Appendix A - Analytical Results
Table A-12a: Area 12 Metals

Location	Sample Name	Sample Type	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium, Total	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Thorium-232	Uranium	Vanadium	Zinc
			mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg	ug/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg	ug/kg	mg/kg	ug/kg	ug/kg	mg/kg	ug/kg	mg/kg	mg/kg	ug/kg	ug/kg
PA-AA1	PA-AA1-1	N	6400	R	2700	45000	320	2.7 J	260	2800	4300	4600	110000 J	7200	4000	3500	230000 J	0.069	170 J	5700	2200	320 J	74 J	160	260			10000	18000
PA-AA1	PA-AA1-5	N	4500	R	3100	32000	180	2.3 J	160	5600	2700	2200	42000	6900	2000	2200	90000	0.0033 J	400	3300	680	< 170	27 J	450	34 J			12000	11000
PA-AA1	PA-AA1-10	N	5600	R	5000	42000	220	4.7	210	8700	3200	3000	40000	7900	2600	3000	140000	0.0011 J	420	3900	1100	< 170	41 J	700	45 J			16000	14000
PA-AA2	PA-AA2-1	N	2300 J	R	2300	25000	190	1.7 J	93	4600	1900	2100	50000	3900	1700	1500	81000	< 0.00015	550 J	2600	430 J	< 170	39 J	42 J	< 39			8800	9300
PA-AA2	PA-AA2-1B	FD	4800 J	R	2400	32000	170	< 1.2	120	7400	2100	2200	50000	6000	1900	2300	88000	0.0017 J	260 J	3000	1400 J	< 170	36 J	100 J	< 35			9000	9800
PA-AA2	PA-AA2-5	N	4100	R	3100	19000	180	2.5 J	110	6500	2300	2000	76000	7400	1700	2400	80000	< 0.00014	320	3000	790	< 170	25 J	140	< 23			11000	9000
PA-AA2	PA-AA2-10	N	3800	R	2900	30000	160	2.3 J	130	5100	2100	2800	35000	7100	2000	2400	87000	< 0.00014	320	2700	760	< 160	44 J	190	< 120			11000	15000
PA-AAA1	PA-AAA1-1	N	4300	R	2700	14000	70	< 0.68	59	2200	2200	2000	1100000	7300	1300	5100	41000	0.49	2100	4500	470 J	5100	170	69	< 2.2	2.4	< 0.5	8400	11000
PA-AAA1	PA-AAA1-5	N	3100	R	9900	22000	87	2.2 J	78	1800	1900	1600	940000	13000	4100	2300	27000	0.3	3700	3300	640	5500	150	36	38 J	3.6	0.7	9700	8800
PA-AAA1	PA-AAA1-10	N	3700	R	59000	30000	92	< 0.0055	59	640	14000	1300	360000	35000	3100	3000	19000	1	3400	3300	2500	4600	200	850	2200	4.4	9.5	12000	9100
PA-AAA1	PA-AAA1-15	N	3100	R	60000	20000	110	< 0.0056	57	820	19000	780	120000	41000	2500	2600	15000	0.27	2200	2400	4500	6200	120	1200	5800	4.3	10.7	12000	7500
PA-AAA1	PA-AAA1-20	N	2700	R	6900	26000	140	< 0.92	37 J	2100	3200	680	390000	6700	2300	1900	11000	0.49	1400	1800	400	4600	85 J	79	230 J	3.2	2.4	5700	4900 J
PA-PP1	PA-PP1-1	N	5700	480 J	14000	85000	310	< 0.83	190	4000	9000	6100	2600000	13000	7400	4600	73000	0.18	6500	12000	1200	7600	300	120	190 J	6.2	2.1	37000	24000
PA-PP1	PA-PP1-1B	FD	5000	120 J	18000	100000	370	< 0.86	200	4100	9700	7100	2800000	13000	9100	3900	78000	0.17 J	6900	13000	1200	9100	330	90	150 J	6.6	1.6	37000	26000
PA-PP1	PA-PP1-5	N	4100	76 J	11000	91000	340	< 1.6	200	3100	8200	6900	2800000	9100	21000	3800	81000	0.46	5000	13000	1300	5400	210	160	360	6.4	1.7	40000	28000
PA-PP2	PA-PP2-1	N	5000	360 J	9600 J	60000 J	480	< 0.32	180	3600	3800	4300	2100000	16000	5100	4400	61000 J	0.079	6000 J	8800	1600 J	7700 J	140	80 J	230 J	6.8	1.8	28000 J	19000 J
PA-PP2	PA-PP2-5	N	4900	190 J	11000	98000	610	< 0.76	240	3500	4900	4800	2700000	12000	8900	4100	73000	0.16	11000	11000	1300	13000	390	69	140 J	7.2	2.1	32000	22000
PA-PP3	PA-PP3-1	N	3400	200 J	13000	81000	420	< 0.65	200	4300	6200	5600	3100000	10000	7300	2600	72000	0.72	4400	9500	680	6200	360	98	91 J	4.8	1.2	26000	22000
PA-PP3	PA-PP3-1B	FD	5300	210 J	15000	100000	340	< 2.1	190	5600	6300	4500	2800000	11000	8600	4200	61000	0.52	4700	7900	960	7700	410	120	92 J	6.6	1.5	25000	20000
PA-PP3	PA-PP3-5	N	4100	R	6700	37000	150	< 1.9	82	3400	2200	2400	980000	13000	2800	3600	34000	0.21	2300	3900	900	2700	84 J	82	50 J	6.1	2.1	11000	11000
PA-PP4	PA-PP4-1	N	6000	R	4700	33000	160	< 0.13	76	3500	2600	2400	760000	11000	3200	5600	33000	0.1	2900	5400	1300	3800	76 J	99	56 J	9.9	2.2	14000	9600
PA-PP4	PA-PP4-5	N	4600	R	3000	23000	140	< 0.0054	66	2500	2400	2100	550000	7600	2500	4600	28000	0.052	1900	5200	1600	2700	55 J	61	55 J	9.5	2	12000	8000
PA-QQ1	PA-QQ1-1	N	3900	R	2600	70000	330	2.4 J	250	4900	2200	2400	70000	7900	3900	2100	250000	0.014	140 J	2800	1200	190 J	46 J	690	130 J			8100	19000
PA-QQ1	PA-QQ1-1B	FD	4800	R	2700	56000	290	2.9 J	260	5500	2900	2600	74000	8300	3900	2300	240000	0.018	180 J	2700	1200	300 J	53 J	640	130 J			11000	20000
PA-QQ1	PA-QQ1-5	N	4600	R	4000	38000	290	3.7 J	250	4100	2200	2400	6900	7200	3800	1800	210000	< 0.00014	150 J	3100	1100	< 170	34 J	850	73 J			9300	17000
PA-QQ1	PA-QQ1-10	N	6000	R	3000	65000	300	5.8	240	12000	3000	2300	12000	8900	3200	2900	190000	0.0017 J	180 J	3200	1000	190 J	40 J	1200	70 J			8200	18000
PA-QQ2	PA-QQ2-1	N	4600	R	2900	62000	340	1.5 J	200	4300	2600	2800	190000 J	7200	4300	2500	200000 J	0.036	350 J	3100	1300	500 J	52 J	610 J	< 83			9500	19000
PA-QQ2	PA-QQ2-5	N	4600	R	3400	61000	350	1.4 J	230	4500	2800	2800	280000	7300	4800	2500	210000	0.067	300	3400	1300	570 J	63 J	580	77 J			10000	21000
PA-QQ2	PA-QQ2-10	N	3800	R	3200	50000	300	1.7 J	220	3000	2200	2300	6600	6800	3600	1800	160000	< 0.00015	76 J	2700	840	< 170	39 J	540	56 J			7900	16000
PA-RR1	PA-RR1-1	N	4300	R	3600	77000	350	2.1 J	220	4300	1400	1700	5000	6100	3700	1600	290000 J	< 0.00014	72 J	2600	820	< 170	33 J	920	46 J			8100	15000
PA-RR1	PA-RR1-1B	FD	3200	R	3400	53000	270	1.3 J	170	3900	1400	1800	5100	6200	3000	1500	150000 J	< 0.00014	87 J	2300	690	< 170	27 J	580	< 40			8600	15000
PA-RR1	PA-RR1-5	N	8300	R	3200	62000	550	7.6	390	7300	4900	4100	13000	12000	7100	3600	240000	0.001 J	170 J	5600	1300	< 180	79 J	1000	100 J			13000	28000
PA-RR1	PA-RR1-10	N	4300	R	3500	58000	380	4.2 J	200	11000	1800	2100	6300	6500	4000	2100	170000	0.0013 J	160 J	2200	940	< 180	31 J	1000	110 J			7000	19000
PA-RR2	PA-RR2-1	N	4500	R	2500	64000	400	< 1.1	260	5900	2200	2500	6500	7900	4200	2200	250000	0.0012 J	79 J	3200	800	< 170	45 J	680	56 J			8400	20000
PA-RR2	PA-RR2-5	N	4800	R	2600	46000	300	2.3 J	220	3000	2200	2400	6500	7400	3700	2100	180000	< 0.00014	54 J	2800	1200	< 160	37 J	490	57 J			8000	17000
PA-RR2	PA-RR2-10	N	6300	R	2600	50000	330	3.1 J	250	3900	2700	2800	7600	9600	4000	2300	200000	< 0.00014	72 J	3600	1100	< 160	44 J	730	63 J			8900	18000
PA-UU1	PA-UU1-1	N	5000	220 J	4200	13000	330	< 0.0053	160	6800	1700	8500 J	5700000	11000	5300	4900	79000	0.41 J	4000	6800	1200	5300	300	130	< 22			7400	16000
PA-UU1	PA-UU1-1B	FD	6500	R	5200	14000	390	< 0.032	150	6400	2300	24000 J	3900000	14000	3600	6500	100000	0.22 J	3600	8300	900	5700	340	110	< 30			9300	18000
PA-UU1	PA-UU1-5	N	4200	R	3500	19000	260	< 0.75	210	8200	2100	7400	3900000	13000	5900	3700	74000	0.33	1800	5900	1000	3700	310	96	43 J			6800	19000
PA-UU2	PA-UU2-1	N	5700	R	3200	27000	300	2.1 J	290	8400	2900	7100	8700000	15000	3600	4900	140000 J	0.098	1300 J	7000	1300 J	4300	630	300	71 J			9400	22000
PA-UU2	PA-UU2-5	N	5500	R	3300	36000	280	1.6 J	240	10000	4100	4700	5700000	13000	5300	4000	71000	0.12	2000	6000	1300	3400	440	330	61 J			8700	19000
PA-UU2	PA-UU2-10	N	5300	R	3100	37000	350	< 0.9	330	5800	2400	10000	8300000	15000	4000	4300	120000	0.14	2700	8100	840	5600	380	200	< 38			7300	21000
PA-VV1	PA-VV1-1	N	7600	250 J	6300	46000	430	4.8	300 J	7800	3900	7600 J	5100000 J	11000	6100	4400	180000 J	0.14 J	770 J	8000	1600	1600 J	92 J	280	200 J	6.8	3.1	14000	26000
PA-VV1	PA-VV1-1B	FD	7400	R	5400	61000	450	5.2	520 J	8100	4000	13000 J	13000000 J	10000	4300	4000	300000 J	0.039 J	260 J	11000	1700	840 J	93 J	300	210 J	6.5	1.9	15000	39000
PA-VV1	PA-VV1-5	N	6700	R	4900	64000	360	5.9	330	9400	4200	3700	410000	10000	3800	4700	200000	0.01 J	230 J	6100	1700	< 180	71 J	360	62 J	6.7	1.4	16000	21000
PA-VV1	PA-VV1-10	N	5400	R	12000	37000	240	7.6	390	3500	3400	3200	11000	10000	3200	2600	160000	0.003 J	280	3800	1400	< 170	80 J	650	63 J	10	9.5	17000	21000
PA-VV1	PA-VV1-15	N	4300	R	9700	60000	130	5.6	350	2500	3300	3000	15000	18000	3300	2500	110000	0.0039 J	370	3600	1100	210 J	79 J	720	90 J	10.8	4.5	22000	20000
PA-VV1	PA-VV1-20	N	11000	R	7200	81000	430	4.8	510	4400	7100	4900	51000	18000	6600	5600	210000	0.022	300	6200	1800	< 180	140	520	160 J	11.2	6.8	31000	41000
PA-VV2	PA-VV2-1	N	7400	R	4800	94000	390	6.5	370	7200	4300	4400	740000	12000	6800	4200	160000	0.056	350	5700	1800	440 J	72 J	790	120 J	8.3	2.3	15000	21000
PA-VV2	PA-VV2-5	N	4600	R	4500	44000	340	5.4	250	5000	3000	3000	57000	8000	3800	2800	140000	0.0083 J	240 J	3900	1000	< 170	50 J	1000	63 J	6.4	3	15000	18000
PA-VV2	PA-VV2-10	N	11000	R	18000	84000	560	11	620	5300	5000	8400	20000	16000	6400	6300	420000	0.013	220 J	7600	2900	290 J	140	1400	190 J	12.7	5	17000	35000
PA-VV2	PA-VV2-15	N	9700	R	5800	48000	360	4 J	410	6100	10000	6200	470000	18000	4000	5300	250000	0.093	660	9500	1900	780 J	100 J	640	130 J	6.9	2.6	16000	26000
PA-VV2	PA-VV2-20	N	6100	R	23000	120000	1600	6.6	950	9000	10000	9700	120000	12000	9900	4500	360000	0.066	330	13000	1600	640 J	210	770	300 J	14.2	5.1	55000	65000
PA-VV3	PA-VV3-1	N	5000	R	7600	40000	150	< 2.8	91	2700	3800	2000	670000	9900	4400	4200	34000	0.71	5100	4900	760	2700	100 J	380	74 J	5.8	2.7	12000	10000
PA-ZZ1	PA-ZZ1-1	N	7400	R	8500	99000	440	6.5	570	10000 J	6400	5900	19000	13000	5800	5200	370000	0.025	180 J	6900	1700	< 180	140	940	190 J			26000	37000
PA-ZZ1	PA-ZZ1-1B	FD	7400	R	9300	94000	480	5.8	600	5900 J	5700	5000	22000	13000	5100	4500	480000	0.03	210 J	6800	1600	< 170	150	700	180 J			24000	33000
PA-ZZ1	PA-ZZ1-5	N	4900	R	15000	42000	250	8.6	370	2700	3700	4100	14000	11000	3100	2400	200000	0.016	220 J	4800	1200	< 180	99 J	400	120 J			26000	23000
PA-ZZ1	PA-ZZ1-10	N	15000	R	11000	150000	730	7	600	7400	8600	10000	29000	26000	11000	10000	600000	0.052	320	11000	2700	190 J	150	970	300			36000	67000

Appendix A - Analytical Results
Table A-12a: Area 12 Metals

Location	Sample Name	Sample Type	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium, Total	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Thorium-232	Uranium	Vanadium	Zinc
			mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg	ug/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg	ug/kg	mg/kg	ug/kg	ug/kg	mg/kg	ug/kg	mg/kg	mg/kg	ug/kg	ug/kg
Minimum			2,300	76	2,300	13,000	70	<0.0053	37	640	1,400	680	5,000	3,900	1,300	1,500	11,000	<0.00014	54	1,800	400	<160	25	36	<2.2	2.4	<0.5	5,700	4,900
Average[1]			5,476	234	8,357	54,603	332	2.9	258	5,277	4,321	4,522	1,416,216	11,574	4,786	3,559	158,638	0.14	1,627	5,645	1,305	2,268	141	474	238	7.2	3.3	15,853	20,638
Maximum			15,000	480	60,000	150,000	1,600	11	950	12,000	19,000	24,000	13,000,000	41,000	21,000	10,000	600,000	1.0	11,000	13,000	4,500	13,000	630	1,400	5,800	14.2	10.7	55,000	67,000
Total Analyzed (incl. dup)			58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	27	27	58	58
Number Detected			58	9	58	58	58	37	58	58	58	58	58	58	58	58	58	49	58	58	58	36	58	58	48	27	26	58	58
Freq. of Detection			100%	100%	100%	100%	100%	64%	100%	100%	100%	100%	100%	100%	100%	100%	100%	84%	100%	100%	100%	62%	100%	100%	83%	100%	96%	100%	100%
Number Estimated			2	9	1	1	0	20	3	2	0	4	4	0	0	0	8	16	26	0	5	15	35	4	43	0	0	1	2
Frequency Estimated			3%	100%	2%	2%	0%	34%	5%	3%	0%	7%	7%	0%	0%	0%	14%	28%	45%	0%	9%	26%	60%	7%	74%	0%	0%	2%	3%
Number Rejected			0	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Frequency Rejected			0%	84%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Screening PRG[2]			**920,000**	**410,000**	**260,000**	**67,000,000**	**1,900,000**	**200,000**	**450,000**	**NA**	**2,500,000**	**13,000,000**	**41,000,000**	**310,000**	**NA**	**NA**	**19,000,000**	**310**	**5,100,000**	**20,000,000**	**NA**	**5,100,000**	**5,100,000**	**NA**	**67,000**	**174**	**200**	**1,000,000**	**310,000,000**
Number >PRG			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Frequency >PRG			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

NA - Not applicable, no screening level established.

N - Normal sample.

FD - Field duplicate.

J - Estimated result.

R - Rejected result. Laboratory reported result was rejected and not used for any purpose.

[1] Mathematical average. Non-detected results are averaged as one half the value of the minimum detection limit.

[2] Screening PRG based on EPA Region IX Industrial Worker Preliminary Remediation Goal