Appendix V6-5B

Concentrations of Contaminants of Potential Concern in Soil Samples Collected during the Baseline Monitoring Program

TMAC RESOURCES

Appendix V6-5B. Concentrations of Contaminants of Potential Concern in Soil Samples Collected during the Baseline Monitoring Program

Sample ID	D06 (0-10)	D06 (10-20)	D10 (0-10)	D10 (10-20)	D20 (0-10)	D20 (10-20)	D21 (0-10)	D21 (10-20)	D29 (0-10)	D29 (10-20)	D32 (0-10)	D32 (10-20)	D38 (0-10)	D38 (10-20)	D43 (0-10)	D43 (10-20)
Date Sampled	**15-Aug-10**	**15-AUG-10**	**15-AUG-10**	**15-AUG-10**	**16-AUG-10**	**16-AUG-10**	**16-AUG-10**	**16-AUG-10**	**17-AUG-10**	**17-AUG-10**	**17-AUG-10**	**17-AUG-10**	**19-AUG-10**	**19-AUG-10**	**19-AUG-10**	**19-AUG-10**
ALS Sample ID	**L929006-1**	**L929006-2**	**L929006-3**	**L929006-4**	**L929006-5**	**L929006-6**	**L929006-7**	**L929006-8**	**L929006-9**	**L929006-10**	**L929006-11**	**L929006-12**	**L929006-13**	**L929006-14**	**L929006-15**	**L929006-16**
Physical Tests																
pH	6.09	6.69	6.13	7.05	7.35	7.67	5.17	5.56	6.45	6.17	5.09	5.44	5.17	5.69	7.15	7.64
Total Organic Carbon	1.36	0.71	0.6	0.2	11.1	4.25	3.74	2.25	4.08	3.43	1.02	1.09	0.71	0.19	4.2	3.21
Metals (mg/kg dry weight)																
Aluminum	15200	14300	7230	7250	10300	12200	21100	19500	18600	20900	8640	8250	3380	3630	16400	16000
Antimony	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Arsenic	<5.0	<5.0	<5.0	5.6	<5.0	<5.0	<5.0	<5.0	<5.0	5.2	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Barium	82.7	76.2	21.8	29.2	81.4	39.7	112	107	100	121	39.7	44				

Appendix V6-5B. Concentrations of Contaminants of Potential Concern in Soil Samples Collected during the Baseline Monitoring Program

Sample ID	29 (0-10)	29 (10-20)	11 (0-10)	11 (10-20)	16 (0-10)	16 (10-20)	REFA-01	REFA-02	REFA-03	REFB-01	REFB-02	REFB-03	REFC-01	REFC-02	REFC-03	LSA-01
Date Sampled	18-Jul-10	18-Jul-10					12-AUG-14	12-AUG-14	12-AUG-14	12-AUG-14	12-AUG-14	12-AUG-14	13-AUG-14	13-AUG-14	13-AUG-14	12-AUG-14
ALS Sample ID	L933907-15	L933907-16	L933907-17	L933907-18	L933907-19	L933907-20	L1504993-1	L1504993-2	L1504993-3	L1504993-4	L1504993-5	L1504993-6	L1504993-7	L1504993-8	L1504993-9	L1504993-10
Physical Tests																
pH	5.62	6.14	6.24	7.28	6.59	7.05	5.74	7.88	5.66	6.27	5.63	6.51	6.39	6.02	5.95	6.91
Total Organic Carbon	5.89	3.34	1.2	0.1	1.22	7.32	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg dry weight																
Aluminum	12500	21300	3450	9250	2190	13600	7330	19600	5570	4750	9360	6780	17000	4620	5650	9480
Antimony	<10	<10	<10	<10	<10	<10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	2.44	2.39	0.724	0.921	0.949	1.08	2.93	0.87	0.917	2.97
Barium	71	128	19.2	60.5	13.8	109	23.7	131	14.5	16	18.7	18.7	77	16.8	15.4	35.3
Beryllium	<0.50	0.56	<0.50	<0.50	<0.50	<0.50	<0.20	0.64	<0.20	<0.20	<0.20	<0.20	0.44	<0.20	<0.20	<0.20
Bismuth	<20	<20	<20	<20	<20	<20	<0.20	0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.050	0.06	<0.050	<0.050	0.062	<0.050	<0.050	<0.050	<0.050	<0.050
Calcium	4000	5910	1070	3580	1240	13800	2660	6160	2040	1510	1970	2620	5090	2050	1860	3470
Chromium	35.8	59.4	8.5	30.5	7.6	41.8	17.1	54.4	11.1	9.93	17.2	21.8	43.6	13.6	17.3	40.9
Cobalt	8.7	13.7	2.2	8.3	2	9.3	4.35	11.9	4.1	4.28	5.85	7.47	10.5	4.46	4.99	9.92
Copper	15.3	27.6	6.2	19.4	5.7	40.3	4.33	25.2	9.86	9.95	10	11.6	16.8	4.84	11.4	23.5
Iron	19900	32000	7470	16200	6020	20400	12900	28500	10500	8460	15600	13200	25100	9910	10700	19100
Lead	<30	<30	<30	<30	<30	<30	3.02	7.93	1.66	1.5	2.96	2.07	6.16	1.65	1.64	2.43
Lithium	19	33.9	9.1	16.9	4.4	24	11.8	35.7	12.1	9.6	22.3	15.4	24.5	8.5	10.8	14
Magnesium	8750	13900	1910	6360	1390	8730	4220	12600	3400	3260	4810	4480	7530	2700	3730	6660
Manganese	230	369	48.2	211	39.7	234	126	348	101	96.3	157	237	253	105	125	283
Mercury	0.0273	0.0084	0.0064	<0.0050	<0.0050	0.0239	0.0066	<0.0050	0.006	<0.0050	0.0287	<0.0050	0.0101	<0.0050	<0.0050	0.0084
Molybdenum	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	0.73	0.55	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Nickel	19.7	32	<5.0	18.9	<5.0	28.5	8.56	29.9	7.67	8.11	13.5	11.7	21.9	6.63	10.2	27.2
Phosphorus	385	538	177	303	288	521	254	714	299	249	282	398	414	350	282	242
Potassium	3580	5200	480	1910	370	2860	900	5830	510	590	650	520	2730	590	580	1050
Selenium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	530	840	<200	320	<200	550	300	1450	150	<100	110	200	460	140	120	240
Strontium	24.2	35.3	6.93	13.7	4.56	30.9	14.6	39.7	9.37	7.65	11.7	13.7	34.8	11.6	9.21	14.9
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.059	0.258	<0.050	<0.050	<0.050	<0.050	0.168	<0.050	<0.050	0.056
Tin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	928	1470	309	665	176	746	727	1490	481	348	746	695	1210	478	462	594
Uranium	1.35	1.94	0.379	1.06	0.345	1.3	0.495	1.69	0.329	0.326	0.417	0.909	1.44	0.415	0.336	0.476
Vanadium	43.6	69.9	16.8	35.6	14	41.3	32.5	62.3	24.1	17.5	31.3	28.6	53.3	23	23.1	38.6
Zinc	36.8	59.4	10.5	25.1	6.9	36.4	17.6	58.7	15.6	15.3	28.5	21.9	41.1	13.3	16.8	34.3

Notes:

(-) = not available

Appendix V6-5B. Concentrations of Contaminants of Potential Concern in Soil Samples Collected during the Baseline Monitoring Program

Sample ID	LSA-02	LSA-03	LSA-04	LSA-05	LSA-06	LSA-07A	LSA-07B	LSA-08	LSA-09A	LSA-09B	LSA-10	LSA-11	LSA-12	LSA-13A	LSA-13B	LSA-14
Date Sampled	13-AUG-14	13-AUG-14	16-AUG-14	15-AUG-14	15-AUG-14	15-AUG-14	15-AUG-14	15-AUG-14	14-AUG-14	14-AUG-14	15-AUG-14	15-AUG-14	14-AUG-14	16-AUG-14	16-AUG-14	16-AUG-14
ALS Sample ID	L1504993-11	L1504993-12	L1504993-13	L1504993-14	L1504993-15	L1504993-16	L1504993-17	L1504993-18	L1504993-19	L1504993-20	L1504993-21	L1504993-22	L1504993-23	L1504993-24	L1504993-25	L1504993-26
Physical Tests																
pH	8.18	6.57	7.09	6.33	5.81	6.27	6.00	6.23	7.18	7.20	6.20	6.03	6.50	6.07	5.93	5.73
Total Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg dry weight)																
Aluminum	27200	5590	12300	5550	4800	6960	5920	7070	3480	3920	6590	18600	11200	20100	17300	8100
Antimony	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	3.77	0.726	2.35	3.92	0.855	3.03	2.37	1.31	0.999	1.01	1.11	3.92	1.74	3.04	2.96	1.87
Barium	164	21.8	54.2	6.85	11.9	25	20.6	18.6	14.6	18.2	17.2	102	71.2	108	89	19.8
Beryllium	0.79	<0.20	0.23	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.68	0.33	0.56	0.52	<0.20
Bismuth	0.23	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Calcium	6790	1860	4720	1740	1530	2310	2060	2260	2560	2540	1730	5230	4210	4160	3900	2370
Chromium	77.8	14.3	39.7	15	13	18.2	20.7	16.4	12.2	13.1	24.6	49.2	30.8	63.4	54.4	36.9
Cobalt	15.9	4.71	11.1	5.72	5.11	7.28	5.87	6.87	2.84	3.1	6.4	9.2	7.65	12	10.3	8.56
Copper	41.2	6.47	23.8	27.1	12.2	16.5	12.9	33.4	4.06	4.86	11.4	21.3	19	26.5	23.8	20.1
Iron	39800	10100	20900	12200	11400	14000	12000	13600	8150	8650	13700	23700	16700	29200	26000	15000
Lead	9.46	1.78	3.32	1.75	1.42	3.08	2.37	2.55	2.17	2.19	2.15	7.5	4.79	7.88	7.25	2.02
Lithium	50	10.9	16.7	7.7	6.6	11.8	11	10.2	5.8	5.7	9.5	31.2	16.9	30.7	27.9	10.6
Magnesium	17900	3640	7490	3080	2870	4610	3910	3400	1940	2160	4150	9020	5500	10700	9550	5520
Manganese	413	123	327	145	132	175	127	112	91.6	92.2	149	199	210	250	218	213
Mercury	0.0073	0.0074	0.0088	<0.0050	<0.0050	0.0148	0.0103	0.0079	<0.0050	<0.0050	0.0068	0.0173	0.0054	0.0116	0.0103	<0.0050
Molybdenum	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Nickel	39.9	8.25	24	9.86	8.66	13.9	13	13.2	5.43	5.86	13.5	26.7	15.9	32.9	27.9	24.1
Phosphorus	363	227	170	113	161	351	277	131	429	364	160	391	289	392	390	137
Potassium	7790	860	2160	160	260	640	640	370	610	790	310	3840	1990	3950	3190	380
Selenium	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	1070	180	460	<100	120	<100	100	230	220	230	140	580	410	550	430	300
Strontium	32.3	9.66	21.5	7.52	7.71	10.1	8.33	12.6	12.4	13.3	9.07	51.7	21.6	24.1	22	10.1
Thallium	0.356	<0.050	0.114	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.181	0.127	0.208	0.214	<0.050
Tin	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	1760	480	950	479	414	417	432	539	458	477	563	986	996	1390	1190	635
Uranium	0.863	0.392	0.369	0.405	0.31	0.541	1.07	0.408	0.678	0.641	0.349	1.06	0.782	1.75	1.6	0.302
Vanadium	82	23.1	46.9	27.9	24.7	24.5	23.7	30	19	20	28.7	48.6	37.2	65.2	57.7	35.3
Zinc	80.5	16.4	34.2	13.4	14.3	21.7	19.4	16.5	8.9	10.3	15.5	40	28.7	56.4	50.3	22.5

Notes:

(-) = not available

Appendix V6-5B. Concentrations of Contaminants of Potential Concern in Soil Samples Collected during the Baseline Monitoring Program

Sample ID	LSA-15	LSA-16	LSA-17	LSA-18	LSA-19	LSA-20	LSA-21
Date Sampled	15-AUG-14	16-AUG-14	14-AUG-14	14-AUG-14	14-AUG-14	13-AUG-14	14-AUG-14
ALS Sample ID	L1504993-27	L1504993-28	L1504993-29	L1504993-30	L1504993-31	L1504993-32	L1504993-33
Physical Tests							
pH	6.15	8.05	6.28	6.47	6.77	6.87	5.90
Total Organic Carbon	-	-	-	-	-	-	-
Metals (mg/kg dry weight)							
Aluminum	13900	13300	3220	2570	6590	12100	4760
Antimony	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	2.78	7.17	0.756	0.645	1.83	1.37	0.963
Barium	71	47.9	19.1	14.1	19.4	61.8	16
Beryllium	0.41	0.24	<0.20	<0.20	<0.20	0.3	<0.20
Bismuth	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Calcium	3550	4110	1850	1900	1830	5730	2220
Chromium	44.1	44.9	10.9	9.09	19.6	31.8	27.3
Cobalt	8.86	14.9	2.87	2.25	9.83	7.99	5.83
Copper	16.8	40.6	6.13	8.15	41.7	13.2	6.4
Iron	20600	25900	7520	7010	12700	18200	10800
Lead	5.51	2.97	1.91	1.59	2.4	3.77	1.53
Lithium	20.4	19.5	6.2	<5.0	8.5	20.9	5.8
Magnesium	7180	9120	1700	1260	3810	7010	3280
Manganese	207	394	67	49.6	190	224	149
Mercury	0.012	0.006	<0.0050	<0.0050	0.0061	0.0091	0.0088
Molybdenum	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Nickel	24.7	33.6	4.94	3.81	12.8	17.6	13
Phosphorus	182	357	289	325	128	279	192
Potassium	2180	1400	600	280	350	2090	310
Selenium	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	450	320	150	140	180	390	110
Strontium	19.7	13.5	8.99	7.88	8.4	30.5	7.86
Thallium	0.147	0.093	<0.050	<0.050	<0.050	0.12	<0.050
Tin	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	962	826	396	320	505	851	366
Uranium	1.06	0.485	0.517	0.456	0.399	0.449	0.314
Vanadium	46.2	56	17.1	17.2	27.8	39.6	26.4
Zinc	32.9	41.4	9.1	6.4	17.5	37.6	15.8

Notes:

(-) = not available