EPA Method 6010B
Metals

Digestion Information:

The soil samples were dried, sieved, manually ground, and incrementally sampled according to EPA method 8330B, Appendix A, then digested according to EPA method 3050B. No exception was encountered. All holding times were met.

Analysis Information:

Samples:

The samples were analyzed according to EPA method 6010B using a Perkin Elmer Optima 5300DV.

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard.

Blanks:

In the preparation blank, no metal was detected at concentrations greater than one-half the PQL.

Spikes:

Laboratory Control Spikes (LCS), Matrix Spikes (MS/MSD), post digestion spike (PDS), and serial dilution test were used for quality assurance. All LCS acceptance criteria were met.

Sample YAOB-PAOI-SU3-SS-03-01 was designated by the client for MS/MSD analysis. In the MS/MSD, three metals recovered below the 80% limit: antimony at 9.4% and 7.3% with a RPD at 24.6, copper at 50.1% and 35%, and lead at 0% and 270% with a RPD at 53.8. The lead concentration in the parent sample exceed the spike amount by ten-fold or more. Antimony, copper, and lead are flagged with a "J" in the parent sample, in accordance with the MMRP SI PSAP. The serial dilution test was applicable to copper and lead, which exceeded the 10% deviation limit at 14.4% and 10.6% respectively. In the PDS, all acceptance criteria were met.

Triplicates:

The client designated sample YAOB-PAOI-SU3-SS-03-01 for laboratory triplicate analysis.

Summary:

No other analytical exception is noted.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

1/10/11

Leonard Fong, Ph.D, Laboratory Director / Date

Metals Analysis

Parsons
8000 Centre Park Drive Ste 200
Austin, TX 78754

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Tammy Chang
Project: 744653.93217 Yucca AOB MMRP-AZ
Sample ID: YAOB-AMB-SU4-SS-03-01
Sample Collection Date: 12/1/2010

ARF: 63343
APPL ID: AY28114

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
6010B/3050B	ANTIMONY (SB)	0.049 U	0.20	0.049	mg/kg	1	2/16/2010	12/17/2010
6010B/3050B	COPPER (CU)	4.6	0.50	0.094	mg/kg	1	2/16/2010	12/17/2010
6010B/3050B	LEAD (PB)	4.2	2.50	0.460	mg/kg	5	2/16/2010	12/17/2010

Sequence No.: 53
Sample ID: AY28114S01
Analyst: SDM
Logged In Analyst (Original) : Chemist
Initial Sample Wt: 9.93 g
Dilution:

Autosampler Location: 50
Date Collected: 12/17/2010 2:27:56 PM
Data Type: Reprocessed on 12/19/2010 5:05:06 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY28114S01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-1226.2	-6.156	ug/L	0.7624	-0.062	mg/kg	0.0077	12.39%
Al 308.215	795177.2	474900	ug/L	5158.1	4783	mg/kg	51.9	1.09%
As 188.979	79.5	15.37	ug/L	5.661	0.155	mg/kg	0.0570	36.83%
B	20108.7	1251	ug/L	26.0	12.60	mg/kg	0.262	2.08%
Ba 233.527	1105738.1	4732	ug/L	98.8	47.65	mg/kg	0.995	2.09%
Be 313.107	-13879.4	23.89	ug/L	1.107	0.241	mg/kg	0.0111	4.63%
Ca 315.887	26777043.5	1276000	ug/L	14026.5	12850	mg/kg	141.3	1.10%
Cd 214.440	12347.0	4.896	ug/L	1.6988	0.049	mg/kg	0.0171	34.70%
Co 228.616	14936.3	221.2	ug/L	8.33	2.227	mg/kg	0.0839	3.77%
Cr 267.716	81278.5	474.9	ug/L	13.83	4.782	mg/kg	0.1393	2.91%
Cu 327.393	73986.9	452.6	ug/L	12.57	4.557	mg/kg	0.1266	2.78%
Fe 273.955	18832875.4	517100	ug/L	6954.0	5207	mg/kg	70.0	1.34%
K 766.490	361861.9	142200	ug/L	2541.6	1432	mg/kg	25.6	1.79%
Mg 285.213	11712876.2	256700	ug/L	2500.0	2585	mg/kg	25.2	0.97%
Mn 257.610	1056322.9	8696	ug/L	148.9	87.58	mg/kg	1.499	1.71%
Mo 202.031	-1204.6	-0.804	ug/L	2.1377	-0.008	mg/kg	0.0215	265.81%
Na 589.592	53375.1	6607	ug/L	83.2	66.54	mg/kg	0.837	1.26%
Ni 231.604	23044.7	345.7	ug/L	11.46	3.481	mg/kg	0.1154	3.32%
P 213.617	129197.1	16560	ug/L	431.7	166.7	mg/kg	4.35	2.61%
Pb 220.353	6304.6	296.3	ug/L	10.26	2.984	mg/kg	0.1033	3.46%
Sb 206.836	-175.6	-22.85	ug/L	3.406	-0.230	mg/kg	0.0343	14.90%
Se 196.026	59.9	8.384	ug/L	11.3391	0.084	mg/kg	0.1142	135.25%
Sn 189.927	676.0	52.62	ug/L	1.083	0.530	mg/kg	0.0109	2.06%
Sr 421.552	3273318.8	3180	ug/L	29.6	32.02	mg/kg	0.298	0.93%
Ti 337.279	1593113.4	16720	ug/L	287.8	168.4	mg/kg	2.90	1.72%
Tl 190.801	4956.4	558.9	ug/L	7.05	5.628	mg/kg	0.0710	1.26%
V 292.402	342500.7	967.0	ug/L	22.84	9.738	mg/kg	0.2300	2.36%
Zn 206.200	112428.9	1358	ug/L	32.2	13.67	mg/kg	0.324	2.37%

Sequence No.: 67
Sample ID: AY28114S01-1/5
Analyst: SDM
Logged In Analyst (Original) : Chemist
Initial Sample Wt: 9.93 g
Dilution: 5X

Autosampler Location: 76
Date Collected: 12/17/2010 3:39:59 PM
Data Type: Reprocessed on 12/19/2010 5:05:25 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY28114S01-1/5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-388.6	-1.951	ug/L	0.0611	-0.098	mg/kg	0.0031	3.13%
Al 308.215	198754.9	118700	ug/L	3951.9	5977	mg/kg	199.0	3.33%
As 188.979	-5.1	-0.986	ug/L	0.2851	-0.050	mg/kg	0.0144	28.92%
B	5450.3	339.2	ug/L	9.31	17.08	mg/kg	0.469	2.74%
Ba 233.527	286717.2	1227	ug/L	18.3	61.79	mg/kg	0.920	1.49%
Be 313.107	-3348.1	6.707	ug/L	0.2558	0.338	mg/kg	0.0129	3.81%
Ca 315.887	7676347.5	365700	ug/L	4372.9	18420	mg/kg	220.2	1.20%
Cd 214.440	3269.6	0.258	ug/L	0.0666	0.013	mg/kg	0.0034	25.87%
Co 228.616	4176.4	61.85	ug/L	1.150	3.114	mg/kg	0.0579	1.86%
Cr 267.716	22382.8	131.0	ug/L	2.68	6.596	mg/kg	0.1349	2.04%
Cu 327.393	17230.0	108.2	ug/L	2.20	5.447	mg/kg	0.1107	2.03%
Fe 273.955	5751665.3	157900	ug/L	2251.9	7952	mg/kg	113.4	1.43%
K 766.490	93215.0	36630	ug/L	659.3	1844	mg/kg	33.2	1.80%
Mg 285.213	3365874.5	73780	ug/L	1495.1	3715	mg/kg	75.3	2.03%
Mn 257.610	295129.5	2430	ug/L	72.5	122.3	mg/kg	3.65	2.98%
Mo 202.031	-320.9	0.758	ug/L	1.0679	0.038	mg/kg	0.0538	140.86%
Na 589.592	13502.8	1671	ug/L	43.2	84.16	mg/kg	2.174	2.58%
Ni 231.604	6582.2	98.73	ug/L	1.781	4.971	mg/kg	0.0897	1.80%
P 213.617	36280.7	4650	ug/L	95.6	234.1	mg/kg	4.82	2.06%
Pb 220.353	1795.1	84.36	ug/L	2.461	4.248	mg/kg	0.1239	2.92%
Sb 206.836	-28.8	-3.750	ug/L	2.3361	-0.189	mg/kg	0.1176	62.30%
Se 196.026	-38.7	-5.416	ug/L	6.0969	-0.273	mg/kg	0.3070	112.58%
Sn 189.927	184.4	14.35	ug/L	1.018	0.723	mg/kg	0.0512	7.09%
Sr 421.552	841533.0	816.5	ug/L	15.48	41.11	mg/kg	0.780	1.90%
Ti 337.279	422404.7	4433	ug/L	92.0	223.2	mg/kg	4.63	2.08%
Tl 190.801	1523.5	171.8	ug/L	2.65	8.650	mg/kg	0.1335	1.54%
V 292.402	88413.4	244.5	ug/L	3.85	12.31	mg/kg	0.194	1.57%
Zn 206.200	33748.3	407.5	ug/L	5.98	20.52	mg/kg	0.301	1.47%