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NATIONAL LABORATORY
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RADIONUCLIDES, HEAVY METALS, AND POLYCHLORINATED BIPHENYLS IN SOILS COLLECTED AROUND THE PERIMETER OF LOW-LEVEL RADIOACTIVE WASTE DISPOSAL AREA G DURING 2006

P.R. Fresquez

ABSTRACT

Twenty-one soil surface samples were collected in March around the perimeter of Area G, the primary disposal facility for low-level radioactive solid waste at Los Alamos National Laboratory (LANL). Three more samples were collected in October around the northwest corner after elevated tritium levels were detected on an AIRNET station located north of pit 38 in May. Also, four soil samples were collected along a transect at various distances (48, 154, 244, and 282 m) from Area G, starting from the northeast corner and extending to the Pueblo de San Ildefonso fence line in a northeasterly direction (this is the main wind direction). Most samples were analyzed for radionuclides (^{3}H, ^{238}Pu, ^{239,240}Pu, ^{241}Am, ^{234}U, ^{235}U, and ^{238}U), inorganic elements (Al, Ba, Be, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Na, V, Hg, Zn, Sb, As, Cd, Pb, Se, Ag, and Tl) and polychlorinated biphenyl (PCB) concentrations. As in previous years, the highest levels of ^{3}H in soils (690 pCi/mL) were detected along the south portion of Area G near the ^{3}H shafts; whereas, the highest concentrations of ^{241}Am (1.2 pCi/g dry) and the Pu isotopes (1.9 pCi/g dry for ^{238}Pu and 5 pCi/g dry for ^{239,240}Pu) were detected along the northeastern portions near the transuranic waste pads. Concentrations of ^{3}H in three soil samples and ^{241}Am and Pu isotopes in one soil sample collected around the northwest corner in October increased over concentrations found in soils collected at the same locations earlier in the year. Almost all of the heavy metals, with the exception of Zn and Sb in one sample each, in soils around the perimeter of Area G were below regional statistical reference levels (mean plus three standard deviations) (RSRLs). Similarly, only one soil sample collected on the west side contained PCB concentrations—67 μg/kg dry of aroclor-1254 and 94 μg/kg dry of aroclor-1260. Radionuclide and inorganic element concentrations in soils collected along a transect from Area G to the Pueblo de San Ildefonso fence line show that most contained concentrations of ^{241}Am, ^{238}Pu, and ^{239,240}Pu above the RSRLs. Overall, all concentrations of radionuclides, heavy metals, and PCBs that were detected above background levels in soils collected around the perimeter of Area G and towards the Pueblo de San Ildefonso boundary were still very low and far below LANL screening levels and regulatory standards.

1. INTRODUCTION

Solid radioactive wastes have been disposed of by burial at Los Alamos National Laboratory (LANL) since the early 1940s (Purtymun et al., 1980). Area G is a 25.5-hectare (63-acre) low-level radioactive waste processing area located on the east end of Mesa del Buey at Technical Area (TA) 54 (Figure 1). Area G was established in 1957 and is the Laboratory's primary radioactive solid waste burial and storage site (Soholt, 1990). Wastes include contaminated equipment, paper, clothing, building materials, soils, and process wastes and are placed in pits, trenches, or shafts and then covered with fill material (Hansen et al., 1980). Tritium, ^{238}Pu, ^{239,240}Pu, ^{241}Am, ^{234}U, ^{235}U, and ^{238}U and a variety of fission and activation products are the main radionuclides in waste materials deposited at Area G (U.S. DOE, 1979).

As part of the Environmental Surveillance Program at LANL, samples of soils and vegetation have been collected within and around the perimeter of Area G to monitor and assess the site's impact on the surrounding environment (Lopez, 2002). A soil sampling program is the most direct means of estimating the types, concentrations, and distribution of radionuclides in the environment within and around nuclear facilities (Fresquez et al., 1996). Subsequently, the knowledge gained from the radiological surveillance of soil is critical to provide information about potential exposure by way of several pathways that include soil ingestion, consumption of food crops, resuspension of radionuclides into the air, and contamination of groundwater (Hakonson et al., 1981). The uptake of radionuclides by vegetation may also give some insight into surface (Hansen et al., 1980) and subsurface (Wenzel et al., 1987) pathways of contaminants to receptors from waste disposal areas. Trees, in particular, have been shown to be excellent indicators of subterranean ^{3}H migration from low-level radioactive waste disposal sites (Rickard and Kirby, 1987; Fresquez et al., 2003).

This year, soil samples were collected around the perimeter of Area G and compared with similar media collected from regional background to determine impacts to human health, if any. Also, soil samples were collected along a transect at various distances starting from the northeast corner of Area G to the Pueblo de San Ildefonso boundary in the prominent wind direction. Radionuclides that were analyzed this year included those that have shown a history of detection at Area G—these are ^{3}H, ^{241}Am,

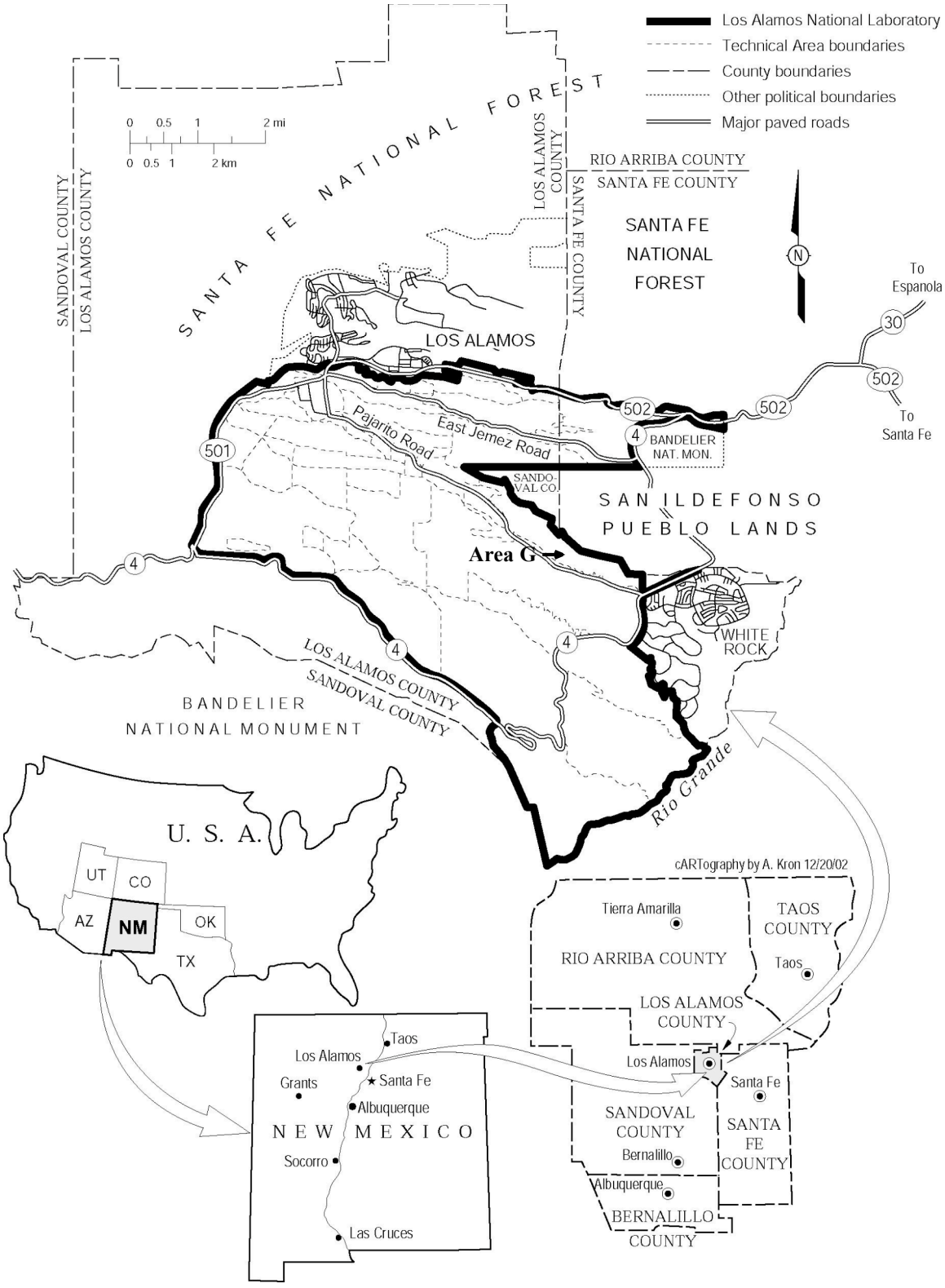

Figure 1. The location of Area G at Los Alamos National Laboratory.

^{238}Pu, ^{239,240}Pu, and the U isotopes. Based on past years, other radionuclides such as cesium and strontium do not appear to be of significant concern and were not analyzed. Other parameters measured this year included the analysis of 23 inorganic elements and polychlorinated biphenyls (PCBs).

2. METHODS

a. Soil Sampling

Twenty-one soil surface samples were collected in March of 2006 at designated locations around the perimeter of Area G at TA-54 (Figure 2). Three of these locations around the northwestern corner of Area G (15-01, 54-01, and 58-01) were sampled again in October after elevated levels of tritium were detected at an air monitoring (AIRNET) station located north of Pit 38. Also, we collected four samples along a transect, starting from the northeast portion of Area G, to the Pueblo de San Ildefonso fence line in a northeasterly direction (the primary wind direction). (**Note:** The Pueblo de San Ildefonso fence line is approximately 46 m [150 ft] north of the Pueblo boundary line.) These samples were collected at approximately the 48-, 154-, 244-, and 282-m (157-, 505-, 803-, and 927-ft) distance.

The soil (grab) samples were collected from the 0- to 15-cm (0- to 6-in.) depth with disposable polystyrene scoops. Samples for analyses for radionuclides (^{3}H, ^{238}Pu, ^{239,240}Pu, ^{234}U, ^{235}U, ^{238}U, and ^{241}Am) and inorganic elements (Al, Ba, Be, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Na, V, Hg, Zn, Sb, As, Cd, Pb, Se, Ag, and Tl) were placed into 500-mL poly bottles. Samples for PCB (aroclors) analysis were placed into 500-mL amber glass bottles. All samples were transported in an ice chest cooled to approximately 4ºC and submitted under full chain of custody to Paragon Analytics, Inc., for analysis. Methods of radiochemical analyses have been described previously (Fresquez et al., 1997; Childs and Conrad, 1997). Radionuclide results were reported in pCi/mL of soil moisture for ^{3}H and pCi/g dry soil for all the others. See Nyhan et al. (2002) for a detailed description of total propagated analytical uncertainty (TPU) associated with the radiological data.

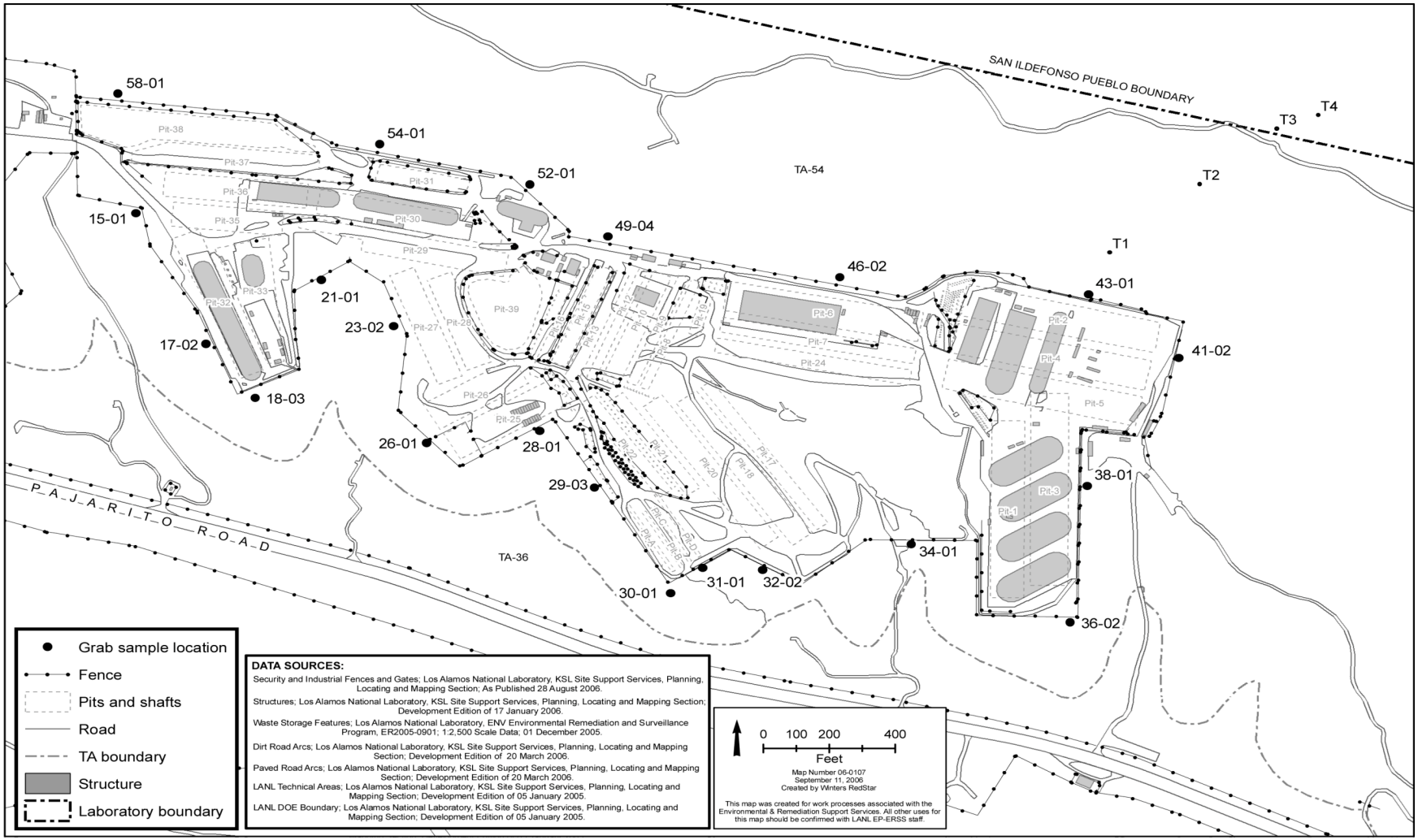

Figure 2. Locations of sampling points around the perimeter of Area G and the points along a transect line from Area G to the Pueblo de San Ildefonso.

The samples for inorganic analysis were prepared based on SW-846. For the analysis of Al, Ba, Be, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Na, V, and Zn, the samples were digested following method 3050B and analyzed by trace inductively coupled plasma (ICP) by method 6010B and reported on a mg/kg dry weight basis (ppm). Antimony, Ar, Cd, Pb, Se, Ag, and Tl were analyzed using method SW6020A on an ICP mass spectrometer and reported on a µg/kg dry weight basis (ppb). Mercury was analyzed by cold vapor atomic absorption after being digested by method 7471A and reported on a mg/kg dry weight basis.

PCBs were extracted and analyzed according to SW-846 method 8082. Extracts were cleaned by method 3665A before being read on a gas chromatograph/electron capture detector, using a RTX-CLP Pesticides capillary column. Results are reported in µg/kg (ppb) dry weight basis.

b. Determining the Composition of Uranium

To determine the source of U in soils at the 99% confidence level, the U isotopic distribution of ^{234}U and ^{238}U, which for naturally occurring U is one, was assessed using the following steps: (1) the difference between ^{234}U and ^{238}U was calculated, (2) the squares of their uncertainties were summed and then the square root of this number was taken, (3) the ^{234}U and ^{238}U difference was divided by the pooled square root, (4) if the result was greater than 3, then it was observed whether the ^{234}U value or the ^{238}U value was larger, (5) if the ^{234}U value was larger, then excess enriched U was indicated. Conversely, if the ^{238}U value was larger, then excess depleted U was indicated.

c. Soil Standards

To evaluate Area G impacts from detectable radionuclides (the result is greater than three times the TPU) and nonradionuclides (the result is greater than the reporting limit), the analytical results of soil samples collected from the facility are first compared to Regional Statistical Reference Levels (RSRLs). RSRLs are the upper-level background concentration (mean plus three standard deviations = 99% confidence level) for radionuclides and nonradionuclides calculated from soil data collected from regional background locations away from the influence of the Laboratory over the past five years and represent natural and fallout sources.

Where the levels exceed RSRLs, the concentrations are then compared to screening levels (SLs). For radionuclides in soils, the SLs were set below the federal dose level of 100 mrem so that potential concerns may be identified in advance of major problems, i.e., a "yellow flag." If a constituent exceeds a SL, then we investigate the reason for that increase more thoroughly. The Environmental Remediation and Surveillance Program developed SLs (Table 1) to identify contaminants of concern on the basis of a 15-mrem protective dose limit (LANL, 2005) using the RESRAD computer model version 6.21 (Yu et al., 1995). For nonradionuclides in soils, we compared result values to New Mexico Environment Department SLs (industrial/occupational scenario) that are set at the 10^{-5} risk for carcinogens or a hazard quotient (HQ) of 1 for noncarcinogens (NMED, 2005).

Finally, if a radionuclide contaminant exceeds the SL then it is compared to the standard. For radionuclides in soil, the measured concentrations are used to calculate a per-person dose using RESRAD. The calculated dose is based on a residential scenario and assumes soil ingestion, inhalation of suspended dust, and ingestion of homegrown fruits and vegetables as the primary exposure pathways for one or more radionuclides. The unit conversions, input parameters, model and parameter assumptions, and uncertainty analysis that are used can be found in Fresquez et al. (1996). This calculated per-person dose is compared to the 100-mrem/yr U.S. Department of Energy standard (U.S. DOE, 1993).

Table 1. Soil Reference Levels Employed to Assess Area G Monitoring Data.

Media	Background	Screening Level	Standard
Radionuclides	RSRL	15 mrem/y	100 mrem/y
Heavy Metals	RSRL	10^{-5} risk or HQ = 1 (industrial/occupational)	
PCBs		10^{-5} risk or HQ = 1 (industrial/occupational)	

3. RESULTS

a. Radionuclide Concentrations in Soils Collected around the Perimeter of Area G

Results of radionuclide concentrations in soils collected around the perimeter of Area G are given in Table 2. The chain-of-custody records and Paragon Analytics, Inc., analytical reports are included in Appendix A for reference.

With respect to the 21 soil samples collected around the perimeter of Area G in March, concentrations of ^{3}H were detected above the RSRL in 13 of the 21 samples. The highest concentrations (104 and 690 pCi/mL) were collected in the southern portions of Area G where the ^{3}H shafts are located. These results are similar to those detected in past years (Nyhan et al., 2004; Fresquez and Lopez, 2004; Fresquez et al., 2005). All results, however, are far below the SL of 5,400 pCi/mL. Many of the soil samples collected at Area G, particularly around the perimeter of the northern, northeastern, and eastern sections, contained ^{241}Am (10 out of 21), ^{238}Pu (8 out of 21), and ^{239,240}Pu (9 out of 21) above RSRLs. The highest concentrations of ^{241}Am (1.2 pCi/g dry) and ^{239,240}Pu (5 pCi/g dry) were detected in a soil grab sample located on the perimeter of the eastern side of Area G near the Transuranic Waste Inspection Project (TWISP) domes. All concentrations were below SLs, however. All U isotope concentrations were below RSRLs and the distribution of ^{234}U and ^{238}U in all of the soil samples collected indicates naturally occurring U. These data are very similar to last year's results.

With respect to the three additional soil samples collected in October, the concentrations of ^{3}H in all three samples were higher than concentrations of ^{3}H recorded seven months earlier in March. Location #15-01, in particular, contained ^{3}H, ^{241}Am, ^{238}Pu, and ^{239}Pu two to nearly six times higher than previous results. However, all concentrations of radionuclides were far below SLs.

b. Inorganic Element Concentrations in Soils Collected around the Perimeter of Area G

Most of the inorganic elements in soils collected around the perimeter of Area G were below RSRLs (478 out of 483 measurements) (Table 3 and Appendix B). The only heavy metals that were detected above the RSRL was Zn (120 mg/kg dry compared to 69 mg/kg dry in one sample located at site #21-01 just east of the mixed waste dome) and Sb (390 µg/kg dry compared to 280 µg/kg dry in one sample located at site #38-01 just east

Table 2. Radionuclide Concentrations (TPU at the 99% confidence level) in Surface Soils (0- to 6-inch depth) Collected Around the Perimeter of Area G in 2006. (Bold values are greater than the TPU and RSRL.)

	^{3}H (pCi/mL)		^{241}Am (pCi/g dry)		^{238}Pu (pCi/g dry)		^{239,240}Pu (pCi/g dry)		^{234}U (pCi/g dry)		^{235}U (pCi/g dry)		^{238}U (pCi/g dry)	
Location	**Result**	**TPU**	**Result**	**TPU**	**Result**	**TPU**	**Result**	**TPU**	**Result**	**TPU**	**Result**	**TPU**	**Result**	**TPU**
15-01[a]	0.34	0.62	0.019	0.017	0.0063	0.0078	0.019	0.015	0.91	0.29	0.036	0.042	0.80	0.27
15-01[b]	**2.0**	0.63	**0.033**	0.022	**0.019**	0.016	**0.087**	0.039	0.79	0.22	0.039	0.025	0.83	0.23
17-02	0.18	0.42	**0.028**	0.022	0.0060	0.0094	**0.067**	0.030	1.1	0.34	0.077	0.058	1.3	0.39
18-03	0.86	0.64	0.016	0.016	-0.0029	0.0091	0.036	0.022	1.1	0.33	0.051	0.050	1.2	0.37
21-01	0.37	0.54	0.011	0.014	**0.011**	0.010	0.033	0.020	1.1	0.34	0.074	0.062	1.2	0.38
23-02	0.23	0.54	0.014	0.017	0.0014	0.0066	0.011	0.011	0.95	0.30	0.059	0.053	0.85	0.28
26-01	0.31	0.43	0.010	0.010	0.0024	0.0065	0.030	0.019	1.1	0.33	0.067	0.055	1.1	0.33
28-01	**1.9**	0.73	**0.029**	0.023	**0.016**	0.013	**0.051**	0.026	0.91	0.29	0.058	0.052	1.0	0.32
29-03	**690**	160	0.015	0.018	0.0084	0.0091	0.024	0.017	0.98	0.31	0.044	0.046	0.93	0.30
30-01	**41**	9.7	0.010	0.015	0.0070	0.011	0.030	0.019	0.97	0.29	0.026	0.032	0.96	0.29
31-01	**104**	24	**0.030**	0.027	0.010	0.010	0.014	0.012	0.98	0.30	0.048	0.049	0.91	0.28
32-02	**9.0**	2.8	**0.022**	0.021	0.010	0.011	**0.048**	0.025	0.82	0.29	0.036	0.047	0.88	0.30
34-01	**5.7**	1.7	0.010	0.012	0.0070	0.0098	0.016	0.014	0.73	0.25	0.059	0.055	0.82	0.27
36-02	**1.3**	2.0	**0.077**	0.035	0.0081	0.0098	**0.21**	0.068	0.98	0.32	0.060	0.058	1.0	0.34
38-01	**2.1**	1.9	**1.2**	0.32	**0.18**	0.058	**5.0**	1.2	0.97	0.31	0.070	0.060	1.1	0.34
41-02	**1.5**	1.3	**0.20**	0.072	**1.9**	0.47	**0.44**	0.12	0.94	0.31	0.065	0.062	0.88	0.29
43-01	**1.2**	1.8	**0.11**	0.048	**0.29**	0.085	**0.36**	0.10	0.94	0.32	0.036	0.045	1.0	0.33
46-02	**7.0**	2.0	**0.22**	0.074	**1.2**	0.30	**2.4**	0.58	1.0	0.38	0.025	0.047	0.87	0.33
49-04	**1.6**	0.69	**0.099**	0.045	**0.036**	0.022	**0.15**	0.054	0.80	0.27	0.049	0.050	0.86	0.29
52-01	0.36	0.54	0.0090	0.012	0.0090	0.011	0.028	0.020	0.93	0.30	0.070	0.062	0.97	0.31
54-01[a]	**1.3**	1.2	0.012	0.014	0.0076	0.0092	0.034	0.020	0.97	0.31	0.022	0.033	0.88	0.29
54-01[b]	**5.5**	1.4	0.013	0.016	0.011	0.012	0.025	0.019	0.72	0.21	0.057	0.035	0.75	0.22
58-01[a]	1.0	1.6	0.016	0.016	**0.046**	0.024	0.031	0.019	1.1	0.35	0.053	0.055	1.0	0.33
58-01[b]	**1.5**	0.53	0.0070	0.012	**0.011**	0.012	**0.044**	0.026	0.85	0.24	0.042	0.027	0.83	0.23
RSRL[c]	0.86		0.019		0.0067		0.036		1.4		0.11		1.4	
SL[d]	5,400[e]		30		37		33		170		17		86	

[a]Collected in March of 2006.

[b]Collected in October of 2006.

[c]Regional Statistical Reference Level; this is the upper-limit background concentration (mean + 3 std dev) based on data from 1999 to 2006.

[d]Los Alamos National Laboratory Screening Level (residential) based on RESRAD version 6.21 (LANL, 2005).

[e]Equivalent to the screening action level of 750 pCi/g dry soil at 12% moisture (LANL, 2005).

Table 3. Total Trace and Abundant Inorganic Elements in Surface Soils (0- to 6-inch depth) Collected from the Perimeter of Area G during 2006. (Bold values are higher than the RSRL.)[a]

Location	Al[b] mg/kg dry	Ba mg/kg dry	Be mg/kg dry	Ca mg/kg dry	Cr mg/kg dry	Co mg/kg dry	Cu mg/kg dry	Fe mg/kg dry	Mg mg/kg dry	Mn mg/kg dry	Ni mg/kg dry	K mg/kg dry
15-01	3,400	47	0.43	1,700	3.0	1.8	3.6	6,200	890	230	2.8	590
17-02	4,800	64	0.68	2,000	4.0	2.4	5.3	7,700	960	250	3.8	710
18-03	4,800	73	0.70	2,000	4.0	2.4	5.0	8,000	1,000	280	3.6	770
21-01	3,800	50	0.58	2,400	4.3	1.8	4.2	7,700	1,100	250	3.4	680
23-02	6,000	65	0.94	2,300	4.6	2.5	4.6	9,700	1,200	260	4.4	1,100
26-01	5,900	92	0.87	5,600	4.7	2.7	5.6	8,900	1,400	260	4.7	1,000
28-01	4,000	49	0.54	1,100	4.2	2.2	4.2	7,500	800	230	3.5	710
29-03	4,100	55	0.59	1,600	3.4	2.0	4.1	6,700	800	230	3.0	770
30-01	4,500	58	0.68	1,300	4.7	2.8	4.9	8,800	880	260	4.0	760
31-01	5,600	59	0.86	1,800	5.7	2.7	5.6	9,000	1,300	210	5.1	1,100
32-02	5,400	75	0.78	2,500	4.4	2.8	4.7	8,600	1,100	270	4.4	900
34-01	4,800	70	0.70	1,600	4.1	2.7	3.9	8,000	1,100	270	3.9	1,000
36-02	3,500	44	0.57	1,700	2.9	1.6	3.8	5,800	770	180	3.0	720
38-01	4,200	58	0.54	2,400	4.5	2.4	5.2	8,700	930	250	3.6	920
41-02	3,800	53	0.54	1,700	4.1	2.1	5.1	6,700	750	210	3.4	790
43-01	3,900	46	0.52	1,600	3.2	1.8	4.7	6,300	770	200	3.0	910
46-02	4,300	59	0.60	1,800	5.3	2.2	5.1	7,700	890	240	3.5	860
49-04	3,100	42	0.41	2,600	5.5	1.7	4.7	6,400	1,000	180	3.4	660
52-01	3,200	39	0.42	1,300	2.9	1.7	3.0	6,400	620	190	2.8	490
54-01	4,500	58	0.59	1,400	5.1	3.2	4.6	8,700	870	240	3.9	730
58-01	4,800	65	0.62	1,700	4.7	2.8	5.1	8,500	950	280	4.0	900
RL[c]												
RSRL[d]	15,990	217	1.2	34,902	26	9.6	18	19,990	5,014	843	18	3,729
SL[e]	100,000	78,300	2,250		3,400	20,500	45,400	100,000		100,000	22,500	

Table 3. (Continued)

Location	Na mg/kg dry	V mg/kg dry	Zn mg/kg dry	Sb µg/kg dry	As µg/kg dry	Cd µg/kg dry	Pb µg/kg dry	Se µg/kg dry	Ag µg/kg dry	Tl µg/kg dry	Hg mg/kg dry
15-01	59	7.4	34	42	1,000	110	7,200	U	73	44	U
17-02	67	9.0	62	68	1,500	210	13,000	U	180	61	U
18-03	53	9.0	29	62	1,500	170	12,000	U	120	62	U
21-01	**90**	8.0	**120**	52	1,200	160	9,800	U	200	49	0.012
23-02	59	11	33	58	1,700	150	10,000	69	160	77	0.015
26-01	73	11	**90**	42	1,700	200	12,000	58	170	72	0.014
28-01	59	9.3	60	43	1,200	140	11,000	U	190	55	0.013
29-03	48	7.6	36	44	1,200	160	9,000	U	110	51	U
30-01	71	11	30	49	1,500	150	9,900	U	200	65	U
31-01	83	11	32	55	1,800	150	9,700	U	**580**	76	0.020
32-02	75	10	46	60	1,800	190	11,000	64	220	74	0.022
34-01	50	9.4	28	35	1,100	85	7,300	U	140	69	U
36-02	56	6.5	40	50	860	150	8,300	U	100	47	0.011
38-01	61	11	40	**390**	1,400	190	13,000	U	170	58	0.014
41-02	63	8.7	36	120	1,500	160	8,200	U	110	53	0.012
43-01	57	7.0	35	240	930	170	9,300	U	160	47	0.013
46-02	61	9.1	35	46	1,200	150	8,600	51	**730**	55	0.025
49-04	74	8.3	60	76	880	160	12,000	U	**360**	48	0.017
52-01	56	7.4	49	48	900	110	6,700	U	73	42	U
54-01	57	13	26	48	1,600	130	10,000	U	85	65	0.012
58-01	57	11	44	61	1,700	180	11,000	U	110	66	0.011
RL[c]								51			0.010
RSRL[d]	83	36	69	269	5,448	321	18,261	228	304	254	0.039
SL[e]		1,140	100,000	454,000	18,000	564,000	800,000	5,680,000	5,680,000	75,000	68

[a] Concentrations reported in mg/kg dry = ppm and µg/kg dry = ppb

[b] Al to Zn by method SW6010B and analyzed by ICP; Sb to Tl by method SW6020B and analyzed by ICP mass spectroscopy; Hg by method SW7471 and analyzed by cold vapor atomic absorption.

[c] Reporting Limit for undetectable (U) concentrations.

[d] Regional Statistical Reference Level; this is the upper limit background concentration (mean + 3 std dev) for soils based on data from 1999 to 2006.

[e] New Mexico Environment Department Screening Level (industrial/occupational) (NMED, 2005). The SL for mercury is based on methyl mercury.

of the TWISP domes). All concentrations of these heavy metals were far below the SLs, however.

c. PCB Concentrations in Soils Collected around the Perimeter of Area G

Only one soil sample out of 21 samples collected contained PCBs—these detections were found at site #26-01, which is located on the south side of Area G (Appendix C). Aroclor-1254 and -1260 in this one soil sample were detected at concentrations of 67 and 94 µg/kg dry, respectively. These levels, however, are far below the SL of 8,260 µg/kg dry.

d. Radionuclide Concentrations in Soils Collected along a Transect at Various Distances from Area G to the Pueblo de San Ildefonso Fence Line

Concentrations of ^{241}Am, ^{238}Pu, and ^{239,240}Pu in most of the soil samples collected along a transect starting from the northeast portion of Area G and extending to the Pueblo de San Ildefonso fence line were above the RSRLs (Table 4 and Appendix D). All concentrations, however, were still far below the SLs and concentrations of all radionuclides, including ^{239,240}Pu, decrease to background levels within a relatively short distance from the Pueblo fence line. Soil samples that have been collected as part of the Environmental Surveillance Program about 800 ft further northeast of the Pueblo de San Ildefonso fence line from 1996 through 2005 show that most samples (8 out of 10) contained ^{239,240}Pu below the RSRL (Fresquez, 2006).

Although ^{234}U and ^{238}U were just a little bit higher in concentrations than the RSRLs in the soil sample collected near the fence line, the levels of these isotopes closer to Area G were below background concentrations and the distribution of ^{234}U and ^{238}U indicates that this is a natural source of U.

e. Inorganic Element Concentrations in Soils Collected Along a Transect at Various Distances from Area G to the Pueblo de San Ildefonso Fence Line

All inorganic elements, including all heavy metals, in soil samples collected along a transect from Area G to the Pueblo de San Ildefonso fence line were below the RSRLs and are of no concern (Table 5 and Appendix E).

f. PCB Concentrations in Soils Collected Along a Transect at Various Distances from Area G to the Pueblo de San Ildefonso Fence Line

All soil samples collected along a transect at various distances from Area G to the Pueblo de San Ildefonso fence line contained no detectable concentrations of PCBs

Table 4. Radionuclide Concentrations (TPU at the 99% confidence level) in Surface Soils (0- to 6-inch depth) along a Transect Starting from the Northeast Corner of Area G and Extending in a Northeasterly Direction to the Boundary of the Pueblo de San Ildefonso. (Bold values are greater than the TPU and RSRL.)

Distance from Area G (ft)	^{3}H (pCi/mL)		^{241}Am (pCi/g dry)		^{238}Pu (pCi/g dry)		^{239,240}Pu (pCi/g dry)		^{234}U (pCi/g dry)		^{235}U (pCi/g dry)		^{238}U (pCi/g dry)	
	Result	TPU	Result	TPU	Result	TPU	Result	TPU	Result	TPU	Result	TPU	Result	TPU
157 (T1)	0.45	0.56	**0.024**	0.018	**0.019**	0.015	**0.054**	0.026	0.90	0.29	0.044	0.049	0.91	0.3
505 (T2)	0.69	0.94	**0.021**	0.018	**0.026**	0.017	**0.058**	0.027	0.83	0.27	0.061	0.054	0.93	0.29
803 (T3)	0.50	1.1	0.019	0.016	**0.025**	0.017	**0.044**	0.024	0.64	0.23	0.033	0.043	0.70	0.24
927 (T4)	-0.20	1.9	0.008	0.012	0.0090	0.010	**0.058**	0.028	**1.7**	0.50	0.097	0.076	**1.7**	0.51
RSRL[a]	0.86		0.019		0.0067		0.036		1.4		0.11		1.4	
SL[b]	5,400[c]		30		37		33		170		17		86	

[a]Regional Statistical Reference Level; this is the upper-limit background concentration (mean + 3 std dev) based on data from 1999 to 2006.
[b]Los Alamos National Laboratory Screening Level (residential) based on RESRAD version 6.21 (LANL, 2005).
[c]Equivalent to the screening action level of 750 pCi/g dry soil at 12% moisture (LANL, 2005).

Table 5. Total Trace and Inorganic Elements in Surface Soils (0- to 6-inch depth) Collected Along a Transect Starting from the Northeast Corner of Area G (point #43-01) and Extending in a Northeasterly Direction to the Boundary of the Pueblo de San Ildefonso. (Bold values are greater than the RSRL.)[a]

Distance from Area G (ft)	Al[b] mg/kg dry	Ba mg/kg dry	Be mg/kg dry	Ca mg/kg dry	Cr mg/kg dry	Co mg/kg dry	Cu mg/kg dry	Fe mg/kg dry	Mg mg/kg dry	Mn mg/kg dry	Ni mg/kg dry	K mg/kg dry
157 (T1)	5,700	80	0.77	1,600	5.2	3.4	5.0	10,000	1,200	300	5.2	1,200
505 (T2)	5,600	88	0.77	1,500	5.5	4.3	5.0	10,000	1,100	340	5.7	1,100
803 (T3)	3,300	58	0.44	830	3.5	2.7	3.5	6,900	650	280	3.2	650
927 (T4)	3,600	40	0.75	1,200	2.4	1.4	3.3	6,500	560	280	2.2	670
RL[c]												
RSRL[d]	15,990	217	1.2	34,902	26	9.6	18	19,990	5,014	843	18	3,729
SL[e]	100,000	78,300	2,250		3,400	20,500	45,400	100,000		100,000	22,500	

Distance from Area G (ft)	Na mg/kg dry	V mg/kg dry	Zn mg/kg dry	Sb µg/kg dry	As µg/kg dry	Cd µg/kg dry	Pb µg/kg dry	Se µg/kg dry	Ag µg/kg dry	Tl µg/kg dry	Hg mg/kg dry
157 (T1)	54	12	28	54	1,700	110	9,600	U	100	90	U
505 (T2)	57	14	25	52	1,900	120	10,000	U	100	110	U
803 (T3)	36	9.1	23	46	1,100	130	8,300	U	86	65	U
927 (T4)	82	5.2	28	47	880	120	9,400	U	100	93	U
RL[c]	51							51			0.010
RSRL[d]	83	36	69	269	5,448	321	18,261	228	304	254	0.039
SL[e]		1,140	100,000	454,000	18,000	564,000	800,000	5,680,000	5,680,000	75,000	68

[a] Concentrations reported in mg/kg dry = ppm and µg/kg dry = ppb

[b] Al to Zn by method SW6010B and analyzed by ICP; Sb to Tl by method SW6020B and analyzed by ICP mass spectroscopy; Hg by method SW7471 and analyzed by cold vapor atomic absorption.

[c] Reporting Limit for undetectable (U) concentrations.

[d] Regional Statistical Reference Level; this is the upper limit background concentration (mean + 3 std dev) for soils based on data from 1999 to 2006.

[e] New Mexico Environment Department Screening Level (industrial/occupational) (NMED, 2005). The SL for mercury is based on methyl mercury.

(Appendix F). The one PCB hit detected in a soil sample collected at site #26-01 was detected on the opposite side (south side) of the transect study.

4. CONCLUSIONS

All concentrations of radionuclides, inorganic elements, and PCBs in soils collected around the perimeter of Area G and along a transect from Area G to the Pueblo de San Ildefonso fence line were low and below SLs and regulatory standards. Therefore, exposure to radionuclides and nonradionuclides from Area G soils does not pose a significant risk to humans.

ACKNOWLEDGMENTS

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APPENDIX A

ANALYTICAL DATA REPORTS OF RADIONUCLIDE CONCENTRATIONS IN SOILS COLLECTED AROUND THE PERIMETER OF AREA G DURING 2006

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 126 **Creation Date:** 3/20/2006

0603205

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: Facility Sampling (soils, sediments & Soil sampling Area G (perimeter)

Cost Center: 7H0200
Program Code: C34B
Cost Account: 0103/~~0303~~ 0300

USI	Date Collected	Time Collected	Location Name	Number of Samples	Analysis Requested	Remarks	Field ID
704	3/20/06	1:45	46-02				.01
705	3/20/06	2:00	49-4		^{3}H, ISO Pu, ^{241}Am		.02
706	3/20/06	2:30	52-1				.03
707	3/20/06	3:00	54-1		ISO U		.04
708	3/20/06	3:30	58-1				.05
709	3/21/06	9:00	43-1		TAL Metals		.06
710	3/21/06	9:30	41-02				.07
711	3/21/06	10:00	38-01				.08
712	3/21/06	10:30	36-02				.09
713	3/21/06	1:00	34-01				.10

Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date
Louis Naranjo Jr	3/29/06		3-30-06		
Louis Naranjo	Time 10:00		Time 0945		Time
Received by (print and sign)		**Received by (print and sign)**		**Received by (print and sign)**	
	10:00				
Keith Greene					

Samplers (print names and initial) Louis Naranjo Jr. LN Marvin Shendo MSH

Comments

Tritium Analysis By Liquid Scintillation Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Thursday, April 20, 2006 11:09:40 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-1	126.704	Sample	H-3	7.0 +/- 2.0	1.1	pCi/ml	SOIL	3H060411-1	4/18/2006	M3
0603205-2	126.705	Sample	H-3	1.55 +/- 0.69	0.61	pCi/ml	SOIL	3H060411-1	4/18/2006	M3
0603205-3	126.706	Sample	H-3	0.36 +/- 0.54	0.58	pCi/ml	SOIL	3H060411-1	4/18/2006	U
0603205-4	126.707	Sample	H-3	1.3 +/- 1.2	1.2	pCi/ml	SOIL	3H060411-1	4/18/2006	M3
0603205-5	126.708	Sample	H-3	1.0 +/- 1.6	1.8	pCi/ml	SOIL	3H060411-1	4/18/2006	U,M
0603205-6	126.709	Sample	H-3	1.2 +/- 1.8	2.0	pCi/ml	SOIL	3H060411-1	4/18/2006	U,M
0603205-7	126.710	Sample	H-3	1.5 +/- 1.3	1.3	pCi/ml	SOIL	3H060411-1	4/18/2006	M3
0603205-8	126.711	Sample	H-3	2.1 +/- 1.9	2.0	pCi/ml	SOIL	3H060411-1	4/18/2006	M3
0603205-9	126.712	Sample	H-3	1.3 +/- 2.0	2.2	pCi/ml	SOIL	3H060411-1	4/18/2006	U,M

Comments:

Data Package ID: *h30603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Tritium Analysis By Liquid Scintillation Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Thursday, April 20, 2006 11:09:40 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-10	126.713	Sample	H-3	5.7 +/- 1.7	1.0	pCi/ml	SOIL	3H060411-1	4/18/2006	M3

Comments:

Data Package ID: *h30603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

0603205 0004

Isotopic Americium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Friday, May 05, 2006 8:43:51 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-1	126.704	Sample	Am-241	0.215 +/- 0.074	0.004	pCi/g	SOIL	AS060410-3	4/21/2006	
0603205-2	126.705	Sample	Am-241	0.099 +/- 0.045	0.004	pCi/g	SOIL	AS060410-3	4/21/2006	
0603205-3	126.706	Sample	Am-241	0.009 +/- 0.012	0.011	pCi/g	SOIL	AS060410-3	4/21/2006	U
0603205-4	126.707	Sample	Am-241	0.012 +/- 0.014	0.004	pCi/g	SOIL	AS060410-3	4/21/2006	LT
0603205-5	126.708	Sample	Am-241	0.016 +/- 0.016	0.012	pCi/g	SOIL	AS060410-3	4/21/2006	LT
0603205-6	126.709	Sample	Am-241	0.109 +/- 0.048	0.004	pCi/g	SOIL	AS060410-3	4/21/2006	
0603205-7	126.710	Sample	Am-241	0.198 +/- 0.072	0.012	pCi/g	SOIL	AS060410-3	4/21/2006	
0603205-8	126.711	Sample	Am-241	1.18 +/- 0.32	0.02	pCi/g	SOIL	AS060410-3	4/21/2006	
0603205-9	126.712	Sample	Am-241	0.077 +/- 0.035	0.010	pCi/g	SOIL	AS060410-3	4/21/2006	

Comments:

Data Package ID: *AM0603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Americium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Friday, May 05, 2006 8:43:51 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-10	126.713	Sample	Am-241	0.010 +/- 0.012	0.008	pCi/g	SOIL	AS060410-3	4/21/2006	LT

Comments:

Data Package ID: *AM0603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Wednesday, May 10, 2006 2:03:50 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-1	126.704	Sample	Pu-238	1.18 +/- 0.30	0.01	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-1	126.704	Sample	Pu-239/240	2.39 +/- 0.58	0.01	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-2	126.705	Sample	Pu-238	0.036 +/- 0.022	0.008	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-2	126.705	Sample	Pu-239/240	0.154 +/- 0.054	0.003	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-3	126.706	Sample	Pu-238	0.009 +/- 0.011	0.008	pCi/g	SOIL	AS060503-1	5/9/2006	LT
0603205-3	126.706	Sample	Pu-239/240	0.028 +/- 0.020	0.010	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-4	126.707	Sample	Pu-238	0.0076 +/- 0.0092	0.0068	pCi/g	SOIL	AS060503-1	5/9/2006	LT
0603205-4	126.707	Sample	Pu-239/240	0.034 +/- 0.020	0.008	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-5	126.708	Sample	Pu-238	0.046 +/- 0.024	0.003	pCi/g	SOIL	AS060503-1	5/9/2006	

Comments:

Data Package ID: *PU0603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Wednesday, May 10, 2006 2:03:51 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-5	126.708	Sample	Pu-239/240	0.031 +/- 0.019	0.009	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-6	126.709	Sample	Pu-238	0.286 +/- 0.085	0.009	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-6	126.709	Sample	Pu-239/240	0.36 +/- 0.10	0.01	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-7	126.710	Sample	Pu-238	1.93 +/- 0.47	0	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-7	126.710	Sample	Pu-239/240	0.44 +/- 0.12	0.01	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-8	126.711	Sample	Pu-238	0.183 +/- 0.058	0.006	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-8	126.711	Sample	Pu-239/240	5.0 +/- 1.2	0	pCi/g	SOIL	AS060503-1	5/9/2006	
0603205-9	126.712	Sample	Pu-238	0.0081 +/- 0.0098	0.0072	pCi/g	SOIL	AS060503-1	5/9/2006	LT
0603205-9	126.712	Sample	Pu-239/240	0.213 +/- 0.068	0.010	pCi/g	SOIL	AS060503-1	5/9/2006	

Comments:

Data Package ID: *PU0603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Wednesday, May 10, 2006 2:03:51 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-10	126.713	Sample	Pu-238	0.0070 +/- 0.0098	0.0093	pCi/g	SOIL	AS060503-1	5/9/2006	U
0603205-10	126.713	Sample	Pu-239/240	0.016 +/- 0.014	0.011	pCi/g	SOIL	AS060503-1	5/9/2006	LT

Comments:

Data Package ID: *PU0603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M1 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

900006

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Friday, May 05, 2006 8:55:26 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-1	126.704	Sample	U-234	1.02 +/- 0.38	0.05	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-1	126.704	Sample	U-235	0.025 +/- 0.047	0.041	pCi/g	SOIL	AS060410-3	4/19/2006	U
0603205-1	126.704	Sample	U-238	0.87 +/- 0.33	0.05	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-2	126.705	Sample	U-234	0.80 +/- 0.27	0.02	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-2	126.705	Sample	U-235	0.049 +/- 0.050	0.015	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603205-2	126.705	Sample	U-238	0.86 +/- 0.29	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-3	126.706	Sample	U-234	0.93 +/- 0.30	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-3	126.706	Sample	U-235	0.070 +/- 0.062	0.026	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603205-3	126.706	Sample	U-238	0.97 +/- 0.31	0.01	pCi/g	SOIL	AS060410-3	4/19/2006	

Comments:

Data Package ID: *UR0603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Friday, May 05, 2006 8:55:26 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-4	126.707	Sample	U-234	0.97 +/- 0.31	0.02	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-4	126.707	Sample	U-235	0.022 +/- 0.033	0.015	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603205-4	126.707	Sample	U-238	0.88 +/- 0.29	0.01	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-5	126.708	Sample	U-234	1.10 +/- 0.35	0.01	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-5	126.708	Sample	U-235	0.053 +/- 0.055	0.016	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603205-5	126.708	Sample	U-238	1.02 +/- 0.33	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-6	126.709	Sample	U-234	0.94 +/- 0.32	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-6	126.709	Sample	U-235	0.036 +/- 0.045	0.016	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603205-6	126.709	Sample	U-238	1.00 +/- 0.33	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	

Comments:

Data Package ID: *UR0603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Friday, May 05, 2006 8:55:26 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-7	126.710	Sample	U-234	0.94 +/- 0.31	0.05	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-7	126.710	Sample	U-235	0.065 +/- 0.062	0.035	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603205-7	126.710	Sample	U-238	0.88 +/- 0.29	0.02	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-8	126.711	Sample	U-234	0.97 +/- 0.31	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-8	126.711	Sample	U-235	0.070 +/- 0.060	0.015	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603205-8	126.711	Sample	U-238	1.07 +/- 0.34	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-9	126.712	Sample	U-234	0.98 +/- 0.32	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-9	126.712	Sample	U-235	0.060 +/- 0.058	0.026	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603205-9	126.712	Sample	U-238	1.04 +/- 0.34	0.02	pCi/g	SOIL	AS060410-3	4/19/2006	

Comments:

Data Package ID: *UR0603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

900000

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603205

Reported on: Friday, May 05, 2006 8:55:26 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603205-10	126.713	Sample	U-234	0.73 +/- 0.25	0.04	pCi/g	SOIL	AS060410-3	4/19/2006	
0603205-10	126.713	Sample	U-235	0.059 +/- 0.055	0.035	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603205-10	126.713	Sample	U-238	0.82 +/- 0.27	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	

Comments:

Data Package ID: *UR0603205-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 127 **Creation Date:** 3/20/2006

06032006

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: Facility Sampling (soils, sediments & Soil sampling Area G (Perimter)

Cost Center: 7H0200
Program Code: C34B
Cost Account: 0103/~~0303~~ 0300

	USI	Date Collected	Time Collected	Location Name	Number of Samples	Analysis Requested	Remarks	Field ID
(1)	714	~~3/20/06~~ 3/21/06	1:45	~~46-02~~ 32-02	1			.01
(2)	715	3/20/06	2:00	~~49-4~~ 31-01	1	^{3}H, ISO Pu, ^{241}Am, ISOU		.02
(3)	716	3/20/06	2:30	~~52-4~~ 30-01	1			.03
(4)	717	3/22/06	~~9:00~~ 9:30	~~54-4~~ 29-03	1			.04
(5)	718	3/22/06	~~9:30~~ 10:00	~~58-4~~ 28-01	1	TAL Metals		.05
(6)	719	3/23/06	10:30	26-01	1			.06
(7)	720	3/23/06	11:00	23-02	1			.07
(8)	721	3/23/06	11:30	21-01	1			.08
(9)	722	3/23/06	12:00	18-03	1			.09
(10)	723	3/23/06	12:30	17-02	1			.10

Relinquished by (print and sign)	Date 3/24/06	Relinquished by (print and sign)	Date 3/30/06	Relinquished by (print and sign)	Date
Louis Naranjo Jr.					
	Time 10:00		Time 0945		Time
Received by (print and sign)		Received by (print and sign)		Received by (print and sign)	
Keith Greene					

Samplers (print names and initial) Louis Naranjo Jr, Marwin Shendo, MSH

Comments

Tritium Analysis By Liquid Scintillation Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Monday, April 24, 2006 8:53:00 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-1	127.714	Sample	H-3	9.0 +/- 2.8	1.8	pCi/ml	SOIL	3H060414-1	4/21/2006	M3
0603206-2	127.715	Sample	H-3	104 +/- 24	2	pCi/ml	SOIL	3H060414-1	4/21/2006	M3
0603206-3	127.716	Sample	H-3	40.7 +/- 9.7	2.0	pCi/ml	SOIL	3H060414-1	4/21/2006	M3
0603206-4	127.717	Sample	H-3	690 +/- 160	0	pCi/ml	SOIL	3H060414-1	4/21/2006	M3
0603206-5	127.718	Sample	H-3	1.85 +/- 0.73	0.60	pCi/ml	SOIL	3H060414-1	4/21/2006	M3
0603206-6	127.719	Sample	H-3	0.31 +/- 0.43	0.46	pCi/ml	SOIL	3H060414-1	4/21/2006	U
0603206-7	127.720	Sample	H-3	0.23 +/- 0.54	0.59	pCi/ml	SOIL	3H060414-1	4/21/2006	U
0603206-8	127.721	Sample	H-3	0.37 +/- 0.54	0.58	pCi/ml	SOIL	3H060414-1	4/21/2006	U
0603206-9	127.722	Sample	H-3	0.86 +/- 0.64	0.65	pCi/ml	SOIL	3H060414-1	4/21/2006	M3

Comments:

Data Package ID: *h30603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

0603206

Tritium Analysis By Liquid Scintillation Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Monday, April 24, 2006 8:53:01 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-10	127.723	Sample	H-3	0.18 +/- 0.42	0.46	pCi/ml	SOIL	3H060414-1	4/21/2006	U

Comments:

Data Package ID: *h30603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

MG - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Americium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Friday, April 28, 2006 2:17:38 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-1	127.714	Sample	Am-241	0.022 +/- 0.021	0.006	pCi/g	SOIL	AS060411-4	4/18/2006	
0603206-2	127.715	Sample	Am-241	0.030 +/- 0.027	0.014	pCi/g	SOIL	AS060411-4	4/19/2006	
0603206-3	127.716	Sample	Am-241	0.010 +/- 0.015	0.014	pCi/g	SOIL	AS060411-4	4/19/2006	U
0603206-4	127.717	Sample	Am-241	0.015 +/- 0.018	0.015	pCi/g	SOIL	AS060411-4	4/19/2006	U
0603206-5	127.718	Sample	Am-241	0.029 +/- 0.023	0.005	pCi/g	SOIL	AS060411-4	4/19/2006	
0603206-6	127.719	Sample	Am-241	0.010 +/- 0.010	0.007	pCi/g	SOIL	AS060411-4	4/21/2006	LT
0603206-7	127.720	Sample	Am-241	0.014 +/- 0.017	0.012	pCi/g	SOIL	AS060411-4	4/19/2006	LT
0603206-8	127.721	Sample	Am-241	0.011 +/- 0.014	0.011	pCi/g	SOIL	AS060411-4	4/19/2006	LT
0603206-9	127.722	Sample	Am-241	0.016 +/- 0.016	0.004	pCi/g	SOIL	AS060411-4	4/21/2006	LT

Comments:

Data Package ID: *AM0603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

0603206

Isotopic Americium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Friday, April 28, 2006 2:17:38 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-10	127.723	Sample	Am-241	0.028 +/- 0.022	0.004	pCi/g	SOIL	AS060411-4	4/19/2006	

Comments:

Data Package ID: *AM0603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M1 - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

0603206005

Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Friday, April 28, 2006 2:25:05 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-1	127.714	Sample	Pu-238	0.010 +/- 0.011	0.007	pCi/g	SOIL	AS060411-4	4/17/2006	LT
0603206-1	127.714	Sample	Pu-239/240	0.048 +/- 0.025	0.003	pCi/g	SOIL	AS060411-4	4/17/2006	
0603206-2	127.715	Sample	Pu-238	0.010 +/- 0.010	0.007	pCi/g	SOIL	AS060411-4	4/17/2006	LT
0603206-2	127.715	Sample	Pu-239/240	0.014 +/- 0.012	0.007	pCi/g	SOIL	AS060411-4	4/17/2006	LT
0603206-3	127.716	Sample	Pu-238	0.007 +/- 0.011	0.011	pCi/g	SOIL	AS060411-4	4/17/2006	U
0603206-3	127.716	Sample	Pu-239/240	0.030 +/- 0.019	0.011	pCi/g	SOIL	AS060411-4	4/17/2006	
0603206-4	127.717	Sample	Pu-238	0.0084 +/- 0.0091	0.0028	pCi/g	SOIL	AS060411-4	4/17/2006	LT
0603206-4	127.717	Sample	Pu-239/240	0.024 +/- 0.017	0.007	pCi/g	SOIL	AS060411-4	4/17/2006	
0603206-5	127.718	Sample	Pu-238	0.016 +/- 0.013	0.003	pCi/g	SOIL	AS060411-4	4/17/2006	LT

Comments:

Data Package ID: *PU0603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

N - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Friday, April 28, 2006 2:25:05 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-5	127.718	Sample	Pu-239/240	0.051 +/- 0.026	0.013	pCi/g	SOIL	AS060411-4	4/17/2006	
0603206-6	127.719	Sample	Pu-238	0.0024 +/- 0.0065	0.0068	pCi/g	SOIL	AS060411-4	4/17/2006	U
0603206-6	127.719	Sample	Pu-239/240	0.030 +/- 0.019	0.007	pCi/g	SOIL	AS060411-4	4/17/2006	
0603206-7	127.720	Sample	Pu-238	0.0014 +/- 0.0066	0.0069	pCi/g	SOIL	AS060411-4	4/17/2006	U
0603206-7	127.720	Sample	Pu-239/240	0.011 +/- 0.011	0.007	pCi/g	SOIL	AS060411-4	4/17/2006	LT
0603206-8	127.721	Sample	Pu-238	0.011 +/- 0.010	0.003	pCi/g	SOIL	AS060411-4	4/17/2006	LT
0603206-8	127.721	Sample	Pu-239/240	0.033 +/- 0.020	0.007	pCi/g	SOIL	AS060411-4	4/17/2006	
0603206-9	127.722	Sample	Pu-238	-0.0029 +/- 0.0091	0.0159	pCi/g	SOIL	AS060411-4	4/17/2006	U
0603206-9	127.722	Sample	Pu-239/240	0.036 +/- 0.022	0.011	pCi/g	SOIL	AS060411-4	4/17/2006	

Comments:

Data Package ID: *PU0603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M2 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Friday, April 28, 2006 2:25:05 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-10	127.723	Sample	Pu-238	0.0060 +/- 0.0094	0.0095	pCi/g	SOIL	AS060411-4	4/17/2006	U
0603206-10	127.723	Sample	Pu-239/240	0.067 +/- 0.030	0.003	pCi/g	SOIL	AS060411-4	4/17/2006	

Comments:

Data Package ID: *PU0603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Friday, April 28, 2006 2:28:40 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-1	127.714	Sample	U-234	0.82 +/- 0.29	0.03	pCi/g	SOIL	AS060411-4	4/18/2006	
0603206-1	127.714	Sample	U-235	0.036 +/- 0.047	0.029	pCi/g	SOIL	AS060411-4	4/18/2006	LT
0603206-1	127.714	Sample	U-238	0.88 +/- 0.30	0.03	pCi/g	SOIL	AS060411-4	4/18/2006	
0603206-2	127.715	Sample	U-234	0.98 +/- 0.30	0.05	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-2	127.715	Sample	U-235	0.048 +/- 0.049	0.038	pCi/g	SOIL	AS060411-4	4/15/2006	LT
0603206-2	127.715	Sample	U-238	0.91 +/- 0.28	0.03	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-3	127.716	Sample	U-234	0.97 +/- 0.29	0.02	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-3	127.716	Sample	U-235	0.026 +/- 0.032	0.012	pCi/g	SOIL	AS060411-4	4/15/2006	LT
0603206-3	127.716	Sample	U-238	0.96 +/- 0.29	0.03	pCi/g	SOIL	AS060411-4	4/15/2006	

Comments:

Data Package ID: *UR0603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M1 - The requested MDC was not met.

M2 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Friday, April 28, 2006 2:28:40 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-4	127.717	Sample	U-234	0.98 +/- 0.31	0.02	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-4	127.717	Sample	U-235	0.044 +/- 0.046	0.023	pCi/g	SOIL	AS060411-4	4/15/2006	LT
0603206-4	127.717	Sample	U-238	0.93 +/- 0.30	0.01	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-5	127.718	Sample	U-234	0.91 +/- 0.29	0.02	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-5	127.718	Sample	U-235	0.058 +/- 0.052	0.013	pCi/g	SOIL	AS060411-4	4/15/2006	LT
0603206-5	127.718	Sample	U-238	1.03 +/- 0.32	0.01	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-6	127.719	Sample	U-234	1.08 +/- 0.33	0.01	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-6	127.719	Sample	U-235	0.067 +/- 0.055	0.012	pCi/g	SOIL	AS060411-4	4/15/2006	LT
0603206-6	127.719	Sample	U-238	1.10 +/- 0.33	0.02	pCi/g	SOIL	AS060411-4	4/15/2006	

Comments:

Data Package ID: *UR0603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M2 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Friday, April 28, 2006 2:28:40 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-7	127.720	Sample	U-234	0.95 +/- 0.30	0.02	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-7	127.720	Sample	U-235	0.059 +/- 0.053	0.013	pCi/g	SOIL	AS060411-4	4/15/2006	LT
0603206-7	127.720	Sample	U-238	0.85 +/- 0.28	0.03	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-8	127.721	Sample	U-234	1.11 +/- 0.34	0.04	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-8	127.721	Sample	U-235	0.074 +/- 0.062	0.031	pCi/g	SOIL	AS060411-4	4/15/2006	LT
0603206-8	127.721	Sample	U-238	1.24 +/- 0.38	0.02	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-9	127.722	Sample	U-234	1.05 +/- 0.33	0.03	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-9	127.722	Sample	U-235	0.051 +/- 0.050	0.014	pCi/g	SOIL	AS060411-4	4/15/2006	LT
0603206-9	127.722	Sample	U-238	1.23 +/- 0.37	0.02	pCi/g	SOIL	AS060411-4	4/15/2006	

Comments:

Data Package ID: *UR0603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M2 The requested MDC was not met.

M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603206

Reported on: Friday, April 28, 2006 2:28:40 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603206-10	127.723	Sample	U-234	1.13 +/- 0.34	0.02	pCi/g	SOIL	AS060411-4	4/15/2006	
0603206-10	127.723	Sample	U-235	0.077 +/- 0.058	0.020	pCi/g	SOIL	AS060411-4	4/15/2006	LT
0603206-10	127.723	Sample	U-238	1.33 +/- 0.39	0.02	pCi/g	SOIL	AS060411-4	4/15/2006	

Comments:

Data Package ID: *UR0603206-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M2 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 145 **Creation Date:** 5/22/2006

Soil

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: ~~Native Vegetation Sampling~~ ~~Perimeter Vegetation for Rad/Metals/Trituim~~ TA-54 Area G

Cost Center: 7H0200
Program Code: ~~WE74~~ WEPR
Cost Account: 1314/0000

MSI	Date Collected	Time Collected	Location Name (Sample Location) (CCC)	Number of Samples	Analysis Requested	Remarks	Field ID
888	10/12/06	10:00 am	G54-01 (145.01)	1	H-3 Pu-238, Pu239,240 Am-241, Uisotopes		.01
889	10/12/06	10:35 am	G58-01 (145.02)	1			.02
890	10/12/06	11:40	G15-01 (145-03)	1			.03
							.04
							.05
							.06
							.07
							.08
							.09
							.10

Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date
Louis Naranjo Jr.	10/16/06				
	Time		Time		Time
Received by (print and sign)	1:30	Received by (print and sign)		Received by (print and sign)	

Samplers (print names and initial) Louis Naranjo Jr. LN

Comments

Tritium Analysis By Liquid Scintillation Sample Results Summary

Client Name: Los Alamos National Laboratory SMO
Client Project Name: 6239S TA54 Area G Soils
Client Project Number: 7H0200 WEPR 1314/0000

Laboratory Name: Paragon Analytics
PAI Work Order: 0610135

Reported on: Monday, November 13, 2006 11:37:19 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0610135-1	145.888	Sample	H-3	5.5 +/- 1.4	0.4	pCi/ml	SOIL	3H061023-1	11/11/06	
0610135-2	145.889	Sample	H-3	1.51 +/- 0.53	0.38	pCi/ml	SOIL	3H061023-1	11/11/06	
0610135-3	145.890	Sample	H-3	2.00 +/- 0.63	0.38	pCi/ml	SOIL	3H061023-1	11/11/06	

Comments:

Data Package ID: *H30610135-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Americium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Laboratory SMO
Client Project Name: 6239S TA54 Area G Soils
Client Project Number: 7H0200 WEPR 1314/0000

Laboratory Name: Paragon Analytics
PAI Work Order: 0610135

Reported on: Monday, November 13, 2006 10:08:01 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0610135-1	145.888	Sample	Am-241	0.013 +/- 0.016	0.006	pCi/g	SOIL	AS061024-1	11/3/2006	LT
0610135-2	145.889	Sample	Am-241	0.007 +/- 0.012	0.010	pCi/g	SOIL	AS061024-1	11/1/2006	U
0610135-3	145.890	Sample	Am-241	0.033 +/- 0.022	0.008	pCi/g	SOIL	AS061024-1	11/2/2006	

Comments:

Data Package ID: *Am0610135-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Laboratory SMO
Client Project Name: 6239S TA54 Area G Soils
Client Project Number: 7H0200 WEPR 1314/0000

Laboratory Name: Paragon Analytics
PAI Work Order: 0610135

Reported on: Monday, November 13, 2006 2:22:05 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0610135-1	145.888	Sample	Pu-238	0.011 +/- 0.012	0.007	pCi/g	SOIL	AS061024-1	10/30/2006	LT
0610135-1	145.888	Sample	Pu-239/240	0.025 +/- 0.019	0.009	pCi/g	SOIL	AS061024-1	10/30/2006	
0610135-2	145.889	Sample	Pu-238	0.011 +/- 0.012	0.007	pCi/g	SOIL	AS061024-1	10/30/2006	LT
0610135-2	145.889	Sample	Pu-239/240	0.044 +/- 0.026	0.004	pCi/g	SOIL	AS061024-1	10/30/2006	
0610135-3	145.890	Sample	Pu-238	0.019 +/- 0.016	0.004	pCi/g	SOIL	AS061024-1	10/30/2006	LT
0610135-3	145.890	Sample	Pu-239/240	0.087 +/- 0.039	0.004	pCi/g	SOIL	AS061024-1	10/30/2006	

Comments:

Data Package ID: *Pu0610135-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Laboratory SMO
Client Project Name: 6239S TA54 Area G Soils
Client Project Number: 7H0200 WEPR 1314/0000

Laboratory Name: Paragon Analytics
PAI Work Order: 0610135

Reported on: Tuesday, November 14, 2006 1:40:52 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0610135-1	145.888	Sample	U-234	0.72 +/- 0.21	0.02	pCi/g	SOIL	AS061024-1	10/30/2006	
0610135-1	145.888	Sample	U-235	0.057 +/- 0.035	0.016	pCi/g	SOIL	AS061024-1	10/30/2006	LT
0610135-1	145.888	Sample	U-238	0.75 +/- 0.22	0.02	pCi/g	SOIL	AS061024-1	10/30/2006	
0610135-2	145.889	Sample	U-234	0.85 +/- 0.24	0.01	pCi/g	SOIL	AS061024-1	10/30/2006	
0610135-2	145.889	Sample	U-235	0.042 +/- 0.027	0.010	pCi/g	SOIL	AS061024-1	10/30/2006	LT
0610135-2	145.889	Sample	U-238	0.83 +/- 0.23	0.01	pCi/g	SOIL	AS061024-1	10/30/2006	
0610135-3	145.890	Sample	U-234	0.79 +/- 0.22	0.01	pCi/g	SOIL	AS061024-1	10/30/2006	
0610135-3	145.890	Sample	U-235	0.039 +/- 0.025	0.004	pCi/g	SOIL	AS061024-1	10/30/2006	LT
0610135-3	145.890	Sample	U-238	0.83 +/- 0.23	0.01	pCi/g	SOIL	AS061024-1	10/30/2006	

Comments:

Data Package ID: *U0610135-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

APPENDIX B

ANALYTICAL DATA REPORTS OF INORGANIC ELEMENTAL CONCENTRATIONS IN SOILS COLLECTED AROUND THE PERIMETER OF AREA G DURING 2006

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 126 **Creation Date:** 3/20/2006

0603205

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: Facility Sampling (soils, sediments & Soil sampling Area G (perimeter)

Cost Center: 7H0200
Program Code: C34B
Cost Account: 0103/~~0303~~ 0300

USI	Date Collected	Time Collected	Location Name	Number of Samples	Analysis Requested	Remarks	Field ID
704	3/20/06	1:45	46-02				.01
705	3/20/06	2:00	49-4		^{3}H, ISO Pu, ^{241}Am		.02
706	3/20/06	2:30	52-1				.03
707	3/20/06	3:00	54-1		ISO U		.04
708	3/20/06	3:30	58-1				.05
709	3/21/06	9:00	43-1		TAL METALS		.06
710	3/21/06	9:30	41-02				.07
711	3/21/06	10:00	38-01				.09
712	3/21/06	10:30	36-02				.09
713	3/21/06	1:00	34-01				.10

Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date
Louis Naranjo Jr Louis Naranjo	3/29/06 Time 10:00		3-30-06 Time 0945		Time
Received by (print and sign)		**Received by (print and sign)**		**Received by (print and sign)**	
Keith Greene	10:00				

Samplers (print names and initial) Louis Naranjo Jr. Louis Naranjo Marvin Shendo MSh.

Comments

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.704
Lab ID: 0603205-1

Sample Matrix: SOIL
% Moisture: 3.5
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4300	5.2	0.25		
7440-39-3	BARIUM	1	59	0.1	0.0038		
7440-41-7	BERYLLIUM	1	0.6	0.052	0.001		
7440-70-2	CALCIUM	1	1800	26	0.04		
7440-47-3	CHROMIUM	1	5.3	0.26	0.02		
7440-48-4	COBALT	1	2.2	0.1	0.025		
7440-50-8	COPPER	1	5.1	0.1	0.014		
7439-89-6	IRON	1	7700	2.6	0.41		
7439-95-4	MAGNESIUM	1	890	26	0.2		
7439-96-5	MANGANESE	1	240	0.1	0.0028		
7440-02-0	NICKEL	1	3.5	0.26	0.036		
7440-09-7	POTASSIUM	1	860	26	2		
7440-23-5	SODIUM	1	61	26	0.088		E
7440-62-2	VANADIUM	1	9.1	0.26	0.022		
7440-66-6	ZINC	1	35	0.26	0.017		

Data Package ID: *it0603205-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.704
Lab ID: 0603205-1

Sample Matrix: SOIL
% Moisture: 3.5
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	46	16	1		N
7440-38-2	ARSENIC	10	1200	100	4.2		
7440-43-9	CADMIUM	10	150	16	1		E
7439-92-1	LEAD	10	8600	26	1.2		
7782-49-2	SELENIUM	10	51	52	17	B	
7440-22-4	SILVER	10	730	5.2	0.43		
7440-28-0	THALLIUM	10	55	10	0.81		E

Data Package ID: *im0603205-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.705
Lab ID: 0603205-2

Sample Matrix: SOIL
% Moisture: 6.4
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3100	5.3	0.25		
7440-39-3	BARIUM	1	42	0.11	0.004		
7440-41-7	BERYLLIUM	1	0.41	0.053	0.0011		
7440-70-2	CALCIUM	1	2600	27	0.042		
7440-47-3	CHROMIUM	1	5.5	0.27	0.021		
7440-48-4	COBALT	1	1.7	0.11	0.026		
7440-50-8	COPPER	1	4.7	0.11	0.014		
7439-89-6	IRON	1	6400	2.7	0.42		
7439-95-4	MAGNESIUM	1	1000	27	0.2		
7439-96-5	MANGANESE	1	180	0.11	0.0029		
7440-02-0	NICKEL	1	3.4	0.27	0.037		
7440-09-7	POTASSIUM	1	660	27	2.1		
7440-23-5	SODIUM	1	74	27	0.09		
7440-62-2	VANADIUM	1	8.3	0.27	0.023		
7440-66-6	ZINC	1	60	0.27	0.018		

Data Package ID: *it0603205-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.705
Lab ID: 0603205-2

Sample Matrix: SOIL
% Moisture: 6.4
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	76	16	1		
7440-38-2	ARSENIC	10	880	110	4.3		
7440-43-9	CADMIUM	10	160	16	1.1		
7439-92-1	LEAD	10	12000	27	1.2		
7782-49-2	SELENIUM	10	45	53	18	B	
7440-22-4	SILVER	10	360	5.3	0.44		
7440-28-0	THALLIUM	10	48	11	0.84		

Data Package ID: *im0603205-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.706
Lab ID: 0603205-3

Sample Matrix: SOIL
% Moisture: 7.2
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3200	5.3	0.25		
7440-39-3	BARIUM	1	39	0.11	0.004		
7440-41-7	BERYLLIUM	1	0.42	0.053	0.0011		
7440-70-2	CALCIUM	1	1300	27	0.041		
7440-47-3	CHROMIUM	1	2.9	0.27	0.021		
7440-48-4	COBALT	1	1.7	0.11	0.025		
7440-50-8	COPPER	1	3	0.11	0.014		
7439-89-6	IRON	1	6400	2.7	0.42		
7439-95-4	MAGNESIUM	1	620	27	0.2		
7439-96-5	MANGANESE	1	190	0.11	0.0029		
7440-02-0	NICKEL	1	2.8	0.27	0.037		
7440-09-7	POTASSIUM	1	490	27	2.1		
7440-23-5	SODIUM	1	56	27	0.09		
7440-62-2	VANADIUM	1	7.4	0.27	0.023		
7440-66-6	ZINC	1	49	0.27	0.018		

Data Package ID: *it0603205-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.706
Lab ID: 0603205-3

Sample Matrix: SOIL
% Moisture: 7.2
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	48	16	1		
7440-38-2	ARSENIC	10	900	110	4.3		
7440-43-9	CADMIUM	10	110	16	1.1		
7439-92-1	LEAD	10	6700	27	1.2		
7782-49-2	SELENIUM	10	38	53	18	B	
7440-22-4	SILVER	10	73	5.3	0.44		
7440-28-0	THALLIUM	10	42	11	0.84		

Data Package ID: *im0603205-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.707
Lab ID: 0603205-4

Sample Matrix: SOIL
% Moisture: 2.9
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.09 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4500	4.9	0.24		
7440-39-3	BARIUM	1	58	0.099	0.0037		
7440-41-7	BERYLLIUM	1	0.59	0.049	0.00098		
7440-70-2	CALCIUM	1	1400	25	0.038		
7440-47-3	CHROMIUM	1	5.1	0.25	0.019		
7440-48-4	COBALT	1	3.2	0.099	0.024		
7440-50-8	COPPER	1	4.6	0.099	0.013		
7439-89-6	IRON	1	8700	2.5	0.39		
7439-95-4	MAGNESIUM	1	870	25	0.19		
7439-96-5	MANGANESE	1	240	0.099	0.0027		
7440-02-0	NICKEL	1	3.9	0.25	0.034		
7440-09-7	POTASSIUM	1	730	25	1.9		
7440-23-5	SODIUM	1	57	25	0.083		
7440-62-2	VANADIUM	1	13	0.25	0.021		
7440-66-6	ZINC	1	26	0.25	0.017		

Data Package ID: *it0603205-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.707
Lab ID: 0603205-4

Sample Matrix: SOIL
%Moisture: 2.9
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.09 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	48	15	0.97		
7440-38-2	ARSENIC	10	1600	99	4		
7440-43-9	CADMIUM	10	130	15	1		
7439-92-1	LEAD	10	10000	25	1.1		
7782-49-2	SELENIUM	10	46	49	16	B	
7440-22-4	SILVER	10	85	4.9	0.41		
7440-28-0	THALLIUM	10	65	9.9	0.77		

Data Package ID: *im0603205-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.708
Lab ID: 0603205-5

Sample Matrix: SOIL
% Moisture: 2.4
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4800	5.1	0.24		
7440-39-3	BARIUM	1	65	0.1	0.0038		
7440-41-7	BERYLLIUM	1	0.62	0.051	0.001		
7440-70-2	CALCIUM	1	1700	25	0.04		
7440-47-3	CHROMIUM	1	4.7	0.25	0.02		
7440-48-4	COBALT	1	2.8	0.1	0.024		
7440-50-8	COPPER	1	5.1	0.1	0.014		
7439-89-6	IRON	1	8500	2.5	0.41		
7439-95-4	MAGNESIUM	1	950	25	0.19		
7439-96-5	MANGANESE	1	280	0.1	0.0028		
7440-02-0	NICKEL	1	4	0.25	0.036		
7440-09-7	POTASSIUM	1	900	25	2		
7440-23-5	SODIUM	1	57	25	0.086		
7440-62-2	VANADIUM	1	11	0.25	0.022		
7440-66-6	ZINC	1	44	0.25	0.017		

Data Package ID: *it0603205-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.708
Lab ID: 0603205-5

Sample Matrix: SOIL
% Moisture: 2.4
Date Collected: 20-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	61	15	1		
7440-38-2	ARSENIC	10	1700	100	4.1		
7440-43-9	CADMIUM	10	180	15	1		
7439-92-1	LEAD	10	11000	25	1.2		
7782-49-2	SELENIUM	10	48	51	17	B	
7440-22-4	SILVER	10	110	5.1	0.42		
7440-28-0	THALLIUM	10	66	10	0.8		

Data Package ID: *im0603205-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.709
Lab ID: 0603205-6

Sample Matrix: SOIL
% Moisture: 2.1
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.04 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3900	5	0.24		
7440-39-3	BARIUM	1	46	0.1	0.0037		
7440-41-7	BERYLLIUM	1	0.52	0.05	0.001		
7440-70-2	CALCIUM	1	1600	25	0.039		
7440-47-3	CHROMIUM	1	3.2	0.25	0.019		
7440-48-4	COBALT	1	1.8	0.1	0.024		
7440-50-8	COPPER	1	4.7	0.1	0.013		
7439-89-6	IRON	1	6300	2.5	0.4		
7439-95-4	MAGNESIUM	1	770	25	0.19		
7439-96-5	MANGANESE	1	200	0.1	0.0027		
7440-02-0	NICKEL	1	3	0.25	0.035		
7440-09-7	POTASSIUM	1	910	25	2		
7440-23-5	SODIUM	1	57	25	0.085		
7440-62-2	VANADIUM	1	7	0.25	0.022		
7440-66-6	ZINC	1	35	0.25	0.017		

Data Package ID: *it0603205-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.709
Lab ID: 0603205-6

Sample Matrix: SOIL
% Moisture: 2.1
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.04 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	240	15	0.98		
7440-38-2	ARSENIC	10	930	100	4.1		
7440-43-9	CADMIUM	10	170	15	1		
7439-92-1	LEAD	10	9300	25	1.1		
7782-49-2	SELENIUM	10	46	50	17	B	
7440-22-4	SILVER	10	160	5	0.41		
7440-28-0	THALLIUM	10	47	10	0.79		

Data Package ID: *im0603205-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.710
Lab ID: 0603205-7

Sample Matrix: SOIL
% Moisture: 2.6
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3800	5.1	0.24		
7440-39-3	BARIUM	1	53	0.1	0.0038		
7440-41-7	BERYLLIUM	1	0.54	0.051	0.001		
7440-70-2	CALCIUM	1	1700	26	0.04		
7440-47-3	CHROMIUM	1	4.1	0.26	0.02		
7440-48-4	COBALT	1	2.1	0.1	0.025		
7440-50-8	COPPER	1	5.1	0.1	0.014		
7439-89-6	IRON	1	6700	2.6	0.41		
7439-95-4	MAGNESIUM	1	750	26	0.2		
7439-96-5	MANGANESE	1	210	0.1	0.0028		
7440-02-0	NICKEL	1	3.4	0.26	0.036		
7440-09-7	POTASSIUM	1	790	26	2		
7440-23-5	SODIUM	1	63	26	0.087		
7440-62-2	VANADIUM	1	8.7	0.26	0.022		
7440-66-6	ZINC	1	36	0.26	0.017		

Data Package ID: *it0603205-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.710
Lab ID: 0603205-7

Sample Matrix: SOIL
%Moisture: 2.6
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	120	15	1		
7440-38-2	ARSENIC	10	1500	100	4.2		
7440-43-9	CADMIUM	10	160	15	1		
7439-92-1	LEAD	10	8200	26	1.2		
7782-49-2	SELENIUM	10	43	51	17	B	
7440-22-4	SILVER	10	110	5.1	0.42		
7440-28-0	THALLIUM	10	53	10	0.81		

Data Package ID: *im0603205-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to Sl 7H0200 C34B 0103 0300

Field ID: 126.711
Lab ID: 0603205-8

Sample Matrix: SOIL
% Moisture: 2.1
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4200	5.1	0.24		
7440-39-3	BARIUM	1	58	0.1	0.0038		
7440-41-7	BERYLLIUM	1	0.54	0.051	0.001		
7440-70-2	CALCIUM	1	2400	25	0.039		
7440-47-3	CHROMIUM	1	4.5	0.25	0.02		
7440-48-4	COBALT	1	2.4	0.1	0.024		
7440-50-8	COPPER	1	5.2	0.1	0.014		
7439-89-6	IRON	1	8700	2.5	0.4		
7439-95-4	MAGNESIUM	1	930	25	0.19		
7439-96-5	MANGANESE	1	250	0.1	0.0027		
7440-02-0	NICKEL	1	3.6	0.25	0.035		
7440-09-7	POTASSIUM	1	920	25	2		
7440-23-5	SODIUM	1	61	25	0.086		
7440-62-2	VANADIUM	1	11	0.25	0.022		
7440-66-6	ZINC	1	40	0.25	0.017		

Data Package ID: *it0603205-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.711
Lab ID: 0603205-8

Sample Matrix: SOIL
% Moisture: 2.1
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	390	15	1		
7440-38-2	ARSENIC	10	1400	100	4.1		
7440-43-9	CADMIUM	10	190	15	1		
7439-92-1	LEAD	10	13000	25	1.2		
7782-49-2	SELENIUM	10	41	51	17	B	
7440-22-4	SILVER	10	170	5.1	0.42		
7440-28-0	THALLIUM	10	58	10	0.8		

Data Package ID: *im0603205-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.712
Lab ID: 0603205-9

Sample Matrix: SOIL
% Moisture: 1.9
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.08 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3500	4.9	0.23		
7440-39-3	BARIUM	1	44	0.098	0.0036		
7440-41-7	BERYLLIUM	1	0.57	0.049	0.00098		
7440-70-2	CALCIUM	1	1700	25	0.038		
7440-47-3	CHROMIUM	1	2.9	0.25	0.019		
7440-48-4	COBALT	1	1.6	0.098	0.023		
7440-50-8	COPPER	1	3.8	0.098	0.013		
7439-89-6	IRON	1	5800	2.5	0.39		
7439-95-4	MAGNESIUM	1	770	25	0.19		
7439-96-5	MANGANESE	1	180	0.098	0.0026		
7440-02-0	NICKEL	1	3	0.25	0.034		
7440-09-7	POTASSIUM	1	720	25	1.9		
7440-23-5	SODIUM	1	56	25	0.083		
7440-62-2	VANADIUM	1	6.5	0.25	0.021		
7440-66-6	ZINC	1	40	0.25	0.017		

Data Package ID: *it0603205-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.712
Lab ID: 0603205-9

Sample Matrix: SOIL
% Moisture: 1.9
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.08 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	50	15	0.96		
7440-38-2	ARSENIC	10	860	98	4		
7440-43-9	CADMIUM	10	150	15	0.99		
7439-92-1	LEAD	10	8300	25	1.1		
7782-49-2	SELENIUM	10	41	49	16	B	
7440-22-4	SILVER	10	100	4.9	0.4		
7440-28-0	THALLIUM	10	47	9.8	0.77		

Data Package ID: *im0603205-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603205
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 126.713
Lab ID: 0603205-10

Sample Matrix: SOIL
% Moisture: 4.0
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.04 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4800	5.1	0.24		
7440-39-3	BARIUM	1	70	0.1	0.0038		
7440-41-7	BERYLLIUM	1	0.7	0.051	0.001		
7440-70-2	CALCIUM	1	1600	26	0.04		
7440-47-3	CHROMIUM	1	4.1	0.26	0.02		
7440-48-4	COBALT	1	2.7	0.1	0.024		
7440-50-8	COPPER	1	3.9	0.1	0.014		
7439-89-6	IRON	1	8000	2.6	0.41		
7439-95-4	MAGNESIUM	1	1100	26	0.19		
7439-96-5	MANGANESE	1	270	0.1	0.0028		
7440-02-0	NICKEL	1	3.9	0.26	0.036		
7440-09-7	POTASSIUM	1	1000	26	2		
7440-23-5	SODIUM	1	50	26	0.086		
7440-62-2	VANADIUM	1	9.4	0.26	0.022		
7440-66-6	ZINC	1	28	0.26	0.017		

Data Package ID: *it0603205-1*

Field ID: 126.713
Lab ID: 0603205-10

Sample Matrix: SOIL
% Moisture: 4.0
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.04 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	35	15	1		
7440-38-2	ARSENIC	10	1100	100	4.1		
7440-43-9	CADMIUM	10	85	15	1		
7439-92-1	LEAD	10	7300	26	1.2		
7782-49-2	SELENIUM	10	27	51	17	B	
7440-22-4	SILVER	10	140	5.1	0.42		
7440-28-0	THALLIUM	10	69	10	0.8		

Data Package ID: *im0603205-1*

Total MERCURY

Method SW7471

Sample Results

Lab Name: Paragon Analytics
Client Name: Los Alamos National Lab
Client Project ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300
Work Order Number: 0603205 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Result Units: mg/kg

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	IDL	Flag	Sample Aliquot
126.704	0603205-1	3/20/2006	4/4/2006	04/05/2006	3.454	1	0.025	0.01	0.0012		0.6 g
126.705	0603205-2	3/20/2006	4/4/2006	04/05/2006	6.422	1	0.017	0.011	0.0013		0.6 g
126.706	0603205-3	3/20/2006	4/4/2006	04/05/2006	7.164	1	0.0027	0.011	0.0013	B	0.596 g
126.707	0603205-4	3/20/2006	4/4/2006	04/05/2006	2.92	1	0.012	0.01	0.0012		0.6 g
126.708	0603205-5	3/20/2006	4/4/2006	04/05/2006	2.369	1	0.011	0.01	0.0012		0.6 g
126.709	0603205-6	3/21/2006	4/4/2006	04/05/2006	2.119	1	0.013	0.01	0.0012		0.597 g
126.710	0603205-7	3/21/2006	4/4/2006	04/05/2006	2.565	1	0.012	0.01	0.0012		0.597 g
126.711	0603205-8	3/21/2006	4/4/2006	04/05/2006	2.126	1	0.014	0.01	0.0012		0.596 g
126.712	0603205-9	3/21/2006	4/4/2006	04/05/2006	1.895	1	0.011	0.01	0.0012		0.6 g
126.713	0603205-10	3/21/2006	4/4/2006	04/05/2006	3.967	1	0.006	0.01	0.0012	B	0.6 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *hg0603205-1*

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 127 **Creation Date:** 3/20/2006

06032006

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: Facility Sampling (soils, sediments & Soil sampling Area G (Perimter)

Cost Center: 7H0200
Program Code: C34B
Cost Account: 0103/~~0303~~ 0300

	USI	Date Collected	Time Collected	Location Name	Number of Samples	Analysis Requested	Remarks	Field ID
1	714	~~3/20/06~~ 3/21/06	1:45	~~46-02~~ 32-02	1			.01
2	715	3/20/06	2:00	~~49-1~~ 31-01	1	^{3}H, ISO Pu, ^{241}Am, ISOU		.02
3	716	3/20/06	2:30	~~52-1~~ 30-01	1			.03
4	717	3/20/06	~~9:30~~	~~54-1~~ 29-03	1			.04
5	718	3/20/06	~~10:00~~	~~58-1~~ 28-01	1	TAL Metals		.05
6	719	3/23/06	10:30	26-01	1			.06
7	720	3/23/06	11.00	23-02	1			.07
8	721	3/23/06	11:30	21.01	1			.08
9	722	3/23/06	12:00	18.03	1			.09
10	723	3/23/06	12:30	17.02	1			.10

Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date
Louis Naranjo Jr.	3/24/06		~~3/24/06~~		
	Time 10:00		Time 0715		Time
Received by (print and sign)		Received by (print and sign)		Received by (print and sign)	
Keith Greene					

Samplers (print names and initial) Louis Naranjo Jr. LN
Marwin Shendo, MS

Comments

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.714
Lab ID: 0603206-1

Sample Matrix: SOIL
% Moisture: 2.4
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	5400	5.1	0.24		
7440-39-3	BARIUM	1	75	0.1	0.0038		
7440-41-7	BERYLLIUM	1	0.78	0.051	0.001		
7440-70-2	CALCIUM	1	2500	25	0.04		
7440-47-3	CHROMIUM	1	4.4	0.25	0.02		
7440-48-4	COBALT	1	2.8	0.1	0.024		
7440-50-8	COPPER	1	4.7	0.1	0.014		
7439-89-6	IRON	1	8600	2.5	0.41		
7439-95-4	MAGNESIUM	1	1100	25	0.19		
7439-96-5	MANGANESE	1	270	0.1	0.0028		
7440-02-0	NICKEL	1	4.4	0.25	0.036		
7440-09-7	POTASSIUM	1	900	25	2		
7440-23-5	SODIUM	1	75	25	0.086		
7440-62-2	VANADIUM	1	10	0.25	0.022		
7440-66-6	ZINC	1	46	0.25	0.017		

Data Package ID: *it0603206-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.714
Lab ID: 0603206-1

Sample Matrix: SOIL
% Moisture: 2.4
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	60	15		
7440-38-2	ARSENIC	10	1800	100		
7440-43-9	CADMIUM	10	190	15		
7439-92-1	LEAD	10	11000	25		
7782-49-2	SELENIUM	10	64	51		
7440-22-4	SILVER	10	220	5.1		
7440-28-0	THALLIUM	10	74	10		

Data Package ID: *im0603206-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.715
Lab ID: 0603206-2

Sample Matrix: SOIL
% Moisture: 2.4
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	5600	5.1	0.24		
7440-39-3	BARIUM	1	59	0.1	0.0038		
7440-41-7	BERYLLIUM	1	0.86	0.051	0.001		
7440-70-2	CALCIUM	1	1800	25	0.04		
7440-47-3	CHROMIUM	1	5.7	0.25	0.02		
7440-48-4	COBALT	1	2.7	0.1	0.024		
7440-50-8	COPPER	1	5.6	0.1	0.014		
7439-89-6	IRON	1	9000	2.5	0.41		
7439-95-4	MAGNESIUM	1	1300	25	0.19		
7439-96-5	MANGANESE	1	210	0.1	0.0028		
7440-02-0	NICKEL	1	5.1	0.25	0.036		
7440-09-7	POTASSIUM	1	1100	25	2		
7440-23-5	SODIUM	1	83	25	0.086		
7440-62-2	VANADIUM	1	11	0.25	0.022		
7440-66-6	ZINC	1	32	0.25	0.017		

Data Package ID: *it0603206-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.715
Lab ID: 0603206-2

Sample Matrix: SOIL
%Moisture: 2.4
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	55	15		
7440-38-2	ARSENIC	10	1800	100		
7440-43-9	CADMIUM	10	150	15		
7439-92-1	LEAD	10	9700	25		
7782-49-2	SELENIUM	10	47	51	B	
7440-22-4	SILVER	10	580	5.1		
7440-28-0	THALLIUM	10	76	10		

Data Package ID: *im0603206-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.716
Lab ID: 0603206-3

Sample Matrix: SOIL
% Moisture: 2.1
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.09 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4500	4.9	0.23		
7440-39-3	BARIUM	1	58	0.098	0.0036		
7440-41-7	BERYLLIUM	1	0.68	0.049	0.00097		
7440-70-2	CALCIUM	1	1300	24	0.038		
7440-47-3	CHROMIUM	1	4.7	0.24	0.019		
7440-48-4	COBALT	1	2.8	0.098	0.023		
7440-50-8	COPPER	1	4.9	0.098	0.013		
7439-89-6	IRON	1	8800	2.4	0.39		
7439-95-4	MAGNESIUM	1	880	24	0.19		
7439-96-5	MANGANESE	1	260	0.098	0.0026		
7440-02-0	NICKEL	1	4	0.24	0.034		
7440-09-7	POTASSIUM	1	760	24	1.9		
7440-23-5	SODIUM	1	71	24	0.083		
7440-62-2	VANADIUM	1	11	0.24	0.021		
7440-66-6	ZINC	1	30	0.24	0.016		

Data Package ID: *it0603206-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.716
Lab ID: 0603206-3

Sample Matrix: SOIL
% Moisture: 2.1
Date Collected: 21-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.09 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	49	15		
7440-38-2	ARSENIC	10	1500	98		
7440-43-9	CADMIUM	10	150	15		
7439-92-1	LEAD	10	9900	24		
7782-49-2	SELENIUM	10	36	49	B	
7440-22-4	SILVER	10	200	4.9		
7440-28-0	THALLIUM	10	65	9.8		

Data Package ID: *im0603206-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.717
Lab ID: 0603206-4

Sample Matrix: SOIL
% Moisture: 6.6
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4100	5.3	0.25		
7440-39-3	BARIUM	1	55	0.11	0.004		
7440-41-7	BERYLLIUM	1	0.59	0.053	0.0011		
7440-70-2	CALCIUM	1	1600	27	0.041		
7440-47-3	CHROMIUM	1	3.4	0.27	0.021		
7440-48-4	COBALT	1	2	0.11	0.025		
7440-50-8	COPPER	1	4.1	0.11	0.014		
7439-89-6	IRON	1	6700	2.7	0.42		
7439-95-4	MAGNESIUM	1	800	27	0.2		
7439-96-5	MANGANESE	1	230	0.11	0.0029		
7440-02-0	NICKEL	1	3	0.27	0.037		
7440-09-7	POTASSIUM	1	770	27	2.1		
7440-23-5	SODIUM	1	48	27	0.09		
7440-62-2	VANADIUM	1	7.6	0.27	0.023		
7440-66-6	ZINC	1	36	0.27	0.018		

Data Package ID: *it0603206-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.717
Lab ID: 0603206-4

Sample Matrix: SOIL
% Moisture: 6.6
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	44	16		
7440-38-2	ARSENIC	10	1200	110		
7440-43-9	CADMIUM	10	160	16		
7439-92-1	LEAD	10	9000	27		
7782-49-2	SELENIUM	10	43	53	B	
7440-22-4	SILVER	10	110	5.3		
7440-28-0	THALLIUM	10	51	11		

Data Package ID: *im0603206-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.718
Lab ID: 0603206-5

Sample Matrix: SOIL
% Moisture: 6.8
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4000	5.4	0.26		
7440-39-3	BARIUM	1	49	0.11	0.004		
7440-41-7	BERYLLIUM	1	0.54	0.054	0.0011		
7440-70-2	CALCIUM	1	1100	27	0.042		
7440-47-3	CHROMIUM	1	4.2	0.27	0.021		
7440-48-4	COBALT	1	2.2	0.11	0.026		
7440-50-8	COPPER	1	4.2	0.11	0.014		
7439-89-6	IRON	1	7500	2.7	0.43		
7439-95-4	MAGNESIUM	1	800	27	0.2		
7439-96-5	MANGANESE	1	230	0.11	0.0029		
7440-02-0	NICKEL	1	3.5	0.27	0.037		
7440-09-7	POTASSIUM	1	710	27	2.1		
7440-23-5	SODIUM	1	59	27	0.091		
7440-62-2	VANADIUM	1	9.3	0.27	0.023		
7440-66-6	ZINC	1	60	0.27	0.018		

Data Package ID: *it0603206-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.718
Lab ID: 0603206-5

Sample Matrix: SOIL
% Moisture: 6.8
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	43	16		
7440-38-2	ARSENIC	10	1200	110		
7440-43-9	CADMIUM	10	140	16		
7439-92-1	LEAD	10	11000	27		
7782-49-2	SELENIUM	10	35	54	B	
7440-22-4	SILVER	10	190	5.4		
7440-28-0	THALLIUM	10	55	11		

Data Package ID: *im0603206-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0603206

Client Name: Los Alamos National Lab

ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.719
Lab ID: 0603206-6

Sample Matrix: SOIL
% Moisture: 7.6
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	5900	5.4	0.26		
7440-39-3	BARIUM	1	92	0.11	0.004		
7440-41-7	BERYLLIUM	1	0.87	0.054	0.0011		
7440-70-2	CALCIUM	1	5600	27	0.042		
7440-47-3	CHROMIUM	1	4.7	0.27	0.021		
7440-48-4	COBALT	1	2.7	0.11	0.026		
7440-50-8	COPPER	1	5.6	0.11	0.014		
7439-89-6	IRON	1	8900	2.7	0.43		
7439-95-4	MAGNESIUM	1	1400	27	0.2		
7439-96-5	MANGANESE	1	260	0.11	0.0029		
7440-02-0	NICKEL	1	4.7	0.27	0.038		
7440-09-7	POTASSIUM	1	1000	27	2.1		
7440-23-5	SODIUM	1	73	27	0.091		
7440-62-2	VANADIUM	1	11	0.27	0.023		
7440-66-6	ZINC	1	90	0.27	0.018		

Data Package ID: *it0603206-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.719
Lab ID: 0603206-6

Sample Matrix: SOIL
% Moisture: 7.6
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	42	16		
7440-38-2	ARSENIC	10	1700	110		
7440-43-9	CADMIUM	10	200	16		
7439-92-1	LEAD	10	12000	27		
7782-49-2	SELENIUM	10	58	54		
7440-22-4	SILVER	10	170	5.4		
7440-28-0	THALLIUM	10	72	11		

Data Package ID: *im0603206-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.720
Lab ID: 0603206-7

Sample Matrix: SOIL
% Moisture: 7.3
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6000	5.3	0.25		
7440-39-3	BARIUM	1	65	0.11	0.004		
7440-41-7	BERYLLIUM	1	0.94	0.053	0.0011		
7440-70-2	CALCIUM	1	2300	27	0.041		
7440-47-3	CHROMIUM	1	4.6	0.27	0.021		
7440-48-4	COBALT	1	2.5	0.11	0.026		
7440-50-8	COPPER	1	4.6	0.11	0.014		
7439-89-6	IRON	1	9700	2.7	0.42		
7439-95-4	MAGNESIUM	1	1200	27	0.2		
7439-96-5	MANGANESE	1	260	0.11	0.0029		
7440-02-0	NICKEL	1	4.4	0.27	0.037		
7440-09-7	POTASSIUM	1	1100	27	2.1		
7440-23-5	SODIUM	1	59	27	0.09		
7440-62-2	VANADIUM	1	11	0.27	0.023		
7440-66-6	ZINC	1	33	0.27	0.018		

Data Package ID: *it0603206-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.720
Lab ID: 0603206-7

Sample Matrix: SOIL
% Moisture: 7.3
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	58	16		
7440-38-2	ARSENIC	10	1700	110		
7440-43-9	CADMIUM	10	150	16		
7439-92-1	LEAD	10	10000	27		
7782-49-2	SELENIUM	10	69	53		
7440-22-4	SILVER	10	160	5.3		
7440-28-0	THALLIUM	10	77	11		

Data Package ID: *im0603206-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.721
Lab ID: 0603206-8

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3800	5.3	0.26		
7440-39-3	BARIUM	1	50	0.11	0.004		
7440-41-7	BERYLLIUM	1	0.58	0.053	0.0011		
7440-70-2	CALCIUM	1	2400	27	0.042		
7440-47-3	CHROMIUM	1	4.3	0.27	0.021		
7440-48-4	COBALT	1	1.8	0.11	0.026		
7440-50-8	COPPER	1	4.2	0.11	0.014		
7439-89-6	IRON	1	7700	2.7	0.43		
7439-95-4	MAGNESIUM	1	1100	27	0.2		
7439-96-5	MANGANESE	1	250	0.11	0.0029		
7440-02-0	NICKEL	1	3.4	0.27	0.037		
7440-09-7	POTASSIUM	1	680	27	2.1		
7440-23-5	SODIUM	1	90	27	0.09		
7440-62-2	VANADIUM	1	8	0.27	0.023		
7440-66-6	ZINC	1	120	0.27	0.018		

Data Package ID: *it0603206-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.721
Lab ID: 0603206-8

Sample Matrix: SOIL
%Moisture: 7.4
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	52	16		
7440-38-2	ARSENIC	10	1200	110		
7440-43-9	CADMIUM	10	160	16		
7439-92-1	LEAD	10	9800	27		
7782-49-2	SELENIUM	10	41	53	B	
7440-22-4	SILVER	10	200	5.3		
7440-28-0	THALLIUM	10	49	11		

Data Package ID: *im0603206-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.722
Lab ID: 0603206-9

Sample Matrix: SOIL
% Moisture: 5.8
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4800	5.3	0.25		
7440-39-3	BARIUM	1	73	0.11	0.0039		
7440-41-7	BERYLLIUM	1	0.7	0.053	0.001		
7440-70-2	CALCIUM	1	2000	26	0.041		
7440-47-3	CHROMIUM	1	4	0.26	0.02		
7440-48-4	COBALT	1	2.4	0.11	0.025		
7440-50-8	COPPER	1	5	0.11	0.014		
7439-89-6	IRON	1	8000	2.6	0.42		
7439-95-4	MAGNESIUM	1	1000	26	0.2		
7439-96-5	MANGANESE	1	280	0.11	0.0028		
7440-02-0	NICKEL	1	3.6	0.26	0.037		
7440-09-7	POTASSIUM	1	770	26	2.1		
7440-23-5	SODIUM	1	53	26	0.089		
7440-62-2	VANADIUM	1	9	0.26	0.023		
7440-66-6	ZINC	1	29	0.26	0.018		

Data Package ID: *it0603206-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.722
Lab ID: 0603206-9

Sample Matrix: SOIL
% Moisture: 5.8
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	62	16		
7440-38-2	ARSENIC	10	1500	110		
7440-43-9	CADMIUM	10	170	16		
7439-92-1	LEAD	10	12000	26		
7782-49-2	SELENIUM	10	43	53	B	
7440-22-4	SILVER	10	120	5.3		
7440-28-0	THALLIUM	10	62	11		

Data Package ID: *im0603206-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603206
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.723
Lab ID: 0603206-10

Sample Matrix: SOIL
% Moisture: 7.6
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 14-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-1
Run ID: it060414-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60414

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4800	5.4	0.26		
7440-39-3	BARIUM	1	64	0.11	0.004		
7440-41-7	BERYLLIUM	1	0.68	0.054	0.0011		
7440-70-2	CALCIUM	1	2000	27	0.042		
7440-47-3	CHROMIUM	1	4	0.27	0.021		
7440-48-4	COBALT	1	2.4	0.11	0.026		
7440-50-8	COPPER	1	5.3	0.11	0.014		
7439-89-6	IRON	1	7700	2.7	0.43		
7439-95-4	MAGNESIUM	1	960	27	0.21		
7439-96-5	MANGANESE	1	250	0.11	0.0029		
7440-02-0	NICKEL	1	3.8	0.27	0.038		
7440-09-7	POTASSIUM	1	710	27	2.1		
7440-23-5	SODIUM	1	67	27	0.091		
7440-62-2	VANADIUM	1	9	0.27	0.023		
7440-66-6	ZINC	1	62	0.27	0.018		

Data Package ID: *it0603206-1*

Client Name: Los Alamos National Lab

ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 127.723
Lab ID: 0603206-10

Sample Matrix: SOIL
% Moisture: 7.6
Date Collected: 23-Mar-06
Date Extracted: 13-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060413-3
QCBatchID: IP060413-3-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	68	16		
7440-38-2	ARSENIC	10	1500	110		
7440-43-9	CADMIUM	10	210	16		
7439-92-1	LEAD	10	13000	27		
7782-49-2	SELENIUM	10	43	54	B	
7440-22-4	SILVER	10	180	5.4		
7440-28-0	THALLIUM	10	61	11		

Data Package ID: *im0603206-1*

Total MERCURY

Method SW7471

Sample Results

Lab Name: Paragon Analytics
Client Name: Los Alamos National Lab
Client Project ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300
Work Order Number: 0603206 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Result Units: mg/kg

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	IDL	Flag	Sample Aliquot
127.714	0603206-1	3/21/2006	4/4/2006	04/05/2006	2.397	1	0.022	0.01	0.0012		0.597 g
127.715	0603206-2	3/21/2006	4/4/2006	04/05/2006	2.421	1	0.02	0.01	0.0012		0.597 g
127.716	0603206-3	3/21/2006	4/4/2006	04/05/2006	2.098	1	0.0088	0.01	0.0012	B	0.6 g
127.717	0603206-4	3/23/2006	4/4/2006	04/05/2006	6.561	1	0.01	0.011	0.0013	B	0.599 g
127.718	0603206-5	3/23/2006	4/4/2006	04/05/2006	6.831	1	0.013	0.011	0.0013		0.6 g
127.719	0603206-6	3/23/2006	4/4/2006	04/05/2006	7.563	1	0.014	0.011	0.0013		0.6 g
127.720	0603206-7	3/23/2006	4/4/2006	04/05/2006	7.276	1	0.015	0.011	0.0013		0.598 g
127.721	0603206-8	3/23/2006	4/4/2006	04/05/2006	7.402	1	0.012	0.011	0.0013		0.596 g
127.722	0603206-9	3/23/2006	4/4/2006	04/05/2006	5.756	1	0.011	0.011	0.0013	B	0.6 g
127.723	0603206-10	3/23/2006	4/4/2006	04/05/2006	7.566	1	0.011	0.011	0.0013	B	0.6 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *hg0603206-1*

APPENDIX C

ANALYTICAL DATA REPORTS OF PCB CONCENTRATIONS IN SOILS COLLECTED AROUND THE PERIMETER OF AREA G DURING 2006

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 129 **Creation Date:** 3/29/2006

0604042

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: Soils Sampling
Soil sampling Area G for PCB analysis

Cost Center: 7H0200
Program Code: C34B
Cost Account: 0103/0303

	USI	Date Collected	Time Collected	Location Name	Number of Samples	Analysis Requested	Remarks	Field ID
1	729	4/3/06	10:30	15.01	1			.01
2	730	4/3/06	10:45	17.02	1			.02
3	731	4/3/06	10:55	18.03	1			.03
4	732	4/3/06	11:05	21.02	1			.04
5	733	4/3/06	11:15	23.02	1			.05
6	734	4/3/06	12:00	26.01	1			.06
7	735	4/3/06	1:30	28.01	1			.07
8	736	4/3/06	2:05	29.3	1			.08
9	737	4/3/06	2:30	30.1	1			.09
10	738	4/3/06	3:00	31.1				.10

Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date
Louis Naranjo Jr.	4/6/06		4-7-06		
	Time		Time		Time
Received by (print and sign)	11:00	Received by (print and sign)		Received by (print and sign)	
Augusta Garcia					

Samplers (print names and initial) Louis Naranjo Jr. LN
Marvin Shunda MSh.

Comments

All Sample point are mark with a Brass Round tag on the fence or stake in the ground.

PCBs

Method SW8082

Method Blank

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Lab ID: EX060412-2MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: N/A

Sample Aliquot: 30 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022128

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	15.9		16.7	95	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.5		16.7	105	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.729
Lab ID: 0604042-1

Sample Matrix: SOIL
% Moisture: 2.2
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.08 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022131

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	17		17.1	100	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.7		17.1	104	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.730
Lab ID: 0604042-2

Sample Matrix: SOIL
% Moisture: 4.6
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.09 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022132

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	18.7		17.5	107	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	18.1		17.5	103	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.731
Lab ID: 0604042-3

Sample Matrix: SOIL
% Moisture: 2.1
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.32 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022133

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16.1		16.9	95	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	16.9		16.9	100	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.732
Lab ID: 0604042-4

Sample Matrix: SOIL
% Moisture: 6.1
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.25 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022136

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	18	18	U	
11104-28-2	AROCLOR-1221	1	18	18	U	
11141-16-5	AROCLOR-1232	1	18	18	U	
53469-21-9	AROCLOR-1242	1	18	18	U	
12672-29-6	AROCLOR-1248	1	18	18	U	
11097-69-1	AROCLOR-1254	1	18	18	U	
11096-82-5	AROCLOR-1260	1	18	18	U	
	TOTAL PCB	1	18	18	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16.2		17.7	92	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.7		17.7	100	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.733
Lab ID: 0604042-5

Sample Matrix: SOIL
% Moisture: 5.6
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.26 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022137

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	17		17.6	97	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.9		17.6	102	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.734
Lab ID: 0604042-6

Sample Matrix: SOIL
% Moisture: 4.0
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.15 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022138

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	67	17		
11096-82-5	AROCLOR-1260	1	94	17		
	TOTAL PCB	1	160	17		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	14.4		17.3	83	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	16.5		17.3	95	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.735
Lab ID: 0604042-7

Sample Matrix: SOIL
% Moisture: 5.4
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.1 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022139

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	18	18	U	
11104-28-2	AROCLOR-1221	1	18	18	U	
11141-16-5	AROCLOR-1232	1	18	18	U	
53469-21-9	AROCLOR-1242	1	18	18	U	
12672-29-6	AROCLOR-1248	1	18	18	U	
11097-69-1	AROCLOR-1254	1	18	18	U	
11096-82-5	AROCLOR-1260	1	18	18	U	
	TOTAL PCB	1	18	18	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16.4		17.6	93	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.6		17.6	100	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.736
Lab ID: 0604042-8

Sample Matrix: SOIL
% Moisture: 3.5
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.29 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022140

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	15.1		17.2	88	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	16.5		17.2	96	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.737
Lab ID: 0604042-9

Sample Matrix: SOIL
% Moisture: 5.0
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.22 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022141

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	11	17	J	
	TOTAL PCB	1	11	17	J	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	15.6		17.5	89	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17		17.5	97	70 - 125

Data Package ID: *PT0604042-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604042
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 129.738
Lab ID: 0604042-10

Sample Matrix: SOIL
% Moisture: 4.2
Date Collected: 03-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.08 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022142

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16		17.4	92	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.3		17.4	99	70 - 125

Data Package ID: *PT0604042-1*

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 130 **Creation Date:** 03/30/2006

0604043

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: Soils Sampling
Area-G. TA-54,

Cost Center: 7H0200
Program Code: C34B
Cost Account: 0103/0300

USI	Date Collected	Time Collected	Location Name	Number of Samples	Analysis Requested	Remarks	Field ID
739	4/4/06	10:30	32.02	1			.01
740	4/4/06	10:45	34.01				.02
741	4/4/06	11:00	36.02				.03
742	4/4/06	11:30	38.01				.04
743	4/4/06	12.00	41.02				.05
744	4/4/06	12:15	43.01				.06
745	4/4/06	12:30	46.02				.07
746	4/4/06	2:00	49.				.08
747	4/4/06	2:30	52.01				.09
748	4/4/06	3:00	54.01				.10

Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date
Louis Naranjo Jr.	4/6/06		4-7-06		
Louis Naranjo	Time		Time		Time
Received by (print and sign)	11:00	Received by (print and sign)	1010	Received by (print and sign)	

Samplers (print names and initial) Louis Naranjo JR
Marvin Shendo, Nsh

Comments
TA-54 Area G soil sampling 32.02 - 54.01 - points located perimeter fence

PCBs

Method SW8082

Method Blank

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Lab ID: EX060413-2MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 13-Apr-06
Date Analyzed: 26-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060413-2
QCBatchID: EX060413-2-1
Run ID: PT060426-4
Cleanup: SW3665
Basis: N/A

Sample Aliquot: 30 g
Final Volume: 10 ml
Result Units: UG/KG
Clean DF: 1
File Name: ED022064

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16.7		16.7	100	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	16.3		16.7	97	70 - 125

Data Package ID: *PT0604043-1*

PCBs

Method SW8082

Method Blank

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Lab ID: EX060412-2MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: N/A

Sample Aliquot: 30 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022128

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	15.9		16.7	95	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.5		16.7	105	70 - 125

Data Package ID: *PT0604043-2*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 130.739
Lab ID: 0604043-1

Sample Matrix: SOIL
% Moisture: 5.2
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.02 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022143

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	18	18	U	
11104-28-2	AROCLOR-1221	1	18	18	U	
11141-16-5	AROCLOR-1232	1	18	18	U	
53469-21-9	AROCLOR-1242	1	18	18	U	
12672-29-6	AROCLOR-1248	1	18	18	U	
11097-69-1	AROCLOR-1254	1	18	18	U	
11096-82-5	AROCLOR-1260	1	18	18	U	
	TOTAL PCB	1	18	18	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	15.2		17.6	86	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	16.9		17.6	96	70 - 125

Data Package ID: *PT0604043-2*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 130.740
Lab ID: 0604043-2

Sample Matrix: SOIL
% Moisture: 6.0
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.04 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022144

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	18	18	U	
11104-28-2	AROCLOR-1221	1	18	18	U	
11141-16-5	AROCLOR-1232	1	18	18	U	
53469-21-9	AROCLOR-1242	1	18	18	U	
12672-29-6	AROCLOR-1248	1	18	18	U	
11097-69-1	AROCLOR-1254	1	18	18	U	
11096-82-5	AROCLOR-1260	1	18	18	U	
	TOTAL PCB	1	18	18	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	15.7		17.8	88	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.6		17.8	99	70 - 125

Data Package ID: *PT0604043-2*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 130.741
Lab ID: 0604043-3

Sample Matrix: SOIL
% Moisture: 3.9
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.11 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022145

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16.1		17.4	93	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.1		17.4	99	70 - 125

Data Package ID: *PT0604043-2*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 130.742
Lab ID: 0604043-4

Sample Matrix: SOIL
% Moisture: 2.3
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.11 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022148

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	15.7		17.1	92	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.1		17.1	100	70 - 125

Data Package ID: *PT0604043-2*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 130.743
Lab ID: 0604043-5

Sample Matrix: SOIL
% Moisture: 2.3
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.12 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022149

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16.3		17.1	95	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	18.9		17.1	110	70 - 125

Data Package ID: *PT0604043-2*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 130.744
Lab ID: 0604043-6

Sample Matrix: SOIL
% Moisture: 12.2
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.43 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022150

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	19	19	U	
11104-28-2	AROCLOR-1221	1	19	19	U	
11141-16-5	AROCLOR-1232	1	19	19	U	
53469-21-9	AROCLOR-1242	1	19	19	U	
12672-29-6	AROCLOR-1248	1	19	19	U	
11097-69-1	AROCLOR-1254	1	19	19	U	
11096-82-5	AROCLOR-1260	1	19	19	U	
	TOTAL PCB	1	19	19	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16.8		18.8	89	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	18		18.8	96	70 - 125

Data Package ID: *PT0604043-2*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 130.745
Lab ID: 0604043-7

Sample Matrix: SOIL
% Moisture: 1.9
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.14 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022151

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	15.9		17	93	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	16.3		17	96	70 - 125

Data Package ID: *PT0604043-2*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID:	130.746
Lab ID:	0604043-8

Sample Matrix: SOIL
% Moisture: 14.5
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.16 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022152

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	19	19	U	
11104-28-2	AROCLOR-1221	1	19	19	U	
11141-16-5	AROCLOR-1232	1	19	19	U	
53469-21-9	AROCLOR-1242	1	19	19	U	
12672-29-6	AROCLOR-1248	1	19	19	U	
11097-69-1	AROCLOR-1254	1	19	19	U	
11096-82-5	AROCLOR-1260	1	19	19	U	
	TOTAL PCB	1	19	19	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	17		19.5	87	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	18.9		19.5	97	70 - 125

Data Package ID: *PT0604043-2*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 130.747
Lab ID: 0604043-9

Sample Matrix: SOIL
% Moisture: 11.4
Date Collected: 04-Apr-06
Date Extracted: 13-Apr-06
Date Analyzed: 26-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060413-2
QCBatchID: EX060413-2-1
Run ID: PT060426-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.14 g
Final Volume: 10 ml
Result Units: UG/KG
Clean DF: 1
File Name: ED022067

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	19	19	U	
11104-28-2	AROCLOR-1221	1	19	19	U	
11141-16-5	AROCLOR-1232	1	19	19	U	
53469-21-9	AROCLOR-1242	1	19	19	U	
12672-29-6	AROCLOR-1248	1	19	19	U	
11097-69-1	AROCLOR-1254	1	19	19	U	
11096-82-5	AROCLOR-1260	1	19	19	U	
	TOTAL PCB	1	19	19	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	18.3		18.8	97	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	18.3		18.8	97	70 - 125

Data Package ID: *PT0604043-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604043
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 130.748
Lab ID: 0604043-10

Sample Matrix: SOIL
% Moisture: 4.5
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-2
QCBatchID: EX060412-2-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.18 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022153

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	15.5		17.4	89	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17		17.4	97	70 - 125

Data Package ID: *PT0604043-2*

APPENDIX D

ANALYTICAL DATA REPORTS OF RADIONUCLIDE CONCENTRATIONS IN SOILS COLLECTED ALONG A TRANSECT FROM AREA G DURING 2006

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 128 **Creation Date:** 03/20/2006

0603207

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: Soils Sampling
Canyon Del Buey to San Ildefonso.

Cost Center: 7H0200
Program Code: C34B
Cost Account: 0103/~~0303~~ 0300

USI	Date Collected	Time Collected	Location Name	Number of Samples	Analysis Requested	Remarks	Field ID
724	3/23/06	1:00	15-01	1	^{3}H, ISO Pu, ^{241}Am, ISO U	280 ft from AG	.01
725	3/27/06	11:00	TA-54 T1	1			.02
726	3/27/06	12:00	TA-54 T2	1			.03
727	3/27/06	2:00	TA-54 T3	1	TAL Metals.		.04
728	3/27/06	2:30	TA-54 T4	1			.05
							.06
							.07
							.08
							.09
							.10

Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date
Louis Naranjo Jr	3/29/06		3/30/06		
Received by (print and sign)	Time	Received by (print and sign)	Time 0945	Received by (print and sign)	Time
Keith Greene	10:00				

Samplers (print names and initial) Louis Naranjo Jr. Marwin Shendo MSHP

Comments

Tritium Analysis By Liquid Scintillation Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603207

Reported on: Thursday, April 20, 2006 11:15:30 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603207-1	128.724	Sample	H-3	0.34 +/- 0.62	0.68	pCi/ml	SOIL	3H060411-1	4/18/2006	U,M
0603207-2	128.725	Sample	H-3	0.45 +/- 0.56	0.59	pCi/ml	SOIL	3H060411-1	4/18/2006	U
0603207-3	128.726	Sample	H-3	0.69 +/- 0.94	1.01	pCi/ml	SOIL	3H060411-1	4/18/2006	U,M
0603207-4	128.727	Sample	H-3	0.5 +/- 1.1	1.2	pCi/ml	SOIL	3H060411-1	4/18/2006	U,M
0603207-5	128.728	Sample	H-3	-0.2 +/- 1.9	2.1	pCi/ml	SOIL	3H060411-1	4/18/2006	U,M

Comments:

Data Package ID: *h30603207-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

000003

Isotopic Americium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603207

Page: 1 of 1
Reported on: Friday, May 05, 2006 8:48:40 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603207-1	128.724	Sample	Am-241	0.019 +/- 0.017	0.009	pCi/g	SOIL	AS060410-3	4/21/2006	LT
0603207-2	128.725	Sample	Am-241	0.024 +/- 0.018	0.003	pCi/g	SOIL	AS060410-3	4/21/2006	
0603207-3	128.726	Sample	Am-241	0.021 +/- 0.018	0.004	pCi/g	SOIL	AS060410-3	4/22/2006	
0603207-4	128.727	Sample	Am-241	0.019 +/- 0.016	0.009	pCi/g	SOIL	AS060410-3	4/22/2006	LT
0603207-5	128.728	Sample	Am-241	0.008 +/- 0.012	0.012	pCi/g	SOIL	AS060410-3	4/22/2006	U

Comments:

Data Package ID: *AM0603207-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603207

Reported on: Wednesday, May 10, 2006 1:49:49 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603207-1	128.724	Sample	Pu-238	0.0063 +/- 0.0078	0.0028	pCi/g	SOIL	AS060503-1	5/9/2006	LT
0603207-1	128.724	Sample	Pu-239/240	0.019 +/- 0.015	0.010	pCi/g	SOIL	AS060503-1	5/9/2006	LT
0603207-2	128.725	Sample	Pu-238	0.019 +/- 0.015	0.007	pCi/g	SOIL	AS060503-1	5/9/2006	LT
0603207-2	128.725	Sample	Pu-239/240	0.054 +/- 0.026	0.010	pCi/g	SOIL	AS060503-1	5/9/2006	
0603207-3	128.726	Sample	Pu-238	0.026 +/- 0.017	0.007	pCi/g	SOIL	AS060503-1	5/9/2006	
0603207-3	128.726	Sample	Pu-239/240	0.058 +/- 0.027	0.003	pCi/g	SOIL	AS060503-1	5/9/2006	
0603207-4	128.727	Sample	Pu-238	0.025 +/- 0.017	0.003	pCi/g	SOIL	AS060503-1	5/9/2006	
0603207-4	128.727	Sample	Pu-239/240	0.044 +/- 0.024	0.007	pCi/g	SOIL	AS060503-1	5/9/2006	
0603207-5	128.728	Sample	Pu-238	0.009 +/- 0.010	0.007	pCi/g	SOIL	AS060503-1	5/9/2006	LT

Comments:

Data Package ID: *PU0603207-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Plutonium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603207

Reported on: Wednesday, May 10, 2006 1:49:49 PM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603207-5	128.728	Sample	Pu-239/240	0.058 +/- 0.028	0.009	pCi/g	SOIL	AS060503-1	5/9/2006	

Comments:

Data Package ID: *PU0603207-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603207

Reported on: Friday, May 05, 2006 11:49:12 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603207-1	128.724	Sample	U-234	0.91 +/- 0.29	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603207-1	128.724	Sample	U-235	0.036 +/- 0.042	0.014	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603207-1	128.724	Sample	U-238	0.80 +/- 0.27	0.02	pCi/g	SOIL	AS060410-3	4/19/2006	
0603207-2	128.725	Sample	U-234	0.90 +/- 0.29	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603207-2	128.725	Sample	U-235	0.044 +/- 0.049	0.035	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603207-2	128.725	Sample	U-238	0.91 +/- 0.30	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603207-3	128.726	Sample	U-234	0.83 +/- 0.27	0.02	pCi/g	SOIL	AS060410-3	4/19/2006	
0603207-3	128.726	Sample	U-235	0.061 +/- 0.054	0.022	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603207-3	128.726	Sample	U-238	0.93 +/- 0.29	0.02	pCi/g	SOIL	AS060410-3	4/19/2006	

Comments:

Data Package ID: *UR0603207-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Isotopic Uranium By Alpha Spectroscopy Sample Results Summary

Client Name: Los Alamos National Lab
Client Project Name: Soils Sampling Canyon Del Buey to SI
Client Project Number: 7H0200 C34B 0103 0300

Laboratory Name: Paragon Analytics
PAI Work Order: 0603207

Reported on: Friday, May 05, 2006 11:49:12 AM

Lab Sample ID	Client Sample ID	Sample Type	Nuclide	Result +/- 3 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0603207-4	128.727	Sample	U-234	0.64 +/- 0.23	0.03	pCi/g	SOIL	AS060410-3	4/19/2006	
0603207-4	128.727	Sample	U-235	0.033 +/- 0.043	0.035	pCi/g	SOIL	AS060410-3	4/19/2006	U
0603207-4	128.727	Sample	U-238	0.70 +/- 0.24	0.04	pCi/g	SOIL	AS060410-3	4/19/2006	
0603207-5	128.728	Sample	U-234	1.71 +/- 0.50	0.05	pCi/g	SOIL	AS060410-3	4/19/2006	
0603207-5	128.728	Sample	U-235	0.097 +/- 0.076	0.043	pCi/g	SOIL	AS060410-3	4/19/2006	LT
0603207-5	128.728	Sample	U-238	1.74 +/- 0.51	0.04	pCi/g	SOIL	AS060410-3	4/19/2006	

Comments:

Data Package ID: *UR0603207-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

APPENDIX E

ANALYTICAL DATA REPORTS OF INORGANIC ELEMENTS IN SOILS COLLECTED ALONG A TRANSECT FROM AREA G DURING 2005

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 128 **Creation Date:** 03/20/2006

0603207

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: Soils Sampling
Canyon Del Buey to San Ildefonso.

Cost Center: 7H0200
Program Code: C34B
Cost Account: 0103/~~0303~~ 0300

USI	Date Collected	Time Collected	Location Name	Number of Samples	Analysis Requested	Remarks	Field ID
724	3/23/06	1:00	15-01	1	^{3}H, ISO Pu, ^{241}Am, ISO U	280 ft from AG	.01
725	3/27/06	11:00	TA-54 T1	1			.02
726	3/27/06	12:00	TA-54 T2	1			.03
727	3/27/06	2:00	TA-54 T3	1	TAL Metals.		.04
728	3/27/06	2:30	TA-54 T4	1			.05
							.06
							.07
							.08
							.09
							.10

Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date
Louis Naranjo Jr.	3/29/06		3/30/06		
Received by (print and sign)	Time	Received by (print and sign)	Time	Received by (print and sign)	Time
Keith Greene	10:00		0945		

Samplers (print names and initial) Louis Naranjo Jr. & Marvin Shendo MSh

Comments

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603207
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.724
Lab ID: 0603207-1

Sample Matrix: SOIL
% Moisture: 5.2
Date Collected: 23-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 17-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-1
Run ID: it060417-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60417

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3400	5.3	0.36		
7440-39-3	BARIUM	1	47	0.11	0.0088		
7440-41-7	BERYLLIUM	1	0.43	0.053	0.0015		
7440-70-2	CALCIUM	1	1700	26	0.3		
7440-47-3	CHROMIUM	1	3	0.26	0.094		
7440-48-4	COBALT	1	1.8	0.11	0.039		
7440-50-8	COPPER	1	3.6	0.11	0.035		E
7439-89-6	IRON	1	6200	2.6	0.72		
7439-95-4	MAGNESIUM	1	890	26	0.36		
7439-96-5	MANGANESE	1	230	0.11	0.012		
7440-02-0	NICKEL	1	2.8	0.26	0.052		
7440-09-7	POTASSIUM	1	590	26	3.9		
7440-23-5	SODIUM	1	59	26	0.19		E
7440-62-2	VANADIUM	1	7.4	0.26	0.042		
7440-66-6	ZINC	1	34	0.26	0.029		

Data Package ID: *it0603207-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603207
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.724
Lab ID: 0603207-1

Sample Matrix: SOIL
% Moisture: 5.2
Date Collected: 23-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	42	16	1		N
7440-38-2	ARSENIC	10	1000	110	4.3		
7440-43-9	CADMIUM	10	110	16	1.1		E
7439-92-1	LEAD	10	7200	26	1.2		
7782-49-2	SELENIUM	10	37	53	17	B	
7440-22-4	SILVER	10	73	5.3	0.44		E
7440-28-0	THALLIUM	10	44	11	0.83		

Data Package ID: *im0603207-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603207
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.725
Lab ID: 0603207-2

Sample Matrix: SOIL
% Moisture: 6.9
Date Collected: 27-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 17-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-1
Run ID: it060417-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60417

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	5700	5.3	0.36		
7440-39-3	BARIUM	1	80	0.11	0.0089		
7440-41-7	BERYLLIUM	1	0.77	0.053	0.0015		
7440-70-2	CALCIUM	1	1600	27	0.3		
7440-47-3	CHROMIUM	1	5.2	0.27	0.095		
7440-48-4	COBALT	1	3.4	0.11	0.04		
7440-50-8	COPPER	1	5	0.11	0.036		
7439-89-6	IRON	1	10000	2.7	0.73		
7439-95-4	MAGNESIUM	1	1200	27	0.36		
7439-96-5	MANGANESE	1	300	0.11	0.012		
7440-02-0	NICKEL	1	5.2	0.27	0.053		
7440-09-7	POTASSIUM	1	1200	27	3.9		
7440-23-5	SODIUM	1	54	27	0.19		
7440-62-2	VANADIUM	1	12	0.27	0.043		
7440-66-6	ZINC	1	28	0.27	0.029		

Data Package ID: *it0603207-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603207
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.725
Lab ID: 0603207-2

Sample Matrix: SOIL
% Moisture: 6.9
Date Collected: 27-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.01 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	54	16	1		
7440-38-2	ARSENIC	10	1700	110	4.3		
7440-43-9	CADMIUM	10	110	16	1.1		
7439-92-1	LEAD	10	9600	27	1.2		
7782-49-2	SELENIUM	10	45	53	18	B	
7440-22-4	SILVER	10	100	5.3	0.44		
7440-28-0	THALLIUM	10	90	11	0.84		

Data Package ID: *im0603207-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603207
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.726
Lab ID: 0603207-3

Sample Matrix: SOIL
% Moisture: 3.8
Date Collected: 27-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 17-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-1
Run ID: it060417-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60417

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	5600	5.1	0.35		
7440-39-3	BARIUM	1	88	0.1	0.0085		
7440-41-7	BERYLLIUM	1	0.77	0.051	0.0014		
7440-70-2	CALCIUM	1	1500	26	0.29		
7440-47-3	CHROMIUM	1	5.5	0.26	0.092		
7440-48-4	COBALT	1	4.3	0.1	0.038		
7440-50-8	COPPER	1	5	0.1	0.034		
7439-89-6	IRON	1	10000	2.6	0.71		
7439-95-4	MAGNESIUM	1	1100	26	0.35		
7439-96-5	MANGANESE	1	340	0.1	0.012		
7440-02-0	NICKEL	1	5.7	0.26	0.051		
7440-09-7	POTASSIUM	1	1100	26	3.8		
7440-23-5	SODIUM	1	57	26	0.18		
7440-62-2	VANADIUM	1	14	0.26	0.041		
7440-66-6	ZINC	1	25	0.26	0.028		

Data Package ID: *it0603207-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603207
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.726
Lab ID: 0603207-3

Sample Matrix: SOIL
% Moisture: 3.8
Date Collected: 27-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	52	15	1		
7440-38-2	ARSENIC	10	1900	100	4.2		
7440-43-9	CADMIUM	10	120	15	1		
7439-92-1	LEAD	10	10000	26	1.2		
7782-49-2	SELENIUM	10	44	51	17	B	
7440-22-4	SILVER	10	100	5.1	0.43		
7440-28-0	THALLIUM	10	110	10	0.81		

Data Package ID: *im0603207-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603207
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.727
Lab ID: 0603207-4

Sample Matrix: SOIL
% Moisture: 2.9
Date Collected: 27-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 17-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-1
Run ID: it060417-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60417

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3300	5.1	0.35		
7440-39-3	BARIUM	1	58	0.1	0.0085		
7440-41-7	BERYLLIUM	1	0.44	0.051	0.0014		
7440-70-2	CALCIUM	1	830	26	0.29		
7440-47-3	CHROMIUM	1	3.5	0.26	0.092		
7440-48-4	COBALT	1	2.7	0.1	0.038		
7440-50-8	COPPER	1	3.5	0.1	0.034		
7439-89-6	IRON	1	6900	2.6	0.71		
7439-95-4	MAGNESIUM	1	650	26	0.35		
7439-96-5	MANGANESE	1	280	0.1	0.012		
7440-02-0	NICKEL	1	3.2	0.26	0.051		
7440-09-7	POTASSIUM	1	650	26	3.8		
7440-23-5	SODIUM	1	36	26	0.18		
7440-62-2	VANADIUM	1	9.1	0.26	0.041		
7440-66-6	ZINC	1	23	0.26	0.028		

Data Package ID: *it0603207-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603207
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.727
Lab ID: 0603207-4

Sample Matrix: SOIL
% Moisture: 2.9
Date Collected: 27-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	46	15	1		
7440-38-2	ARSENIC	10	1100	100	4.2		
7440-43-9	CADMIUM	10	130	15	1		
7439-92-1	LEAD	10	8300	26	1.2		
7782-49-2	SELENIUM	10	34	51	17	B	
7440-22-4	SILVER	10	86	5.1	0.43		
7440-28-0	THALLIUM	10	65	10	0.81		

Data Package ID: *im0603207-1*

Total ICP Metals

Method SW6010B

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0603207
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.728
Lab ID: 0603207-5

Sample Matrix: SOIL
% Moisture: 1.9
Date Collected: 27-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 17-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-1
Run ID: it060417-1a3
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: mg/kg
Clean DF: 1
File Name: ts60417

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3600	5	0.34		
7440-39-3	BARIUM	1	40	0.1	0.0084		
7440-41-7	BERYLLIUM	1	0.75	0.05	0.0014		
7440-70-2	CALCIUM	1	1200	25	0.28		
7440-47-3	CHROMIUM	1	2.4	0.25	0.09		
7440-48-4	COBALT	1	1.4	0.1	0.038		
7440-50-8	COPPER	1	3.3	0.1	0.034		
7439-89-6	IRON	1	6500	2.5	0.69		
7439-95-4	MAGNESIUM	1	560	25	0.34		
7439-96-5	MANGANESE	1	280	0.1	0.012		
7440-02-0	NICKEL	1	2.2	0.25	0.05		
7440-09-7	POTASSIUM	1	670	25	3.7		
7440-23-5	SODIUM	1	82	25	0.18		
7440-62-2	VANADIUM	1	5.2	0.25	0.04		
7440-66-6	ZINC	1	28	0.25	0.028		

Data Package ID: *it0603207-1*

Lab Name: Paragon Analytics

Work Order Number: 0603207

Client Name: Los Alamos National Lab

ClientProject ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300

Field ID: 128.728
Lab ID: 0603207-5

Sample Matrix: SOIL
% Moisture: 1.9
Date Collected: 27-Mar-06
Date Extracted: 14-Apr-06
Date Analyzed: 19-Apr-06
Prep Method: SW3050 Rev B

Prep Batch: IP060414-2
QCBatchID: IP060414-2-2
Run ID: im060419-1a2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 2.02 g
Final Volume: 100 ml
Result Units: ug/kg
Clean DF: 1
File Name: 19APR06A

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	IDL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	47	15	0.99		
7440-38-2	ARSENIC	10	880	100	4.1		
7440-43-9	CADMIUM	10	120	15	1		
7439-92-1	LEAD	10	9400	25	1.2		
7782-49-2	SELENIUM	10	36	50	17	B	
7440-22-4	SILVER	10	100	5	0.42		
7440-28-0	THALLIUM	10	93	10	0.79		

Data Package ID: *im0603207-1*

Total MERCURY

Method SW7471

Sample Results

Lab Name: Paragon Analytics
Client Name: Los Alamos National Lab
Client Project ID: Soils Sampling Canyon Del Buey to SI 7H0200 C34B 0103 0300
Work Order Number: 0603207 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Result Units: mg/kg

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	IDL	Flag	Sample Aliquot
128.724	0603207-1	3/23/2006	4/4/2006	04/05/2006	5.156	1	0.0043	0.011	0.0013	B	0.6 g
128.725	0603207-2	3/27/2006	4/4/2006	04/05/2006	6.863	1	0.0069	0.011	0.0013	B	0.6 g
128.726	0603207-3	3/27/2006	4/4/2006	04/05/2006	3.838	1	0.0043	0.01	0.0012	B	0.605 g
128.727	0603207-4	3/27/2006	4/4/2006	04/05/2006	2.880	1	0.0055	0.01	0.0012	B	0.596 g
128.728	0603207-5	3/27/2006	4/4/2006	04/05/2006	1.904	1	0.0084	0.01	0.0012	B	0.598 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *hg0603207-1*

APPENDIX F

ANALYTICAL DATA REPORTS OF PCBS IN SOILS COLLECTED ALONG A TRANSECT FROM AREA G DURING 2005

LOS ALAMOS NATIONAL LABORATORY - ENVIRONMENTAL STEWARDSHIP - METEOROLOGY AIR QUALITY

Environmental Surveillance Team Chain of Custody Record

Chain of Custody Number: 131 **Creation Date:** 03/30/2006

0604044

Project Contact: Phil Fresquez
Contact Phone: (505) 667-0815

Project Name: Facility Sampling (soils, sediments & TA-54 Area G.

Cost Center: 7H0200
Program Code: C34B
Cost Account: 0103/0300

	USI	Date Collected	Time Collected	Location Name	Number of Samples	Analysis Requested	Remarks	Field ID
1	749	4/4/06	3:30	SB.01				.01
2	750	4/5/06	10:30	T1				.02
3	751	4/5/06	10:45	T2				.03
4	752	4/5/06	11:00	T3				.04
5	753	4/5/06	11:30	T4				.05
6	754	4/5/06	1:15	CA - WEAR up stream				.06
(7)	755	4/5/06	1:30	CA - WEAR - downstream				.07
								.08
								.09
								.10

Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date	Relinquished by (print and sign)	Date
Louis Naranjo Jr.	4/6/06		4-7-06		
Louis Naranjo	Time		Time		Time
Received by (print and sign)	11:00	Received by (print and sign)	1010	Received by (print and sign)	
Augusta Garcia					

Samplers (print names and initial) Louis Naranjo Jr
Marwin Shendo, MSH.

Comments
T1 - T4 - TA-54 (43.01) NE Direction to Santa Fe Boundry.

PCBs

Method SW8082

Method Blank

Lab Name: Paragon Analytics
Work Order Number: 0604044
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Lab ID: EX060412-3MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12-Apr-06
Date Analyzed: 26-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-3
QCBatchID: EX060412-3-1
Run ID: PT060426-4
Cleanup: SW3665
Basis: N/A

Sample Aliquot: 30 g
Final Volume: 10 ml
Result Units: UG/KG
Clean DF: 1
File Name: ED022070

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16.8		16.7	100	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	16.6		16.7	99	70 - 125

Data Package ID: *PT0604044-1*

PCBs

Method SW8082
Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604044
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 131.749
Lab ID: 0604044-1

Analysis ReqCode: PEP-A-007

Sample Matrix: SOIL
% Moisture: 5.9
Date Collected: 04-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 26-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-3
QCBatchID: EX060412-3-1
Run ID: PT060426-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.23 g
Final Volume: 10 ml
Result Units: UG/KG
Clean DF: 1
File Name: ED022073

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	18	18	U	
11104-28-2	AROCLOR-1221	1	18	18	U	
11141-16-5	AROCLOR-1232	1	18	18	U	
53469-21-9	AROCLOR-1242	1	18	18	U	
12672-29-6	AROCLOR-1248	1	18	18	U	
11097-69-1	AROCLOR-1254	1	18	18	U	
11096-82-5	AROCLOR-1260	1	18	18	U	
	TOTAL PCB	1	18	18	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	18.5		17.6	105	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.8		17.6	101	70 - 125

Data Package ID: *PT0604044-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604044
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 131.750
Lab ID: 0604044-2

Analysis ReqCode: PEP-A-007

Sample Matrix: SOIL
% Moisture: 3.2
Date Collected: 05-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-3
QCBatchID: EX060412-3-1
Run ID: PT060426-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.18 g
Final Volume: 10 ml
Result Units: UG/KG
Clean DF: 1
File Name: ED022076

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	17.8		17.2	103	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.2		17.2	100	70 - 125

Data Package ID: *PT0604044-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604044
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 131.751
Lab ID: 0604044-3

Analysis ReqCode: PEP-A-007

Sample Matrix: SOIL
% Moisture: 4.0
Date Collected: 05-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-3
QCBatchID: EX060412-3-1
Run ID: PT060426-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.04 g
Final Volume: 10 ml
Result Units: UG/KG
Clean DF: 1
File Name: ED022077

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	18		17.4	103	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.3		17.4	99	70 - 125

Data Package ID: *PT0604044-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604044
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 131.752
Lab ID: 0604044-4

Analysis ReqCode: PEP-A-007

Sample Matrix: SOIL
% Moisture: 3.1
Date Collected: 05-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-3
QCBatchID: EX060412-3-1
Run ID: PT060426-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.26 g
Final Volume: 10 ml
Result Units: UG/KG
Clean DF: 1
File Name: ED022078

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	17.5		17.1	102	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	16.8		17.1	98	70 - 125

Data Package ID: *PT0604044-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604044
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 131.753
Lab ID: 0604044-5

Analysis ReqCode: PEP-A-007

Sample Matrix: SOIL
% Moisture: 5.5
Date Collected: 05-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-3
QCBatchID: EX060412-3-1
Run ID: PT060426-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.37 g
Final Volume: 10 ml
Result Units: UG/KG
Clean DF: 1
File Name: ED022079

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	17	17	U	
11104-28-2	AROCLOR-1221	1	17	17	U	
11141-16-5	AROCLOR-1232	1	17	17	U	
53469-21-9	AROCLOR-1242	1	17	17	U	
12672-29-6	AROCLOR-1248	1	17	17	U	
11097-69-1	AROCLOR-1254	1	17	17	U	
11096-82-5	AROCLOR-1260	1	17	17	U	
	TOTAL PCB	1	17	17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	18.4		17.5	105	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	17.9		17.5	103	70 - 125

Data Package ID: *PT0604044-1*

PCBs

Method SW8082
Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604044
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 131.754
Lab ID: 0604044-6

Analysis ReqCode: PEP-A-007

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 05-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 28-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-3
QCBatchID: EX060412-3-1
Run ID: PT060427-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.23 g
Final Volume: 10 ml
Result Units: ug/kg
Clean DF: 1
File Name: ED022156

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	1	19	19	U	
11104-28-2	AROCLOR-1221	1	19	19	U	
11141-16-5	AROCLOR-1232	1	19	19	U	
53469-21-9	AROCLOR-1242	1	19	19	U	
12672-29-6	AROCLOR-1248	1	19	19	U	
11097-69-1	AROCLOR-1254	1	21	19		
11096-82-5	AROCLOR-1260	1	36	19		
	TOTAL PCB	1	57	19		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	16.5		19	87	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	18.4		19	97	70 - 125

Data Package ID: *PT0604044-1*

PCBs

Method SW8082

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0604044
Client Name: Los Alamos National Lab
ClientProject ID: Soils Sampling TA-54 Area G 7H0200 C34B 0103 0300

Field ID: 131.755
Lab ID: 0604044-7

Analysis ReqCode: PEP-A-007

Sample Matrix: SOIL
% Moisture: 15.3
Date Collected: 05-Apr-06
Date Extracted: 12-Apr-06
Date Analyzed: 27-Apr-06
Prep Method: SW3540 Rev C

Prep Batch: EX060412-3
QCBatchID: EX060412-3-1
Run ID: PT060426-4
Cleanup: SW3665
Basis: Dry Weight

Sample Aliquot: 30.25 g
Final Volume: 10 ml
Result Units: UG/KG
Clean DF: 1
File Name: ED022081

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
12674-11-2	AROCLOR-1016	3	59	59	U	
11104-28-2	AROCLOR-1221	3	59	59	U	
11141-16-5	AROCLOR-1232	3	59	59	U	
53469-21-9	AROCLOR-1242	3	59	59	U	
12672-29-6	AROCLOR-1248	3	59	59	U	
11097-69-1	AROCLOR-1254	3	120	59		
11096-82-5	AROCLOR-1260	3	110	59		
	TOTAL PCB	3	230	59		

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
2051-24-3	DECACHLOROBIPHENYL	21.5		19.6	109	60 - 125
877-09-8	TETRACHLORO-M-XYLENE	22.1		19.6	112	70 - 125

Data Package ID: *PT0604044-1*


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