsenic	1.4 mg/kg
				Barium	41.0 mg/kg
				Beryllium	0.61 mg/kg
				Cadmium	1.6 mg/kg
				Chromium	242 mg/kg
				Mercury	180 mg/kg(J)
				Lead	181 mg/kg
		92ME05-S08	01-5082	Silver	33.5 mg/kg
				Arsenic	2.6 mg/kg
				Barium	46.9 mg/kg
				Beryllium	1.3 mg/kg
				Cadmium	1.3 mg/kg
				Chromium	296 mg/kg
				Mercury	356 mg/kg(J)
				Lead	218 mg/kg
09/02/92	Hillside 137	92ME05-S10	01-3103	Arsenic	1.7 mg/kg
				Barium	72.1 mg/kg
				Beryllium	0.56 mg/kg
				Chromium	3.1 mg/kg
				Nickel	5.4 mg/kg
				Lead	20.0 mg/kg

TABLE 1 (cont'd)

Date	Sample Location	M&E Sample Number	LANL Sample Number	Analytical Results	
09/02/92	Hillside 137	92ME05-S15	01-3110	Arsenic	1.1 mg/kg
				Barium	50.8 mg/kg
				Beryllium	0.39 mg/kg
				Chromium	1.3 mg/kg
				Lead	8.5 mg/kg
		92ME05-S16 (duplicate of 92ME05-S15)	01-3110	Arsenic	1.0 mg/kg
				Barium	49.8 mg/kg
				Beryllium	0.39 mg/kg
				Chromium	3.0 mg/kg
				Lead	8.0 mg/kg
		92ME05-S17	01-3124	Arsenic	1.2 mg/kg
				Barium	70.4 mg/kg
				Beryllium	0.38 mg/kg
				Chromium	2.0 mg/kg
				Mercury	0.11 mg/kg
				Lead	20.0 mg/kg
		92ME05-S19	01-3126	Arsenic	1.3 mg/kg
				Barium	56.9 mg/kg
				Beryllium	0.39 mg/kg
				Cadmium	1.1 mg/kg
				Chromium	3.5 mg/kg
				Mercury	0.14 mg/kg
				Lead	15.9 mg/kg
09/08/92	Canyon Rim	92ME05-S27	01-6064	Arsenic	5.1 mg/kg
				Barium	135 mg/kg
				Beryllium	0.82 mg/kg
				Chromium	15.5 mg/kg
				Lead	81.2 mg/kg
09/16/92	Hillside 140	92ME05-S28	01-1143	Arsenic	1.3 mg/kg
				Barium	63.8 mg/kg
				Beryllium	0.55 mg/kg
				Chromium	2.4 mg/kg
				Mercury	0.14 mg/kg
				Lead	43.1 mg/kg
				Selenium	0.45 mg/kg
09/17/93	Hillside 138	92ME05-S36	01-5058	Silver	22.9 mg/kg
				Arsenic	2.5 mg/kg
				Barium	61.0 mg/kg
				Beryllium	0.80 mg/kg
				Cadmium	1.9 mg/kg
				Chromium	315 mg/kg
				Mercury	340 mg/kg
				Lead	346 mg/kg
				Antimony	18.5 mg/kg

TABLE 1 (cont'd)

Date	Sample Location	M&E Sample Number	LANL Sample Number	Analytical Results	
09/17/92	Hillside 138	92ME05-S37 (duplicate of 92ME05-S36)	01-5058	Silver	23.1 mg/kg
				Arsenic	2.7 mg/kg
				Barium	55.5 mg/kg
				Beryllium	0.80 mg/kg
				Chromium	322 mg/kg
				Mercury	211 mg/kg
				Lead	311 mg/kg
				Antimony	12.0 mg/kg
09/23/92	Hillside 138	92ME05-S38	01-5110	Arsenic	1.2 mg/kg
				Barium	47.6 mg/kg
				Beryllium	0.45 mg/kg
				Chromium	6.0 mg/kg
				Mercury	0.33 mg/kg
				Lead	25.9 mg/kg
	Hillside 137	92ME05-S39	01-3155	Arsenic	0.67 mg/kg
				Barium	20.7 mg/kg
				Beryllium	0.41 mg/kg
				Lead	19.8 mg/kg
Semivolatile Analyses					
08/27/92	Hillside 138	92ME05-S02	01-5083	Pentachlorophenol	220 ug/kg(J)
				Pyrene	39 ug/kg(J)
		92ME05-S04	01-5085	Benzoic Acid	200 ug/kg(J)
		92ME05-S05	01-5081	Chrysene	48 ug/kg(J)
		92ME05-S06 (duplicate of 92ME05-S05)	01-5081	Chrysene	45 ug/kg(J)
		92ME05-S09	01-5087	Phenanthrene	200 ug/kg(J)
				Anthracene	32 ug/kg(J)
				Fluoranthene	590 ug/kg
				Pyrene	320 ug/kg(J)
				Benzo(b)anthracene	230 ug/kg(J)
				Chrysene	330 ug/kg(J)
				Benzo(b)fluoranthene	260 ug/kg(J)
				Benzo(k)fluoranthene	260 ug/kg(J)
				Benzo(a)pyrene	200 ug/kg(J)
				Indeno(1,2,3-cd)pyrene	120 ug/kg(J)
				Dibenzo(a,h)anthracene	49 ug/kg(J)
				Benzo(g,h,i)perylene	100 ug/kg(J)

TABLE 1 (cont'd)

Date	Sample Location	M&E Sample Number	LANL Sample Number	Analytical Results	
09/02/92	Hillside 137	92ME05-S11	01-3103	None detected	
		92ME05-S12 (duplicate of 92ME05-S11)	01-3103	None detected	
		92ME05-S13	01-3106	None detected	
		92ME05-S14	01-3110	None detected	
		92ME05-S18	01-3127	Benzoic Acid Fluoranthene Pyrene	120 ug/kg(J) 49 ug/kg(J) 65 ug/kg(J)
		92ME05-S20	01-3125	None detected	
09/09/92	Canyon Rim	92ME05-S27	01-6064	Acenaphthene Phenanthrene Anthracene Di-n-Butylphthalate Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene	36 ug/kg(J) 380 ug/kg 73 ug/kg(J) 39 ug/kg(J) 580 ug/kg 420 ug/kg 210 ug/kg(J) 240 ug/kg(J) 210 ug/kg(J) 160 ug/kg(J) 190 ug/kg(J)
09/16/92	J2,TU	92ME05-S29	01-1256	Phenanthrene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene	95 ug/kg(J) 140 ug/kg(J) 140 ug/kg(J) 63 ug/kg(J) 73 ug/kg(J) 52 ug/kg(J) 51 ug/kg(J) 44 ug/kg(J)
		92ME05-S30 (field blank)	01-1256	None detected	
09/17/92	Hillside 138	92ME05-S33	01-5025	3- and/or 4-Methylphenol Fluoranthene Pyrene	46 ug/kg(J) 25 ug/kg(J) 44 ug/kg(J)
		92ME05-S34 (duplicate of 92ME05-S33)	01-5025	3- and/or 4-Methylphenol Fluoranthene Pyrene	56 ug/kg(J) 33 ug/kg(J) 44 ug/kg(J)

TABLE 1 (cont'd)

Date	Sample Location	M&E Sample Number	LANL Sample Number	Analytical Results	
Radiation Analyses					
09/17/92	Hillside 138	92ME05-S31 (field blank)	01-5057	K-40	154.00 pCi/l, +/- 27.00
		92ME05-S32	01-5057	Bi-212	1.3 pCi/g, +/- 1.3
				Pb-212	0.9 pCi/g, +/- 0.6
				K-40	24.7 pCi/g, +/- 1.9
				Bi-214	1.1 pCi/g, +/- 0.3
				Pb-214	0.9 pCi/g, +/- 0.5
				Ra-226	1.1 pCi/g, +/- 0.3
				Ra-228	1.3 pCi/g, +/- 0.4
				Th-232	1.1 pCi/g, +/- 0.2
				Th-234	6.7 pCi/g, +/- 3.6
				Nb-95	0.1 pCi/g, +/- 0.2
				Cs-137	182.0 pCi/g, +/- 1.3
				U-238	10.7 pCi/g, +/- 5.5
				U-234	12.6 pCi/g, +/- 6.3
				Pu-239	2503.0 pCi/g, +/- 488.0
		92ME05-S35	01-5048	Bi-212	1.6 pCi/g, +/- 1.3
				Pb-212	1.4 pCi/g, +/- 0.5
				K-40	26.7 pCi/g, +/- 2.0
				Bi-214	1.1 pCi/g, +/- 0.3
				Ra-226	1.2 pCi/g, +/- 0.3
				Ra-228	1.2 pCi/g, +/- 0.4
				Th-232	1.2 pCi/g, +/- 0.2
				Th-234	6.1 pCi/g, +/- 3.1
				Cs-137	137.0 pCi/g, +/- 1.2
				Am-241	0.9 pCi/g, +/- 0.4
				U-238	6.48 pCi/g, +/- 2.34
				U-235	0.19 pCi/g, +/- 0.20
				U-234	6.49 pCi/g, +/- 2.34
				Pu-239	4304.0 pCi/g, +/- 725.0

Notes:

(J) - Indicates that the result is an estimate of the parameter concentration, either because the reported concentration is less than the quantitation limit or because some quality control result does not meet acceptance criteria.

TABLE 2

Analytical Results of Split Trench Soil Samples

Los Alamos National Laboratory
Los Alamos, New Mexico

Date	Sample Location	M&E Sample Number	LANL Sample Number	Analytical Results	
Metals Analyses					
09/24/92	Hillside 138 Bench	92ME05-S42	01-5122	Arsenic	0.68 mg/kg
				Barium	23.0 mg/kg
				Beryllium	1.3 mg/kg
				Chromium	3.0 mg/kg
				Lead	5.5 mg/kg
10/08/92	Hillside 137 Bench	92ME05-S44 (duplicate of 92ME05-S46)	01-3170	Arsenic	0.97 mg/kg
				Barium	16.6 mg/kg
				Beryllium	0.74 mg/kg
				Chromium	3.1 mg/kg
				Lead	5.8 mg/kg
		92ME05-S46	01-3170	Arsenic	1.1 mg/kg
				Barium	19.0 mg/kg
				Beryllium	1.0 mg/kg
				Chromium	4.2 mg/kg
				Lead	5.3 mg/kg
		92ME05-S48 (field blank)	01-3170	Beryllium	1.7 mg/kg
Semi-Volatile Analyses					
09/24/92	Hillside 138 Bench	92ME05-S40 (duplicate of 92ME05-S41)	01-5120	None detected	
		92ME05-S41	01-5120	bis(2-Ethylhexyl)phthalate	53 ug/kg(J)
		92ME05-S43	01-5128	bis(2-Ethylhexyl)phthalate	49 ug/kg(J)
10/08/92	Hillside 137 Bench	92ME05-S45	01-3183	bis(2-Ethylhexyl)phthalate	39 ug/kg(J)
		92ME05-S47 (field blank)	01-3183	None detected	

Notes:

(J) - Indicates that the result is an estimate of the parameter concentration, either because the reported concentration is less than the quantitation limit or because some quality control result does not meet acceptance criteria.

TABLE 3

Analytical Results of Split Surface Water and Pond Sediment Samples

Los Alamos National Laboratory
Los Alamos, New Mexico

Date	Sample Location	M&E Sample Number	LANL Sample Number	Analytical Results	
SURFACE WATER					
Metals Analyses					
09/08/92	Ashley Pond	92ME05-S21 (duplicate of 92ME05-S22)	01-6100	Arsenic Barium Lead	7.7 ug/l 78.6 ug/l 16.8 ug/l
		92ME05-S22	01-6100	Arsenic Barium Lead	7.5 ug/l 75.7 ug/l 11.3 ug/l
		92ME05-S23 (field blank)	01-6100	None detected	
Semivolatile Analyses					
09/08/92	Ashley Pond	92ME05-S21 (duplicate of 92ME05-S22)	01-6100	None detected	
		92ME05-S22	01-6100	Diethylphthalate	4 ug/l(J)
		92ME05-S23 (field blank)	01-6100	None detected	
Volatile Analyses					
09/08/92	Ashley Pond	92ME05-S21 (duplicate of 92ME05-S22)	01-6100	None detected	
		92ME05-S22	01-6100	None detected	
		92ME05-S23 (field blank)	01-6100	Chloroform Trichlorofluoromethane	5 ug/l 2 ug/l(J)
		92ME05-B01 (trip blank)		Chloroform	6 ug/l
POND SEDIMENTS					
Metal Analyses					
09/08/92	Ashley Pond	92ME05-S25	01-6103	Arsenic Barium Beryllium Chromium Lead	5.1 mg/kg 135 mg/kg 0.82 mg/kg 15.1 mg/kg 81.2 mg/kg

TABLE 3 (cont'd)

Date	Sample Location	M&E Sample Number	LANL Sample Number	Analytical Results	
Semivolatile Analyses					
09/08/92	Ashley Pond	92ME05-S24 (duplicate of 92ME05-S25)	01-6103	Di-n-Butylphthalate	200 ug/kg(J)
				Fluoranthene	120 ug/kg(J)
				Pyrene	94 ug/kg(J)
				bis(2-Ethylhexyl)phthalate	380 ug/kg(J)
		92ME05-S25	01-6103	Di-n-Butylphthalate	200 ug/kg(J)
				Fluoranthene	120 ug/kg(J)
				Pyrene	100 ug/kg(J)
				bis(2-Ethylhexyl)phthalate	430 ug/kg(J)
		92ME05-S26 (field blank)	01-6103	None detected	
Volatile Analyses					
09/08/92	Ashley Pond	92ME05-S24 (duplicate of 92ME05-S25)	01-6103	Acetone	120 ug/kg(B)
		92ME05-S25	01-6103	Acetone	180 ug/kg(B)
		92ME05-S26 (field blank)	01-6103	Chloroform	4 ug/l(J)
Radiation Analyses					
09/08/92	Ashley Pond	92ME05-S24 (duplicate of 92ME05-S25)	01-6103	Bi-212	2.1 pCi/g, +/- 2.4
				Pb-212	2.8 pCi/g, +/- 0.4
				K-40	23.8 pCi/g, +/- 2.6
				Bi-214	1.8 pCi/g, +/- 0.3
				Pb-214	2.0 pCi/g, +/- 0.3
				Ra-226	1.9 pCi/g, +/- 0.2
				Ra-228	2.0 pCi/g, +/- 0.5
				Th-232	1.8 pCi/g, +/- 0.3
				Th-234	6.3 pCi/g, +/- 4.0
				Cs-137	1.4 pCi/g, +/- 0.2
				I-131	4.3 pCi/g, +/- 4.1
				Am-241	0.7 pCi/g, +/- 0.3
				U-238	1.94 pCi/g, +/- 0.81
				U-234	2.24 pCi/g, +/- 0.90
				Pu-239	13.7 pCi/g, +/- 2.5

TABLE 3 (cont'd)

Date	Sample Location	M&E Sample Number	LANL Sample Number	Analytical Results	
09/08/92	Ashley Pond	92ME05-S25	01-6103	K-40	25.3 pCi/g, +/- 2.9
				Bi-214	2.0 pCi/g, +/- 0.3
				Pb-214	2.1 pCi/g, +/- 0.5
				Ra-226	2.1 pCi/g, +/- 0.3
				Ra-228	2.2 pCi/g, +/- 0.6
				Th-232	1.8 pCi/g, +/- 0.4
				U-235	0.5 pCi/g, +/- 0.2
				Cr-51	7.5 pCi/g, +/- 5.5
				Cd-109	6.4 pCi/g, +/- 4.7
				Cs-137	0.4 pCi/g, +/- 0.2
				U-238	2.00 pCi/g, +/- 1.06
				U-234	1.25 pCi/g, +/- 0.75
				Pu-239	1.95 pCi/g, +/- 0.68

Notes:

(J) - Indicates that the result is an estimate of the parameter concentration, either because the reported concentration is less than the quantitation limit or because some quality control result does not meet acceptance criteria.

(B) - Indicates that the organic compound was detected in the associated method blank. Any concentrations listed with this qualifier on the table are at least 5 times the concentration of the organic compound in the method blank.