

Arco Deep 1-27 Pit

Client Sample ID:	Units	CO Soil - Oil and Gas Conservation Commission Levels (2 CCR 404-1 9/30/07)1	Sidewalls				Bottom	Background			Excavation
			N-P-AD127	S-P-AD127	W-P-AD127	E-P-AD127	B1W-P-AD127	BG1-T-AD127	BG2-T-AD127	BG3-T-AD127	B2EA-P-AD127
GC/MS Semi-volatiles (SW846 8270C BY SIM)											
Acenaphthene	ug/kg	1000000	ND (34)	ND (34)	ND (38)	ND (35)	ND (8.2)	ND (6.5)	ND (6.5)	ND (7.0)	NA
Acenaphthylene	ug/kg	-	ND (37)	ND (37)	ND (42)	ND (39)	ND (9.0)	ND (7.1)	ND (7.2)	ND (7.7)	NA
Anthracene	ug/kg	1000000	ND (23)	ND (23)	ND (26)	ND (24)	ND (5.7)	ND (4.5)	ND (4.5)	ND (4.8)	NA
Benzo(a)anthracene	ug/kg	220	ND (36)	ND (35)	ND (40)	ND (37)	ND (8.6)	ND (6.8)	ND (6.8)	ND (7.3)	NA
Benzo(a)pyrene	ug/kg	22	ND (23)	ND (23)	ND (26)	ND (24)	ND (5.5)	ND (4.4)	ND (4.4)	ND (4.7)	NA
Benzo(b)fluoranthene	ug/kg	220	ND (26)	ND (26)	ND (29)	ND (27)	ND (6.4)	ND (5.0)	ND (5.0)	ND (5.4)	NA
Benzo(g,h,i)perylene	ug/kg	-	ND (23)	ND (23)	ND (25)	ND (23)	ND (5.5)	ND (4.3)	ND (4.3)	ND (4.7)	NA
Benzo(k)fluoranthene	ug/kg	2200	ND (23)	ND (23)	ND (26)	ND (24)	ND (5.5)	ND (4.4)	ND (4.4)	ND (4.7)	NA
Chrysene	ug/kg	22000	ND (18)	ND (18)	ND (20)	ND (19)	ND (4.4)	ND (3.5)	ND (3.5)	ND (3.7)	NA
Dibenzo(a,h)anthracene	ug/kg	22	ND (27)	ND (27)	ND (30)	ND (28)	ND (6.5)	ND (5.1)	ND (5.1)	ND (5.5)	NA
Fluoranthene	ug/kg	1000000	ND (22)	ND (22)	ND (25)	ND (23)	ND (5.4)	ND (4.3)	ND (4.3)	ND (4.6)	NA
Fluorene	ug/kg	1000000	70.4	ND (35)	ND (40)	ND (37)	ND (8.6)	ND (6.8)	ND (6.8)	ND (7.3)	NA
Indeno(1,2,3-cd)pyrene	ug/kg	220	ND (24)	ND (24)	ND (27)	ND (25)	ND (5.7)	ND (4.5)	ND (4.6)	ND (4.9)	NA
1-Methylnaphthalene	ug/kg	-	77.2	ND (32)	ND (36)	ND (33)	ND (7.8)	ND (6.1)	ND (6.2)	ND (6.6)	NA
2-Methylnaphthalene	ug/kg	-	130 J	ND (55)	ND (62)	ND (57)	ND (13)	ND (11)	ND (11)	ND (11)	NA
Naphthalene	ug/kg	23000	ND (40)	ND (40)	ND (45)	ND (41)	ND (9.7)	ND (7.7)	ND (7.7)	ND (8.3)	NA
Phenanthrene	ug/kg	-	53.8	ND (29)	ND (32)	ND (30)	ND (7.0)	ND (5.5)	ND (5.5)	ND (6.0)	NA
Pyrene	ug/kg	1000000	ND (24)	ND (24)	ND (27)	ND (25)	ND (5.9)	ND (4.7)	ND (4.7)	ND (5.1)	NA
GC Volatiles (SW846 8015)											
TPH-GRO (VOA)	mg/kg	500	ND (4.2)	ND (4.2)	ND (5.0)	ND (4.3)	ND (5.8)	ND (1.0)	ND (1.0)	ND (1.1)	634
GC Volatiles (SW846 8021)											
Benzene	ug/kg	170	ND (8.0)	ND (8.0)	ND (9.4)	ND (8.2)	ND (11)	ND (1.6)	ND (1.6)	ND (1.7)	NA
Toluene	ug/kg	85000	ND (9.0)	12.4 J	15.9 J	ND (9.2)	21.4 J	ND (5.2)	ND (5.2)	ND (5.6)	NA
Ethylbenzene	ug/kg	100000	ND (10)	ND (10)	ND (12)	ND (10)	ND (14)	ND (2.1)	ND (2.1)	ND (2.2)	NA
Xylenes (total)	ug/kg	175000	ND (11)	ND (11)	ND (13)	ND (11)	ND (15)	ND (3.6)	4.0 J	ND (3.9)	NA
GC Semi-volatiles (SW846-8015B)											
TPH-DRO (C10-C28)	mg/kg	500	232	26.5	191	350	190	34.7	ND (14)	290	918
Metals Analysis											
Arsenic	mg/kg	0.39	5.7	5.3	4.6	3.1	5	6.6	5.1	3.2	NA
Barium	mg/kg	15000	304	388	361	310	276	403	262	318	NA
Cadmium	mg/kg	70	<0.99	<1.0	<1.0	<1.1	<1.1	<0.25	0.438	<0.25	NA
Calcium	mg/l	-	91.3	41.4	19.4	48.2	16.6	11.8	12.8	22.1	NA
Chromium, Hexavalent	mg/kg	23	<2.2 <sup>a</sup>	<2.1 <sup>a</sup>	<2.4 <sup>a</sup>	<2.2 <sup>a</sup>	<2.6 <sup>a</sup>	<2.1 <sup>a</sup>	<2.1 <sup>a</sup>	<2.2 <sup>a</sup>	NA
Chromium, Trivalent	mg/kg	120000	47.9 <sup>b</sup>	44.2 <sup>b</sup>	46.6 <sup>b</sup>	36.4 <sup>b</sup>	48.9 <sup>b</sup>	50.6 <sup>b</sup>	28.8 <sup>b</sup>	45.2 <sup>b</sup>	NA
Chromium	mg/kg	-	47.9	44.9	47	36.4	48.9	50.6	29.5	45.2	NA
Copper	mg/kg	3100	11.9	13.2	12	15.1	10.5	18.2	15.3	14.8	NA
Lead	mg/kg	400	12.1	12	12	21.7	12.4	68.2	13.7	13.3	NA
Magnesium	mg/l	-	16.9	7.66	3.71	7.89	2.18	1.28	2.09	2.65	NA
Mercury	mg/kg	23	<0.11	<0.11	<0.12	<0.11	<0.13	<0.10	<0.098	<0.11	NA
Nickel	mg/kg	1600	19.2	19	20.3	18.6	20.4	20.4	13.6	20.6	NA
Selenium	mg/kg	390	<4.9	<5.2	<5.2	<5.4	<5.5	<4.1	<4.0	<4.6	NA
Silver	mg/kg	390	<3.0	<3.1	<3.1	<3.2	<3.3	<2.5	<2.4	<2.7	NA
Sodium	mg/l	-	118	77.9	45.8	29.5	312	6.9	3.2	5.11	NA
Zinc	mg/kg	23000	43.9	43.2	44.9	48.7	44	89.2	47.3	52.9	NA
General Chemistry											
Sodium Adsorption Ratio	ratio	12	2.97 <sup>c</sup>	2.92 <sup>c</sup>	2.49 <sup>c</sup>	1.04 <sup>c</sup>	19.1 <sup>c</sup>	0.509 <sup>c</sup>	0.218 <sup>c</sup>	0.273 <sup>c</sup>	NA
Specific Conductivity	umhos/cm	4000	1060	488	261	334	1510	86.8	74.7	125	NA
pH	su	6-9	9.01	9.41	9.37	8.83	9.55	9.25	8.14	8.41	NA