Sample Location	Depth	Type	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Potassium (mg/kg)	Radium-226 (pci/g)	Radium-228 (pci/g)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Thallium (mg/kg)	Thorium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
Sub Area A-2 Background Conc.			25436	1.8	17	310	1.3	21	0.35	46625	19	15	285	28465	13	9889	729	0.05	3.3	18	5229	2.44	2.13	0.87	0.58	2407	0.6	19	4.1	65	62
Area 3 - Vat Leach Tanks																															
PA-P15	4.0-5.0 ft	N	3200	0.93 J	3.6	42	0.24	<1.9 UJ	0.3	4500	6.5	3.1	50	7000	2.3	2000	140	0.0017 J	0.62	6.4	920	<0.2	<0.2	0.44 J	0.057 J	220	0.28 J	5.4	1.3	15	17
	9.0-10.0 ft	N	4800		3.1	42	0.27	<2.1 UJ	0.43	3500	3.8	3.5	46	7900	4	2800	180	<0.00014	0.18 J	4.6	1200	0.7 J	2.9	<0.33	0.067 J	280	0.13 J	6.5	1.3	13	30
	9.0-10.0 ft	FD	3800		3.5	40	0.25	<2 UJ	0.37	5200	3.9	2.7	32	7500	2.9	2300	160	0.00044 J	0.27 J	3.6	970	<0.2 UJ	2.2	<0.33	0.059 J	210	0.17 J	6.6	1.5	12	19
	14.0-15.0 ft	N	6700		3.4	77	0.28	<2.6 UJ	0.39	4700	39	4.1	43	14000	3.2	2500	210	0.001 J	4.7	8.1	1700	<0.2	<0.2	0.34 J	0.07 J	970	0.11 J	7.2	1.6	13	19
	19.0-20.0 ft	N	9300		5.3	80	0.4	6.2	0.58	8700	35	4.3	84	15000	3.9	4200	270	0.0045 J	3.9	8.7	1900	1.6	<0.2	0.37 J	0.11 J	890	0.096 J	9.3	2	21	27
	24.0-25.0 ft	N	7500		4.7	73	0.3	4.4	0.44	5400	71	4.3	73	16000	3.6	3400	270	0.0035 J	9.2	12	1700	1.2	<0.2	0.41 J	0.094 J	850	0.09 J	9.3	2.1	17	21

	Depth	Cd	Mo	Ra-228
PA-P15	4.5	0.3	0.62	0.1
	9.5	0.43	0.18 J	2.9
	9.5	0.37	0.27 J	2.2
	14.4	0.39	4.7	0.1
	19.5	0.58	3.9	0.1
	24.5	0.44	9.2	0.1
	0	**0.35**	**3.3**	**2.13**
	25	**0.35**	**3.3**	**2.13**

Sample Location	Depth	Type	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Potassium (mg/kg)	Radium-226 (pci/g)	Radium-228 (pci/g)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Thallium (mg/kg)	Thorium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
Sub Area A-2 Background Conc.			25436	1.8	17	310	1.3	21	0.35	46625	19	15	285	28465	13	9889	729	0.05	3.3	18	5229	2.44	2.13	0.87	0.58	2407	0.6	19	4.1	65	62
Area 3 - Vat Leach Tanks																															
PA-P19	4.0-6.0 ft	N	4500		4.5	68	0.43	<2 UJ	0.46	4300	2.8	7.4	3000 J	9900	3.3	2700	290	0.0015 J	1.2	5.2	1000	<0.2 UJ	<0.2 UJ	0.74 J	0.05 J	260 J	0.057 J	7.9	3.2	13	28
	4.0-6.0 ft	FD	5800		3.4	57	0.48	7.9 J	0.41	4700	3.2	6	1800 J	11000	2.8	2600	220	0.019 J	1.6	5.5	980	1.2 J	2.8 J	0.64 J	0.05 J	490 J	0.045 J	8.3	3.3	10	28
	9.0-10.0 ft	N	4700		2.1	30	0.34	<2.1 UJ	0.51	3000	3.9	6.1	2300	7300	3.2	2800	220	0.0039 J	<0.19 UJ	6.1	1100	0.7	3.3	<0.34	0.066 J	160	0.072 J	6.4	1.2	14	25
	14.0-15.0 ft	N	4500		3	37	0.46	10	0.39	2900	3	3.5	2000	8500	2.9	1900	180	0.0015 J	<0.2 UJ	4.8	900	<0.2	<0.2	<0.33	0.044 J	160	0.048 J	5.6	4.3	12	21
	19.0-20.0 ft	N	5000		3.4	65	0.36	9.4	0.57	4700	29	4.2	970	13000	3.8	2700	320	0.0006 J	3	8.1	1500	1	<0.2	0.45 J	0.073 J	650	0.081 J	9.4	2.2	13	23
	24.0-25.0 ft	N	4000		4.8	66	0.34	<3 UJ	0.43	6700	3.9	3.3	60	7400	3.2	2800	180	0.0043 J	0.45 J	4.2	900	0.8	<0.2	0.36 J	0.065 J	240	0.069 J	9.7	1.7	14	22
PA-YY1	8.5-10.0 ft	N	5500		3.7	67	0.27	<3.5 UJ	0.38	6100	3.6	3.7	150	12000	3.3	3200	210	0.037	0.62	4.4	1500			0.49 J	0.073 J	290 J	0.08 J			12	15
	8.5-10.0 ft	FD	5600		3.2	67	0.22	<2.9 UJ	0.39	5400	3.6	3.1	160	9600	3.1	2700	180	0.032	0.85	4.2	1300			0.47 J	0.076 J	550 J	0.07 J			12	14
	13.5-15.0 ft	N	5500		3.5	73	0.27	<4.1 UJ	0.47	6100	3.9	3.9	100	11000	3.3	2800	230	0.0082 J	0.59	4.8	1400			0.32 J	0.075 J	600	0.089 J			13	16
	18.5-20.0 ft	N	7100		5.6	66	0.22	<3 UJ	0.32	6300	4	3	490	11000	3.3	4500	150	0.22	0.89	4.8	1400			1.4	0.13	550	0.07 J			13	13
PA-YY2	12.0-14.0 ft	N	5300		3.4	30	0.63	<2.8 UJ	0.48	6100	2.8	5.7	6500	8300	3	2100	220	<0.00015	0.16 J	4.4	1100			0.61 J	0.069 J	210	0.045 J			9.9	17
	16.5-18.0 ft	N	5200		2.9	29	0.61	<2.1 UJ	0.45	4200	4.7	11	5200	11000	2.5	2500	240	0.039	0.51	5.8	940			1.1	0.15	220	0.035 J			10	16
	20.0-22.0 ft	N	5600		3.6	99	0.3	<3.6 UJ	0.46	3400	6.7	3.7	150	12000	3.6	3200	260	<0.00015	1.4	4.6	1500			0.44 J	0.079 J	460	0.051 J			15	17

	Depth	Cu	Cd	Ra-228	Se	U
PA-P19	5	3000	0.46	0.1	0.74	3.2
	5	1800	0.41	2.8	0.64	3.3
	9.5	2300	0.51	3.3	0.17	1.2
	14.4	2000	0.39	0.1	0.17	4.3
	19.5	970	0.57	0.1	0.45	2.2
	24.5	60	0.43	0.1	0.36	1.7
PA-YY1	9.25	150	0.38		0.49	
	9.25	160	0.39		0.47	
	14.25	100	0.47		0.32	
	19.25	490	0.32		1.4	
PA-YY2	13	6500	0.48		0.61	
	17.25	5200	0.45		1.1	
	21	150	0.46		0.22	
	0	**285**	**0.35**	**2.13**	**0.87**	**4.1**
	25	**285**	**0.35**	**2.13**	**0.87**	**4.1**

Brown AND Caldwell

Date: August 2010

Atlantic Richfield Company

Project: 138554

Explanation

COC concentrations that exceed Background Concentration Limits

Area 3
Chemical Data

Aug 18, 2010 - 10:43am rhunt
P:\Arco-Yerington\Process Areas\138554 - Year 2010 Files\CAD\Drawings\Vadose Zone Work Plan\Appendix E - Soils Chem Concent-Depth PArea 3 - Chemical Data.dwg