

Appendix B Previous Soil Results

			BTEX						Metals																					
			Benzene		Ethylbenzene		Toluene		Xylene (m & p)		Xylene (o)		Xylene Total		Lead		Arsenic		Cadmium		Chromium (III+VI)		Copper		Mercury		Nickel		Zinc	
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR			0.2	0.5	0.5	0.5	0.5	0.5			5	5	1	2	5	0.1	2	5												
Residential Land Use SL			1	50	130					25	300	100	30		1000	15	300	100												
Commercial/Industrial Land Use SL			1	50	130					25	1500	500	100		5000	75	1000	15000												
Notification Triggers			0.1	0.5	0.5					0.1	0.1	0.05	0.05		1000	0.05	50	1000												
Sample ID	Sample Date	Sample Depth (m)	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Lead	Arsenic	Cadmium	Chromium (III+VI)	Copper	Mercury	Nickel	Zinc														
RI001.0.5	23/09/2010	0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	12	14	<0.1	<0.2	9	0.1	<0.2	20														
RI001.2.0	29/09/2010	2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	22	30	<0.1	<0.2	22	0.3	5	31														
RI002.0.2	23/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	17	43	<0.1	<0.2	3	0.2	0.2	45														
RI002.1.0	23/09/2010	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	20	8	<0.1	<0.2	16	0.2	<0.2	42														
RI003.0.2	23/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	19	13	<0.1	<0.2	20	0.3	2	24														
RI003.1.3	29/09/2010	1.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	32	17	<0.1	<0.2	5	0.3	6	20														
RI004.0.2	23/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	16	<0.1	<0.1	13	17	0.2	14	21														
RI004.1.0	23/09/2010	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	216	11	<0.1	18	98	0.4	18	36														
RI005.1.0	24/09/2010	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	29	14	<0.1	<0.2	17	0.2	3	44														
RI005.6.0	29/09/2010	6	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	23	7	<0.1	4	29	0.3	25	28														
RI006.0.2	24/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	17	6	<0.1	6	17	<0.1	10	29														
RI006.3.0	29/09/2010	3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	16	11	<0.1	3	15	0.3	32	42														
RI007.0.5	24/09/2010	0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	28	11	<0.1	<0.2	15	0.2	<0.2	34														
RI007.3.0	29/09/2010	3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	14	7	<0.1	50	31	<0.1	64	73														
RI008.0.5	24/09/2010	0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	19	43	<0.1	<0.2	18	0.3	3	67														
RI008.4.5	28/09/2010	4.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	23	14	<0.1	<0.2	20	0.2	3	31														
RI009.1.0	24/09/2010	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	121	10	<0.1	12	33	0.1	12	147														
RI009.3.0	28/09/2010	3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	18	5	<0.1	4	15	0.2	4	51														
RI010.4.5	29/09/2010	4.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	9	7	<0.1	23	14	<0.1	22	41														
RI011.1.3	30/09/2010	1.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	10	<0.1	8	6	27	0.1	12	93														
MW001.0.5	23/09/2010	0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	24	13	<0.1	2	23	0.3	6	32														
MW001.2.5	29/09/2010	2.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	14	7	<0.1	33	17	<0.1	34	66														
MW002.0.2	23/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	16	8	<0.1	3	12	0.1	6	42														
MW002.3.5	29/09/2010	3.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	10	5	<0.1	28	19	0.1	14	27														
MW003.1.0	23/09/2010	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	24	10	<0.1	<0.2	16	0.1	34	60														
MW003.3.0	29/09/2010	3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	26	7	<0.1	2	22	0.2	25	52														
MW004.0.2	23/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	31	<0.1	10	18	<0.1	6	107															
MW004.2.0	30/09/2010	2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	13	20	<0.1	48	31	<0.1	33	78														
MW005.0.2	23/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	12	11	<0.1	10	14	<0.1	10	52														
MW005.2.0	30/09/2010	2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	15	6	<0.1	30	27	<0.1	57	76														
MW006.0.5	30/09/2010	0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	13	<0.1	4	20	0.2	9	26															
MW006.2.0	30/09/2010	2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	40	6	<0.1	50	46	<0.1	69	96														
MW007.0.5	23/09/2010	0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	15	6	<0.1	4	27	<0.1	13	53														
MW007.2.5	30/09/2010	2.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	5	<0.1	22	8	<0.1	20	39															
MW008.0.5	24/09/2010	0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	61	7	<0.1	3	20	<0.1	6	529														
MW008.3.5	28/09/2010	3.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	19	7	<0.1	<0.2	13	<0.1	2	52														
MW009.0.2	24/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	30	7	<0.1	5	14	0.1	4	177														
MW009.2.0	28/09/2010	2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	24	5	<0.1	4	17	<0.1	8	706														
MW009.3.0	28/09/2010	3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	17	11	<0.1	2	13	0.2	3	152														
MW010.0.5	24/09/2010	0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	22	31	<0.1	<0.2	22	0.2	<0.2	45														
MW010.1.0	24/09/2010	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	29	12	<0.1	<0.2	23	0.2	<0.2	43														
MW010.7.5	28/09/2010	7.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	10	<0.1	6	23	0.1	14	26															
TI001.0.2	28/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	24	24	<0.1	<0.2	22	0.2	3	64														
TI001.2.8	28/09/2010	2.8	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	12	8	<0.1	4	16	0.1	3	33														
TI002.0.2	28/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	27	5	<0.1	4	20	<0.1	7	223														
TI002.2.2	28/09/2010	2.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	12	<0.1	2	13	<0.1	3	52															
TI003.0.2	28/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	22	17	<0.1	4	17	0.2	9	42														
TI003.3.1	28/09/2010	3.1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	9	<0.1	<0.1	8	<0.1	<0.2	134															
TI004.0.2	28/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	14	<0.1	<0.1	11	<0.1	2	26															
TI004.3.0	28/09/2010	3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	12	5	<0.1	8	20	0.2	15	18														
TI005.0.3	28/09/2010	0.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	12	<0.1	<0.1	9	<0.1	<0.2	97															
TI005.3.0	28/09/2010	3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	16	21	<0.1	2	22	0.2	2	80														
TI006.0.2	28/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	23	15	<0.1	17	25	0.1	27	68														
TI006.2.1	28/09/2010	2.1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	22	<0.1	4	13	<0.1	4	738															
TI006.3.1	28/09/2010	3.1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	18	<0.1	2	11	<0.1	2	412															
TI007.0.2	28/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	12	8	<0.1	4	11	<0.1	5	61														
TI007.3.0	28/09/2010	3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	16	12	<0.1	6	21	0.4	12	28														
TI008.0.2	29/09/2010	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	10	14	<0.1	19	28	<0.1	20	66														
TI008.1.4	29/09/2010	1.4	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	14	7	<0.1	<0.2	10	0.1	4	20														
TI009.0.3	29/09/2010	0.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	15	8	<0.1	13	28	<0.1	18	76														
TI009.3.0	29/09/2010	3	<0.2	<0.5	<0.5	<0.5	<0.5																							

			PAH															TPH									
			Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	PAHs (Sum of total)	Phenanthrene	Pyrene	TPH C5 - C9	TPH C10 - C14	TPH C15 - C28	TPH C29-C36	TPH+C10 - C36 (Sum of total)				
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
LOE			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	10	10	10	10	30	100	100	50				
Commercial Land Use SL																100			65				1000				
Notification Triggers																											
Sample ID	Sample Date	Sample Depth (m)	0.5	0.5	0.6	0.5	0.5	0.6	1.2	0.5	0.5	0.5	0.5	0.5	8.15	2.1	0.9	60	910	200	710						
BH01.05	23/09/2010	0.5	0.5	0.5	0.8	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.5	0.5	8.15	2.1	1	60	760	340	1160						
BH01.20	29/09/2010	2	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.5	0.5	0.5	0.5	0.5	8.15	3.5	0.6	60	420	140	620						
BH02.02	23/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	8.05	1.6	0.6	60	340	110	450						
BH02.10	23/09/2010	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	7.2	1.9	0.8	60	620	250	870						
BH03.02	23/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	15	6.2	1.9	150	1530	630	2710						
BH03.13	29/09/2010	1.3	0.5	0.5	1.3	0.5	0.5	1	1.6	0.5	0.5	0.5	0.5	0.5	6.1	0.9	0.8	180	100	280	460						
BH04.02	23/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.6	0.8	0.5	0.5	0.5	0.5	0.5	4.45	0.7	0.5	170	170	170	170						
BH04.10	23/09/2010	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	7.55	3.1	0.6	470	180	630	1200						
BH05.10	24/09/2010	1	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.5	0.5	0.5	0.5	0.5	9.65	2.9	1.3	250	250	250	250						
BH05.60	29/09/2010	6	0.5	0.5	0.9	0.5	0.5	0.5	1.1	0.5	0.5	0.5	0.5	0.5	11.15	3.4	1.5	110	1250	640	2000						
BH06.02	24/09/2010	0.2	0.5	0.5	1	0.5	0.5	0.5	1.7	0.5	0.5	0.5	0.5	0.5	15.05	3.2	2.7	100	1180	600	1860						
BH06.30	29/09/2010	3	0.5	0.5	1.7	0.5	0.8	1.5	2.4	0.5	0.5	0.5	0.5	0.5	6.75	2.1	0.7	50	320	140	510						
BH07.05	24/09/2010	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5.45	1.7	0.9	280	120	400	800						
BH07.30	29/09/2010	3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.75	1	0.5	220	220	220	220						
BH08.05	24/09/2010	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	27.8	4.6	3.5	80	1020	580	1680						
BH08.45	28/09/2010	4.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	14.6	4.7	2.1	100	1610	1440	3150						
BH09.10	24/09/2010	1	0.5	0.5	0.6	1.7	0.8	1.4	1.9	0.5	0.5	0.5	0.5	0.5	4.45	0.7	0.5	210	210	210	210						
BH09.30	28/09/2010	3	0.5	0.5	1.4	0.7	0.7	1.2	2	0.5	0.5	0.5	0.5	0.5	4.45	0.7	0.5	120	120	120	120						
BH10.45	29/09/2010	4.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	6.45	1.8	0.7	460	180	640	1240						
BH11.13	30/09/2010	1.3	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.5	0.5	0.5	0.5	0.5	6.35	1.8	0.6	390	170	560	1120						
MW01.05	23/09/2010	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.45	0.7	0.5	170	170	170	170						
MW01.25	29/09/2010	2.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.5	0.5	0.5	0.5	0.5	9.85	3.7	1	100	740	320	1160						
MW02.02	23/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	10.25	3.3	1.2	70	770	360	1200						
MW02.35	29/09/2010	3.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	7.05	1.6	0.8	490	290	780	1560						
MW03.10	23/09/2010	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	6.5	0.9	0.8	170	170	170	170						
MW03.30	29/09/2010	3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.45	0.7	0.5	170	170	170	170						
MW04.02	23/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	6.5	0.9	0.8	170	170	170	170						
MW04.20	30/09/2010	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.4	7.9	1.9	80	830	360	1270						
MW05.02	23/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12.6	4.3	1.4	100	1070	480	1650						
MW05.20	30/09/2010	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.45	0.7	0.5	170	170	170	170						
MW06.05	30/09/2010	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	16.55	4.5	2.3	160	1940	980	3080						
MW06.20	30/09/2010	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.65	0.9	0.5	140	230	290	510						
MW07.05	23/09/2010	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	6.35	1.7	0.6	320	240	740	1300						
MW07.25	29/09/2010	2.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	11.4	3.9	2	160	1830	1040	3030						
MW08.05	24/09/2010	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	8.45	2.4	1.1	60	770	380	1410						
MW08.35	28/09/2010	3.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	7.25	2.6	0.8	50	410	160	620						
MW09.02	24/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	9.15	3.4	0.8	60	810	250	920						
MW09.20	28/09/2010	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	13.5	2.9	2.6	60	1100	640	1400						
MW09.30	28/09/2010	3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5.25	1.5	0.7	270	110	380	760						
TP01.02	28/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	8.85	2.5	1.1	60	1060	880	1940						
TP01.28	28/09/2010	2.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12.4	3.3	1.8	90	920	410	1420						
TP02.02	28/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	12.85	4.5	1.9	60	860	580	1440						
TP02.22	28/09/2010	2.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	6.25	1.7	0.6	320	120	380	740						
TP03.02	28/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	8.25	2.3	1	60	860	460	1320						
TP03.31	28/09/2010	3.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	11.15	3.6	1.5	80	910	480	1390						
TP04.02	28/09/2010	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	13.3	2.8	2.4	100	1920	1010	3030						
TP04.30	28/09/2010	3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	14.85	5.2	2.1	140	1410	850	2430						
TP05.03	28/09/2010	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.65	0.9	0.5	180	100	280	560						
TP05.30	28/09/2010	3	0.5	0.5	0.5	0.5	0.5	0.5	0																		



Table 3. Summary of Asbestos Results
QR National - Hexham
Hexham, NSW
Stage II ESA - 0119970

Sample ID	A1	A-2
Sample Date	29/09/2010	30/09/2010
SDG	ES1019419	ES1019636

Asbestos Detected (Yes/No)?	Yes	Yes
Type	Ch + Cr	Ch

Notes:

Samples were analysed by polarised light microscopy including dispersion staining.

Legend for Asbestos Type

- Am Amosite (brown asbestos) detected
- Ch Chrysotile (white asbestos) detected
- Cr Crocidolite (blue asbestos) detected
- UMF Unknown mineral fibres detected
- No asbestos fibres detected
- (t) Trace levels detected

Table 10 - Summary of Soil Laboratory Results

All results in mg/kg, no units for asbestos

Sample ID Depth (m) Date of Sampling	INVESTIGATION CRITERIA	LABORATORY DETECTION LIMIT	Rail Ballast Samples										Fragment Samples													
			RB-01	RB-02	RB-03	RB-04	RB-05	RB-06	RB-07	RB-08	RB-09	RB-10	RB-11	RB-12	RB-13	RB-14	RB-15	RB-16	RB-17	RB-18	RB-19	RB-20	A1 Fragment 19/12/2011	A2 Fragment 16/12/2011	AS1 Fragment 09/02/2012	AS2 Fragment 27/04/2012
Metals	Asbestos	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aluminium	500 ¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Calcium	100 ¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chromium	500 ¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper	5000 ¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lead	1500 ¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nickel	3000 ¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc	35000 ¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mercury	75 ¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																										
C6 - C9 Fraction	65 ²	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	C10 - C14 Fraction	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	C15 - C18 Fraction	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	C29 - C36 Fraction	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total C10-C36	1000 ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BTX																										
Benzene	1 ²	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	130 ²	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	50 ²	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene	25 ²	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons																										
Benzo(a)pyrene	5 ¹	0.1	<0.1	<0.1	<0.1	0.20	0.10	0.20	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-
	Total PAHs	100 ¹	-	<0.8	1.20	3.10	2.20	6.20	3.70	0.90	<1.6	<0.8	1.30	<0.8	1.90	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	-	-	-	-
Organochlorine Pesticides																										
Aldrin & Dieldrin	50 ¹	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlordane	250 ¹	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DDT + DDE + DDD	1000 ¹	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	50 ¹	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated Biphenyls																										
Total PCB	50 ¹	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos																										
Asbestos in Soil/ACM	Not Detected ³	detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Amosite & Chrysotile Asbestos Found	Amosite & Chrysotile Asbestos Found	ND

Notes:

- Concentrations exceed investigation criteria
- NDNot analysed
- NDNot detected
- ¹NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme (2nd Edition) - Appendix II, Column 3
- ²Based on NSW EPA (1994) Guidelines for Assessing Service Station Sites
- ³Based on NSW EPA (1994) Guidelines for the Management of Asbestos in the Non-occupational Environment

Table 10 - Summary of Soil Laboratory Results

All results in mg/kg, no units for asbestos

LABORATORY DETECTION LIMIT	INVESTIGATION CRITERIA	Sample ID Depth (m) Date of Sampling	Hand Auger Samples										Test Pit Samples														
			CHA 01 0.0-0.1 10/02/2012	CHA 01 0.4-0.5 10/02/2012	CHA 01 0.9-1.0 10/02/2012	TP520A 0.1-0.2 12/01/2012	TP522B 0.1-0.2 12/01/2012	TP522C 0.1-0.2 12/01/2012	HA1 0.0-0.1 27/04/2012	HA2 0.0-0.1 27/04/2012	HA3 0.0-0.1 27/04/2012	TP501A 0.9-1.0 13/12/2011	TP502A 0.9-1.0 13/12/2011	TP503B 0.3-0.4 13/12/2011	TP504A 0.3-0.4 13/12/2011	TP505B 0.5-0.6 13/12/2011	TP506B 0.3-0.4 13/12/2011	TP506B 1.1-1.2 13/12/2011	TP507B 1.1-1.2 13/12/2011	TP508B 0.3-0.4 14/12/2011	TP509A 0.2-0.3 14/12/2011	TP510A 0.1-0.2 14/12/2011	TP511B 0.5-0.6 14/12/2011	TP512B 0.9-1.0 14/12/2011	TP513B 0.1-0.2 14/12/2011		
Metals																											
Asbestos	500 ¹	3	-	-	5	4	6	5	5	5	12	37	4	12	<3	<3	7	10	<3	10	43	<3	6	10			
Cadmium	100 ¹	0.3	-	-	0.5	0.4	0.4	0.5	0.4	<0.3	<0.3	1.5	<0.3	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	0.4	0.7	<0.3	<0.3	<0.3			
Chromium	500 ¹	0.3	-	-	35	32	32	31	8.5	3.3	45	37	3.8	9.7	3.8	10.0	6.0	3.1	2.5	9.5	14.0	1.4	2.3	12.0			
Copper	5000 ¹	0.5	-	-	59	23	36	31	36	19	170	200	13.0	21.0	7.3	24.0	9.8	47.0	16.0	41.0	38.0	3.0	15.0	13.0			
Lead	1500 ¹	1	-	-	37	11	28	17	30	25	200	23	15	19	5	62	13	36	21	11	47	30	7	18			
Nickel	3000 ¹	0.5	-	-	31	50	30	34	16	5.3	25	6.8	5.7	19.0	3.8	11.0	5.5	6.8	5.8	5.1	11.0	21.0	1.3	5.1	8.9		
Zinc	35000 ¹	0.5	-	-	91	56	93	69	77	53	120	53	41	42	48	73	34	34	27	88	60	32	30	37			
Mercury	75 ¹	0.05	-	-	0.06	<0.05	<0.05	<0.05	0.17	0.14	0.06	0.06	<0.05	0.19	0.07	<0.05	0.15	0.13	0.09	0.10	<0.05	0.25	<0.05	<0.05			
Total Petroleum Hydrocarbons																											
C9 - C9 Fraction	65 ²	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20			
C10 - C14 Fraction	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	66	41	100	140	310	66	66	<20	<20	37	<20	64	<20			
C15 - C18 Fraction	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	840	540	950	950	1200	540	540	190	760	290	340	<50	79			
C19 - C24 Fraction	50	<440	<50	<50	<50	<50	<50	<50	<50	<50	<50	1500	100	150	550	<290	110	320	110	<50	190	<50	97	<50			
Total C10-C38	1000 ²	-	960	<120	<120	<120	50	<360	466	2343	806	421	790	790	72	1860	796	796	300	477	<120	501	175	175			
BTEX																											
Benzene	1 ²	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-		
Toluene	130 ²	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-		
Ethyl benzene	50 ²	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-		
Xylene	25 ²	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-		
Polynuclear Aromatic Hydrocarbons																											
Benzo(a)pyrene	5 ¹	0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1	0.1	0.2	0.2	150	0.30	0.10	<0.1	<0.1	0.30	0.20	<0.1	0.20	<0.1	0.10	<0.1	<0.1	<0.1		
Total PAHs	100 ¹	-	1.2	<0.8	<0.8	1.3	<0.8	2.1	<0.8	1.7	3.7	4.3	2.90	5.00	<0.8	<0.8	12.00	5.30	1.20	6.40	1.90	<0.8	3.30	<0.8	<0.8		
Organochlorine Pesticides																											
Alfom & Dieldrin	50 ¹	0.2	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.1	<0.1	-	-	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	-		
Chlordane	250 ¹	0.2	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	-	-	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	-		
DDT + DDE + DDD	1000 ¹	0.6	-	-	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.1	<0.1	-	-	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	-		
Heptachlor	50 ¹	0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	-		
Polychlorinated Biphenyls																											
Total PCB	50 ¹	1.0	-	-	<1	<1	<1	<1	<10	<10	<10	-	<1	<1	-	<1	-	-	<1	-	-	<1	<1	<1	-		
Asbestos																											
Asbestos in Soil/ACM	Not Detected ³	detect	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

Notes:

- Concentrations exceed investigator
- ND Not analysed
- ND Not detected
- ¹ NSW DEC (2006) Guidelines for the
- ² Auditor Scheme (2nd Edition) - App
- ³ Based on NSW EPA (1994) Guideli
- Assessing Service Station Sites
- Based on Environment Canada's
- Management of Asbestos in the Wor
- Environment

Table 10 - Summary of Soil Laboratory Results

All results in mg/kg, no units for asbestos

Sample ID Depth (m) Date of Sampling	INVESTIGATION CRITERIA	LABORATORY DETECTION LIMIT	TP515B 0.1-0.2 14/12/2011	TP515B 0.9-1.0 14/12/2011	TP515B 1.5-1.6 16/12/2011	TP517A 1.0-1.1 19/12/2011	TP518B 1.0-1.1 19/12/2011	TP519B 1.0-1.1 19/12/2011	TP520A 0.1-0.2 12/01/2012	TP521A 0.15-0.3 12/01/2012	TP522B 0.1-0.2 12/01/2012	TP522C 0.1-0.2 12/01/2012	TP523B 0.3-0.4 19/12/2011	TP525A 0.2-0.3 19/12/2011	TP528A 0.2-0.3 19/12/2011	TP529A 0.3-0.4 19/12/2011	TP530 0.4-0.5 27/04/2012	TP532 0.4-0.5 27/04/2012	TP533 0.5-0.6 27/04/2012	TP534 0.5-0.1 27/04/2012	TP534 1.0-1.1 27/04/2012
Metals																					
Asbestos																					
Aluminium	500 ¹	3		22	27	8	11	10	5	4	6	5	47	5	470	22	3	71	-	-	-
Antimony	100 ¹	0.3	<0.3	0.5	17.0	<0.3	0.6	0.7	1	0	0	1	0.6	<0.3	<0.3	0.4	0.3	<0.3	-	-	-
Chromium	500 ¹	0.3	2.8	1.8	6.7	6.6	7.5	16.0	35	32	32	31	15.0	9.2	11.0	7.8	9.6	8.1	17.0	-	-
Copper	5000 ¹	0.5	10.0	12.0	91.0	55.0	380.0	61.0	59	23	36	31	87.0	12.0	35.0	17.0	25.0	29.0	-	-	-
Lead	1500 ¹	1	17	21	190	48	110	460	37	11	28	17	110	13	55	31	45	30	19	-	-
Nickel	3000 ¹	0.5	4.4	5.7	47.0	9.2	20.0	46.0	31	50	30	34	27.0	4.4	13.0	10.0	7.7	13.0	20.0	-	-
Zinc	35000 ¹	0.5	33	41	70	32	300	520	80	56	93	69	180	38	41	68	90	37	61	-	-
Mercury	75 ¹	0.05	0.07	0.12	0.12	<0.05	0.08	0.35	0	<0.05	<0.05	<0.05	0.08	<0.05	0.14	0.12	<0.05	0.07	<0.05	-	-
Total Petroleum Hydrocarbons																					
C9 - C9 Fraction	65 ²	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10 - C14 Fraction	50	20	130	110	36	<20	23	<20	<20	<20	<20	<20	20	<20	130	260	32	130	50	25	25
C15 - C19 Fraction	50	20	230	210	36	<20	38	140	<20	<20	<20	<20	230	<20	130	260	32	130	50	25	25
Total C10-C19	1000 ²	-	1040	930	392	130	361	340	<120	<120	50	<120	850	<120	3200	1660	408	1720	4732	230	995
BTEX																					
Benzene	1 ²	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	130 ²	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Ethyl benzene	50 ²	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1
Xylene	25 ²	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3
Polynuclear Aromatic Hydrocarbons																					
Benzo(a)pyrene	5 ¹	0.1	0.20	0.20	0.30	0.10	0.50	0.30	0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.20	0.20	0.20	0.10	0.10	0.10	<0.1
Total PAHs	100 ¹	-	7.30	5.60	6.20	2.00	8.60	6.50	1.3	<0.8	2.1	<0.8	<0.8	<0.8	8.50	8.40	5.40	11.00	3.20	3.50	2.70
Organochlorine Pesticides																					
Aldrin & Dieldrin	50 ¹	0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.3	<0.3	<0.3	<0.3	<0.1	<0.1	<0.1	<0.1	<0.3	<0.3	-	-	-
Chlordane	250 ¹	0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	-	-	-
DDT + DDE + DDD	1000 ¹	0.6	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.6	<0.6	<0.6	<0.6	<0.1	<0.1	<0.1	<0.1	<0.6	<0.6	-	-	-
Heptachlor	50 ¹	0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Polychlorinated Biphenyls																					
Total PCB	50 ¹	1.0	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-
Asbestos																					
Asbestos in Soil/ACM	Not Detected ³	detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-

Notes:

Concentrations exceed investigation

ND Not analysed

Not detected

¹ NSW DEC (2006) Guidelines for the

Auditor Scheme (2nd Edition) - App

² Based on NSW EPA (1994) Guideli

Assessing Service Station Sites

³ Based on NSW EPA (1994) Guideli

Management of Asbestos in the Wor

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Table 10 - Summary of Soil Laboratory Results

All results in mg/kg, no units for asbestos

Sample ID Depth (m) Date of Sampling	INVESTIGATION CRITERIA	LABORATORY DETECTION LIMIT	Surface Samples																							
			CS1 Surface 16/12/2011	CS2 Surface 16/12/2011	CS3 Surface 19/12/2011	CS4 Surface 16/12/2011	CS5 Surface 16/12/2011	CS6 Surface 16/12/2011	CS7 Surface 16/12/2011	CS8 Surface 16/12/2011	CS9 Surface 16/12/2011	CS10 Surface 16/12/2011	CS11 Surface 16/12/2011	CS12 Surface 16/12/2011	CS13 Surface 16/12/2011	CS14 Surface 16/12/2011	CS15 Surface 16/12/2011	CS16 Surface 16/12/2011	CS17 Surface 20/12/2011	CS18 Surface 20/12/2011	CS19 Surface 20/12/2011	CS20 Surface 20/12/2011	CS21 Surface 20/12/2011	CS22 Surface 20/12/2011	CS23 Surface 20/12/2011	CS24 Surface 20/12/2011
Metals																										
Asbestos																										
Aluminium	500 ¹	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	100 ¹	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	500 ¹	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	500 ¹	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	5000 ¹	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	1500 ¹	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	3000 ¹	0.5	25	33	39	28	49	53	16	29	24	23	27	130	16	20	11	10	-	-	-	-	-	-	-	-
Zinc	35000 ¹	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	75 ¹	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																										
C9 - C9 Fraction	65 ²	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10 - C14 Fraction	60	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15 - C18 Fraction	50	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C29 - C36 Fraction	50	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total C10-C36	1000 ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BTEX																										
Benzene	1 ²	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	130 ²	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	50 ²	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene	25 ²	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons																										
Benzo(a)pyrene	5 ¹	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PAHs	100 ¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine Pesticides																										
Aldrin & Dieldrin	50 ¹	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
Chlordane	250 ¹	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
DDT + DDE + DDD	1000 ¹	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
Heptachlor	50 ¹	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
Polychlorinated Biphenyls																										
Total PCB	50 ¹	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos																										
Asbestos in Soil/ACM	Not Detected ³	detect																								

Notes:

- Result
- Concentrations exceed investigator
- ND
- Not analysed
- Not detected
- ¹ NSW DEC (2006) Guidelines for the
- ² Auditor Scheme (2nd Edition) - App
- ³ Based on NSW EPA (1994) Guideli
- Assessing Service Station Sites
- Management of Asbestos in the Wor
- Environment

Table 10 - Summary of Soil Laboratory Results

All results in mg/kg, no units for asbestos

Sample ID Depth (m) Date of Sampling	INVESTIGATION CRITERIA	LABORATORY DETECTION LIMIT	Surface Samples				Stockpile Samples								
			CS26 Surface 20/12/2011	SS27 Surface 27/04/2012	SS28 Surface 27/04/2012	SS29 Surface 27/04/2012	SS30 Surface 27/04/2012	SS31 Surface 27/04/2012	SS32 Surface 27/04/2012	SS33 Surface 27/04/2012	SS34 Surface 27/04/2012	SS35 Surface 27/04/2012	SP1-1 Surface 27/04/2012	SP2-2 Surface 27/04/2012	
Metals															
Asbestos															
Aluminium	500 ¹	3	-	N.A.	N.A.	N.A.	N.A.	5	6	4	3	4	4	<3	<3
Barium	100 ¹	0	-	N.A.	N.A.	N.A.	N.A.	0	0	0	0	0	0	<0.3	<0.3
Calcium	500 ¹	0.3	-	N.A.	N.A.	N.A.	N.A.	18	10	10	17	17	18	7	3
Chromium	5000 ¹	0.5	-	N.A.	N.A.	N.A.	N.A.	22	26	19	40	63	52	4	11
Copper	1500 ¹	1	-	N.A.	N.A.	N.A.	N.A.	33	57	37	40	63	52	6	11
Lead	3000 ¹	0.5	-	N.A.	N.A.	N.A.	N.A.	8	8	7	7	6	9	4	5
Nickel	35000 ¹	0.5	-	N.A.	N.A.	N.A.	N.A.	100	130	120	65	88	96	30	100
Zinc	75 ¹	0.05	-	N.A.	N.A.	N.A.	N.A.	<0.05	0	<0.05	<0.05	<0.05	<0.05	<0.05	0
Mercury															
Total Petroleum Hydrocarbons															
C0 - C9 Fraction	65 ²	20	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10 - C14 Fraction	50	20	-	<20	24	59	37	24	<20	<20	<20	<20	<20	<20	110
C15 - C20 Fraction	50	77	-	350	1100	59	350	1100	570	500	310	470	600	450	840
C21 - C26 Fraction	50	50	-	<50	<239 - C38 Fraction	210	497	210	470	480	260	360	500	230	840
Total C10-C38	1000 ²	-	-	<129	<129	<129	497	1334	1040	980	570	830	1100	<120	1180
BTEX															
Benzene	1 ²	0.1	-	N.A.	N.A.	N.A.	N.A.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	130 ²	0.1	-	N.A.	N.A.	N.A.	N.A.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethyl benzene	50 ²	0.1	-	N.A.	N.A.	N.A.	N.A.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Xylene	25 ²	0.3	-	N.A.	N.A.	N.A.	N.A.	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Polynuclear Aromatic Hydrocarbons															
Benzo(a)pyrene	5 ¹	0.1	<0.1	N.A.	N.A.	N.A.	N.A.	5.6	7.1	21	9.1	15	28	<0.1	0.3
Total PAHs	100 ¹	-	1.30	1.60	N.A.	N.A.	N.A.	59	79	200	90	150	270	<0.8	8.0
Organochlorine Pesticides															
Aldrin & Dieldrin	50 ¹	0.2	-	-	-	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-
Chlordane	250 ¹	0.2	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
DDT + DDE + DDD	1000 ¹	0.6	-	-	-	-	-	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	-	-
Heptachlor	50 ¹	0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-
Polychlorinated Biphenyls															
Total PCB	50 ¹	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos															
Asbestos in Soil/ACM	Not Detected ³	detect	ND	ND	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

- Concentrations exceed investigator
- ND Not analysed
- ND Not detected
- ¹ NSW DEC (2006) Guidelines for the Audior Scheme (2nd Edition) - App
- ² Based on NSW EPA (1994) Guideli
- ³ Assessing Service Station Sites
- Management of Asbestos in the Wor
- Environment

Table 7: Results of Chemical Analysis on Soil – Metals

Sample ID	Depth (m)	PID (ppm)	Metal							
			As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
Bore 301	0.25	<1	19	<PQL	17	13	62	0.2	13	53
Bore 302	0.05	<1	6	0.5	170	7	29	<PQL	5	34
Bore 302	1.2-1.45	<1	<4	<PQL	4	4	7	<PQL	2	34
Bore 303	0.25	<1	7	0.8	60	23	28	<PQL	7	61
Bore 303	1.2-1.4	<1	<4	<PQL	11	23	13	0.3	40	81
Bore 304	0.25	<1	11	<PQL	3	18	18	0.3	2	49
Bore 305	0.5	<1	6	<PQL	42	29	18	<PQL	44	71
Bore 306	0.05	<1	8	<PQL	6	12	12	0.1	8	97
D5	0.05	<1	6	<PQL	10	12	11	0.1	14	140
Bore 307	0.05	<1	6	<PQL	24	21	14	0.1	20	63
Bore 307	0.25	<1	5	<PQL	45	19	9	<PQL	32	48
D6 / Bore 307	0.5	<1	16	<PQL	5	17	21	0.4	6	51
Bore 308	0.05	<1	11	<PQL	12	16	17	0.2	14	61
Bore 308	2	<1	7	<PQL	1	12	18	0.2	4	40
Laboratory PQL			4	0.5	1	1	1	0.1	1	1
NSW EPA - NEHF F¹ (Ref 11)			500	100	500 ²	5000	1500	75	3000	35000
NSW EPA - General Solid Waste Guidelines CT1 (Ref 13)			100	20	100	NC	100	4	40	NC
NSW EPA - Restricted Solid Waste			400	80	400	NC	400	16	160	NC

Notes to Table 7:

All results in mg/kg on a dry weight basis

CT - Concentration Threshold

NC - No Criteria

PID - Photoionisation Detector

PQL - Practical Quantitation Limits

1 - Health Based Criteria for Industrial / Commercial Land Use

2 - Chromium (VI) (Conservative)

D5 - Replicate of sample Bore 306/0.05

Table 8: Results of Chemical Analysis on Soil – TRH, TPH (Silica Gel Cleanup) and BTEX

Sample ID	Depth (m)	PID (ppm)	Analyte										
			TRH				TPH - Silica Gel Cleanup			BTEX			
			C ₆ - C ₉	C ₁₀ - C ₁₄	C ₁₅ - C ₂₈	C ₂₉ - C ₃₆	C ₁₀ - C ₁₄	C ₁₅ - C ₂₈	C ₂₉ - C ₃₆	Benzene	Toluene	Ethyl Benzene	Xylene
Bore 301	0.25	<1	<PQL	<PQL	<PQL	<PQL	NT	NT	NT	<PQL	<PQL	<PQL	<PQL
Bore 302	0.05	<1	<PQL	<PQL	<PQL	<PQL	NT	NT	NT	<PQL	<PQL	<PQL	<PQL
Bore 302	1.2-1.45	<1	<PQL	<PQL	<PQL	<PQL	NT	NT	NT	<PQL	<PQL	<PQL	<PQL
Bore 303	0.25	<1	<PQL	<PQL	130	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
Bore 303	1.2-1.4	<1	<PQL	<PQL	210	<PQL	<PQL	120	<PQL	<PQL	<PQL	<PQL	<PQL
Bore 304	0.25	<1	<PQL	<PQL	170	<PQL	<PQL	130	<PQL	<PQL	<PQL	<PQL	<PQL
Bore 305	0.5	<1	<PQL	<PQL	<PQL	<PQL	NT	NT	NT	<PQL	<PQL	<PQL	<PQL
Bore 306	0.05	<1	<PQL	<PQL	150	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
D5	0.05	<1	<PQL	<PQL	<PQL	<PQL	NT	NT	NT	<PQL	<PQL	<PQL	<PQL
Bore 307	0.05	<1	<PQL	<PQL	<PQL	<PQL	NT	NT	NT	<PQL	<PQL	<PQL	<PQL
Bore 307	0.25	<1	<PQL	<PQL	<PQL	<PQL	NT	NT	NT	<PQL	<PQL	<PQL	<PQL
D6 / Bore 307	0.5	<1	<PQL	<PQL	190	<PQL	NT	NT	NT	<PQL	<PQL	<PQL	<PQL
Bore 308	0.05	<1	<PQL	<PQL	130	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
Bore 308	2	<1	<PQL	<PQL	<PQL	<PQL	NT	NT	NT	<PQL	<PQL	<PQL	<PQL
Laboratory PQL			25	50	100	100	50	100	100	0.2	0.5	1	3
NSW EPA Criteria for Service Station Sites ¹ (Ref 12)			65	1000 total			1000 total			1	1.4/130 ²	3.1/50 ²	14/25 ²
NSW EPA - General Solid Waste Guidelines - CT1 (Ref 13)			650 SCC1	10000 total SCC1			10000 total SCC1			10	288	600	1000
NSW EPA - Restricted Solid Waste Guidelines - CT2 (Ref 13)			2600 SCC2	40000 total SCC2			40000 total SCC2			40	1152	2400	4000

Notes to Table 8:

All results in mg/kg on a dry weight basis

CT - Concentration Threshold

SCC - Specific Contaminant Concentration

NC - No Criteria

PID - Photoionisation Detector

PQL - Practical Quantitation Limits

NT - Not Tested

1 - Threshold Concentration for Sensitive Land Use

2 - Human Health Based Protection Level.

D5 - Replicate of sample Bore 306/0.05

Table 9: Results of Chemical Analysis on Soil – PAH

Sample ID	Depth (m)	PID (ppm)	Total PAH	Benzo(a) Pyrene
Bore 301	0.25	<1	<1.65	<PQL
Bore 302	0.05	<1	<1.55	<PQL
Bore 302	1.2-1.45	<1	<1.65	<PQL
Bore 303	0.25	<1	<1.96	0.06
Bore 303	1.2-1.4	<1	<2.37	0.07
Bore 304	0.25	<1	<3.07	0.07
Bore 305	0.5	<1	<PQL	<PQL
Bore 306	0.05	<1	<2.37	0.07
D5	0.05	<1	<2.06	0.06
Bore 307	0.05	<1	<1.75	<PQL
Bore 307	0.25	<1	<PQL	<PQL
D6 / Bore 307	0.5	<1	<3.10	0.1
Bore 308	0.05	<1	<3.08	0.08
Bore 308	2	<1	<2.05	0.05
Laboratory PQL			1.55	0.05
NSW EPA - NEHF F¹ (Ref 11)			100	5
NSW EPA - General Solid Waste Guidelines - CT1 (Ref 13)			200 SCC1	0.8
NSW EPA - Restricted Solid Waste Guidelines - CT2 (Ref 13)			800 SCC2	3.2

Notes to Table 9:

All results in mg/kg on a dry weight basis

CT - Concentration Threshold

SCC - Specific Contaminant Concentration

PID - Photoionisation Detector

PQL - Practical Quantitation Limits

Total PAH - Sum of positive and PQL values (conservative)

1 - Health Based Criteria for Industrial / Commercial Land Use

D5 - Replicate of sample Bore 306/0.05

SCC - Specific Contaminant Concentration

Table 14: Results of Chemical Analysis on Soil – Heavy Metals

Bore/Pit	Depth (m)	PID (ppm)	Metal							
			As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
Previous Assessment, DP (Ref 1)										
TP14	0.8	<1	<3	<0.1	2.1	5.9	15	<0.05	3.5	24
TP18	1.0	<1	20	0.3	2.2	17	16	0.13	3.5	33
TP28	0.1	<1	7	0.3	8	18	20	0.06	13	140
D1	0.1	<1	4	0.1	14	11	9	0.05	13	36
TP28	1.0	<1	<3	<0.1	3.5	5	5	<0.05	3.8	110
TP29	0.4	<1	<3	0.2	4	6.7	23	<0.05	8	81
2008 Assessment										
BH101	0.8-1.0	<1	28	<0.3	2.1	13	14	0.54	3	15
BH102	0.3-0.5	<1	8	<0.3	4.4	11	11	0.08	7.9	42
BH103	0.0-0.1	<1	35	0.3	4.5	16	27	0.21	7.1	58
BH104	0.8-1.0	<1	9	0.6	2.5	19	20	0.11	2.3	39
BH105	1.8-2.0	<1	4	<0.3	5.2	27	9.8	0.23	26	55
BH106	0.0-0.1	<1	10	0.5	8.7	21	21	0.09	13	120
BH107	0.8-1.0	<1	20	0.7	8.3	77	120	0.3	19	170
BD103	0.8-1.0	<1	25	1	12	110	160	0.12	33	370
BH108	0.3-0.5	<1	29	0.6	2	15	24	0.11	3.8	70
BH109	0.0-0.1	<1	7	0.4	1.8	13	21	0.11	3.6	74
BD105	0.0-0.1	<1	8	0.4	1.9	14	26	0.09	3.8	77
TP110	0.2	<1	5	<0.3	6.7	9.7	9	<0.05	6.6	30
TP111	0.8	<1	5	<0.3	6.7	9.7	9	<0.05	6.6	30
TP112	1.8	<1	18	0.7	4.4	21	14	0.54	49	79
TP113	0.5	<1	5	<0.3	5.4	8	7	<0.05	7.4	32
TP114	0.2	<1	4	0.3	13	23	18	0.07	36	84
TP115	1.0	<1	3	0.7	27	17	180	0.06	11	340
TP115A	0.6	<1	14	0.4	2.5	17	31	0.23	3.7	180
TP116	1.5	<1	<3	<0.3	2.4	8.8	8	0.27	5.4	36
TP117	2.0	<1	<3	<0.3	2.3	11	11	0.06	2.8	46
TP118	3.5	<1	20	0.3	2.8	22	21	0.2	5.7	42
TP119	1.0	<1	12	0.6	1.2	16	20	0.07	1.4	76
TP160	4.0	<1	<3	<0.3	2.1	6.9	9	0.07	3	160
TP120	0.0-0.05	<1	29	<0.3	4.6	24	33	0.08	12	38
TP121	0.3	<1	<3	<0.3	3.2	3.8	7	<0.05	2.5	38
TP122	0.5	<1	8	<0.3	1.4	15	20	0.5	3.3	29
TP124	0.0-0.05	<1	27	0.5	6.2	15	29	0.18	7.8	100
BD106	0.0-0.05	<1	19	0.6	11	17	32	0.13	29	130
TP125	0.3	<1	8	<0.3	9.3	13	10	0.08	15	37
TP126	0.7	<1	15	1.1	27	36	68	0.21	67	410
TP127	0.0-0.05	<1	20	1.3	32	150	34	0.05	29	79
TP128	0.0-0.05	<1	<3	<0.3	0.8	0.8	6	<0.05	0.6	22
BD108	0.0-0.05	<1	<3	<0.3	0.7	0.7	7	<0.05	0.6	26
TP128	1.6	<1	10	0.6	32	51	32	<0.05	43	87
TP129	1.0	<1	8	<0.3	1.8	10	15	0.15	3.9	23
TP130	0.5	<1	7	<0.3	1	13	23	0.19	6.7	46
TP131	0.9	<1	8	0.3	1.9	18	26	0.09	5.8	80
TP131	1.3	<1	4	0.4	37	34	12	<0.05	61	68
TP132	0.0-0.05	<1	9	0.3	2.3	17	24	0.2	4.1	59
TP134	0.1	<1	10	0.3	17	20	11	<0.05	20	70
TP135	0.0-0.05	<1	8	0.5	17	16	25	0.07	12	160

Notes to Table 14:

All results in mg/kg on a dry weight basis

PQL - Practical Quantitation Limits

PID - Photoionisation Detector

1 - Health Based Criteria for Industrial/Commercial Land Use

D1 - Replicate sample of TP28/0.1

BD103 - Replicate sample of BH107/0.8-1.0

BD105 - Replicate sample of BH109/0.0-0.1

BD106 - Replicate sample of TP124/0.0-0.05

BD108 - Replicate sample of TP128/0.0-0.05

BD116 - Replicate sample of TP140/0.1

BD117 - Replicate sample of TP148/0.0-0.05

BD121 - Replicate sample of TP168/0.0-0.02

BH - Bore

TP - Pit

Table 14: Results of Chemical Analysis on Soil – Heavy Metals (continued)

Bore/Pit	Depth (m)	PID (ppm)	Metal	Bore/Pit	Depth (m)	PID (ppm)	Metal	Bore/Pit	Depth (m)	PID (ppm)
2008 Assessment										
TP138	0.0-0.05	<1	14	0.5	2.8	18	46	0.16	4.5	140
TP139	2.3	<1	8	<0.3	4.1	11	19	0.14	8	32
TP140	0.1	<1	<3	<0.3	2.5	11	9.5	<0.05	6.1	30
BD116	0.1	<1	<3	<0.3	1.9	12	8	<0.05	4.9	110
TP141	1.9	<1	17	<0.3	0.9	15	30	0.11	4.7	38
TP142	0.1	<1	8	0.4	15	28	15	<0.05	29	84
TP143	0.65	<1	5	<0.3	1.1	13	22	0.15	2	43
TP145	0.6	<1	<3	<0.3	6.2	13	9.8	0.11	9.4	16
TP146	0.0	<1	11	0.5	6.1	100	85	0.15	10	60
TP147	0.9	<1	9	0.3	4.2	41	26	0.09	15	57
TP148	0.0-0.05	<1	25	0.9	9.1	890	88	0.05	22	160
BD117	0.0-0.05	<1	19	0.7	7.6	740	100	0.07	19	120
TP149	0.95	<1	27	0.3	2.4	32	27	0.56	3.4	47
TP150	0.1	<1	15	0.8	10	150	170	<0.05	20	69
TP150	0.5	<1	11	0.7	13	130	82	0.08	20	400
TP151	0.0-0.05	<1	4	<0.3	13	26	10	<0.05	18	63
TP152	0.6	<1	6	0.8	25	49	60	0.12	59	380
TP153	0.0-0.05	<1	4	0.7	28	66	140	<0.05	41	430
TP154	0.0-0.05	<1	6	0.4	8.9	27	28	0.07	7.6	96
TP155	0.1	<1	4	2.6	23	33	81	0.05	26	1500
TP156	0.0-0.05	<1	5	0.4	10	27	46	0.07	6.6	110
TP157	0.7	<1	120	1.1	17	61	35	<0.05	35	95
TP158	0.2	<1	8	<0.3	7.3	11	7	0.05	9.1	86
TP159	0.5	<1	5	<0.3	2.7	11	14	0.05	2.7	49
TP162	1.3	<1	5	<0.3	10	66	54	0.07	13	42
TP163	0.1	<1	17	0.6	15	47	58	0.31	11	93
TP164	0.4	<1	5	<0.3	5.9	35	26	<0.05	10	32
TP164	1.0	<1	34	0.9	32	18	20	<0.05	6.6	46
TP165	0.1	<1	<3	<0.3	4.7	6.6	9.9	<0.05	2.6	59
TP166	0.0-0.02	<1	9	0.3	6.9	20	48	<0.05	11	94
TP168	0.0-0.02	<1	6	<0.3	6.3	17	15	<0.05	9.6	88
BD121	0.0-0.02	<1	9	0.4	7	19	17	<0.05	11	94
TP169	0.0-0.02	<1	7	0.3	8.2	22	18	<0.05	10	88
Laboratory PQL			3	0.3	0.3	0.5	1	0.05	0.5	0.5
NSW EPA - NEHF F 1 (Ref 6)			500	100	500	5000	1500	75	3000	35000

Notes to Table 14:

All results in mg/kg on a dry weight basis

PQL - Practical Quantitation Limits

PID - Photoionisation Detector

1 - Health Based Criteria for Industrial/Commercial Land Use

D1 - Replicate sample of TP28/0.1

BD103 - Replicate sample of BH107/0.8-1.0

BD105 - Replicate sample of BH109/0.0-0.1

BD106 - Replicate sample of TP124/0.0-0.05

BD108 - Replicate sample of TP128/0.0-0.05

BD116 - Replicate sample of TP140/0.1

BD117 - Replicate sample of TP148/0.0-0.05

BD121 - Replicate sample of TP168/0.0-0.02

BH - Bore

TP - Pit

Table 15: Results of Chemical Analysis on Soil - TRH and BTEX

Bore / Pit	Depth (m)	PID (ppm)	Analyte							
			TRH				BTEX			
			C ₆ - C ₉	C ₁₀ - C ₁₄	C ₁₅ - C ₂₈	C ₂₉ - C ₃₆	Benzene	Toluene	Ethyl Benzene	Xylene
Previous Assessment, DP (Ref 1)										
TP14	0.8	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP18	1.0	<1	<21	<20	100	<50	<0.5	<0.5	<0.5	<1.5
TP28	0.1	<1	<22	23	290	170	<0.5	<0.5	<0.5	<1.5
D1	0.1	<1	<24	<20	250	170	<0.5	<0.5	<0.5	<1.5
TP28	1.0	<1	<23	<50	<50	<50	<0.5	<0.5	<0.5	<1.5
TP29	0.4	<1	<25	110	2600	1900	<0.5	<0.5	<0.5	<1.5
2008 Assessment										
BH101	0.8-1.0	<1	<20	79	780	310	<0.5	<0.5	<0.5	<1.5
BH102	0.3-0.5	<1	<20	150	1400	440	<0.5	<0.5	<0.5	<1.5
BH103	0.0-0.1	<1	<20	60	610	300	<0.5	<0.5	<0.5	<1.5
BH104	0.8-1.0	<1	<20	<20	340	150	<0.5	<0.5	<0.5	<1.5
BH105	1.8-2.0	<1	<20	41	600	340	<0.5	<0.5	<0.5	<1.5
BH106	0.0-0.1	<1	<20	<20	200	120	<0.5	<0.5	<0.5	<1.5
BH107	0.8-1.0	<1	<20	26	430	200	<0.5	<0.5	<0.5	<1.5
BD103	0.8-1.0	<1	<20	21	390	300	<0.5	<0.5	<0.5	<1.5
BH108	0.3-0.5	<1	<20	33	480	230	<0.5	<0.5	<0.5	<1.5
BH109	0.0-0.1	<1	<20	90	1100	500	<0.5	<0.5	<0.5	<1.5
BD105	0.0-0.1	<1	<20	39	520	300	<0.5	<0.5	<0.5	<1.5
TP110	0.2	<1	<20	<20	110	<50	<0.5	<0.5	<0.5	<1.5
TP111	0.8	<1	<20	<20	110	<50	<0.5	<0.5	<0.5	<1.5
TP112	1.8	<1	<20	<20	330	190	<0.5	<0.5	<0.5	<1.5
TP113	0.5	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP114	0.2	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP115	1.0	<1	<20	<20	320	180	<0.5	<0.5	<0.5	<1.5
TP115A	0.6	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP116	1.5	<1	<20	130	2400	1900	<0.5	<0.5	<0.5	<1.5
TP117	2.0	<1	<20	180	2700	1700	<0.5	<0.5	<0.5	<1.5
TP118	3.5	<1	<20	<20	170	120	<0.5	<0.5	<0.5	<1.5
TP119	1.0	<1	<20	<20	230	140	<0.5	<0.5	<0.5	<1.5
TP160	4.0	<1	<20	180	2000	1200	<0.5	<0.5	<0.5	<1.5
TP120	0.0-0.05	<1	<20	31	390	170	<0.5	<0.5	<0.5	<1.5
TP121	0.3	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP122	0.5	<1	<20	<20	150	51	<0.5	<0.5	<0.5	<1.5
TP124	0.0-0.05	<1	<20	<20	140	71	<0.5	<0.5	<0.5	<1.5
BD106	0.0-0.05	<1	<20	<20	190	76	<0.5	<0.5	<0.5	<1.5
TP125	0.3	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP126	0.7	<1	<20	<20	430	300	<0.5	<0.5	<0.5	<1.5
TP127	0.0-0.05	<1	<20	21	370	340	<0.5	<0.5	<0.5	<1.5
TP128	0.0-0.05	<1	<20	<200	8700	8200	<0.5	<0.5	<0.5	<1.5
BD108	0.0-0.05	<1	<20	<200	10000	11000	<0.5	<0.5	<0.5	<1.5
TP128	1.6	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP129	1.0	<1	<20	28	300	130	<0.5	<0.5	<0.5	<1.5
TP130	0.5	<1	<20	63	680	290	<0.5	<0.5	<0.5	<1.5
TP131	0.9	<1	<20	61	750	360	<0.5	<0.5	<0.5	<1.5
TP131	1.3	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP132	0.0-0.05	<1	<20	<20	230	66	<0.5	<0.5	<0.5	<1.5
TP134	0.1	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5

Notes to Table 15:

All results in mg/kg on a dry weight basis

PQL - Practical Quantitation Limits

PID - Photoionisation Detector

1 - Threshold Concentration for Sensitive Land Use (Ref 17)

Bold results indicate exceedence of Service Station Guidelines (Ref 17)

D1 - Replicate sample of TP28/0.1

BD103 - Replicate sample of BH107/0.8-1.0

BD105 - Replicate sample of BH109/0.0-0.1

BD106 - Replicate sample of TP124/0.0-0.05

BD108 - Replicate sample of TP128/0.0-0.05

BD116 - Replicate sample of TP140/0.1

BD117 - Replicate sample of TP148/0.0-0.05

BD121 - Replicate sample of TP168/0.0-0.02

BH - Bore

TP - Pit

Table 15: Results of Chemical Analysis on Soil - TRH and BTEX (continued)

Bore / Pit	Depth (m)	PID (ppm)	Analyte							
			TRH				BTEX			
			C ₆ - C ₉	C ₁₀ - C ₁₄	C ₁₅ - C ₂₈	C ₂₉ - C ₃₆	Benzene	Toluene	Ethyl Benzene	Xylene
2008 Assessment										
TP135	0.0-0.05	<1	<20	23	300	110	<0.5	<0.5	<0.5	<1.5
TP136A	0.0-0.05	<1	<20	22	290	110	<0.5	<0.5	<0.5	<1.5
TP138	0.0-0.05	<1	<20	34	380	170	<0.5	<0.5	<0.5	<1.5
TP139	2.3	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP140	0.1	<1	<20	<20	54	<50	<0.5	<0.5	<0.5	<1.5
BD116	0.1	<1	<20	<20	110	70	<0.5	<0.5	<0.5	<1.5
TP141	1.9	<1	<20	<20	120	<50	<0.5	<0.5	<0.5	<1.5
TP142	0.1	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP143	0.65	<1	<20	<20	230	110	<0.5	<0.5	<0.5	<1.5
TP145	0.6	<1	<20	<20	180	110	<0.5	<0.5	<0.5	<1.5
TP146	0.0	<1	<20	67	870	880	<0.5	<0.5	<0.5	<1.5
TP147	0.9	<1	<20	<20	140	72	<0.5	<0.5	<0.5	<1.5
TP148	0.0-0.05	<1	<20	<200	650	1600	<0.5	<0.5	<0.5	<1.5
BD117	0.0-0.05	<1	<20	43	600	790	<0.5	<0.5	<0.5	<1.5
TP149	0.95	<1	<20	<20	180	69	<0.5	<0.5	<0.5	<1.5
TP150	0.1	<1	<20	<200	860	2000	<0.5	<0.5	<0.5	<1.5
TP150	0.5	<1	<20	26	430	440	<0.5	<0.5	<0.5	<1.5
TP151	0.0-0.05	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP152	0.6	<1	<20	<20	110	130	<0.5	<0.5	<0.5	<1.5
TP153	0.0-0.05	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP154	0.0-0.05	<1	<20	<20	59	<50	<0.5	<0.5	<0.5	<1.5
TP155	0.1	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP156	0.0-0.05	<1	<20	<20	180	150	<0.5	<0.5	<0.5	<1.5
TP157	0.7	<1	<20	<20	52	<50	<0.5	<0.5	<0.5	<1.5
TP158	0.2	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP159	0.5	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP162	1.3	<1	<20	<20	65	<50	<0.5	<0.5	<0.5	<1.5
TP163	0.1	<1	<20	<20	160	130	<0.5	<0.5	<0.5	<1.5
TP164	0.4	<1	<20	<20	89	66	<0.5	<0.5	<0.5	<1.5
TP164	1.0	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP165	0.1	<1	<20	<20	270	150	<0.5	<0.5	<0.5	<1.5
TP166	0.0-0.02	<1	<20	<20	<50	64	<0.5	<0.5	<0.5	<1.5
TP168	0.0-0.02	<1	<20	<20	<50	58	<0.5	<0.5	<0.5	<1.5
BD121	0.0-0.02	<1	<20	<20	<50	<50	<0.5	<0.5	<0.5	<1.5
TP169	0.0-0.02	<1	<20	<20	110	170	<0.5	<0.5	<0.5	<1.5
Laboratory PQL			20	20	50	50	0.5	0.5	0.5	1.5
NSW EPA Criteria for			65		1000		1	1.4/130 ¹	3.1/50 ¹	14/25 ¹
Service Station Sites ¹ (Ref 17)					total					

Notes to Table 15:

All results in mg/kg on a dry weight basis

PQL - Practical Quantitation Limits

PID - Photoionisation Detector

1 - Threshold Concentration for Sensitive Land Use (Ref 17)

Bold results indicate exceedence of Service Station Guidelines (Ref 17)

D1 - Replicate sample of TP28/0.1

BD103 - Replicate sample of BH107/0.8-1.0

BD105 - Replicate sample of BH109/0.0-0.1

BD106 - Replicate sample of TP124/0.0-0.05

BD108 - Replicate sample of TP128/0.0-0.05

BD116 - Replicate sample of TP140/0.1

BD117 - Replicate sample of TP148/0.0-0.05

BD121 - Replicate sample of TP168/0.0-0.02

BH - Bore

TP - Pit

Table 16: Results of Chemical Analysis on Soil - PAH, PCB, OPP, OCP and Asbestos

Bore / Pit	Depth (m)	PID (ppm)	Total PAH	Benzo(a) Pyrene	PCB	Total OPP	Total OCP	Asbestos
Previous Assessment, DP (Ref 1)								
TP14	0.8	<1	<1.77	0.07	all <0.1	all <0.1	all <0.1	NT
TP18	1.0	<1	<1.96	0.06	all <0.1	all <0.1	all <0.1	NT
TP28	0.1	<1	<2.69	0.09	all <0.1	all <0.1	all <0.1	NT
D1	0.1	<1	<2.69	0.08	all <0.1	all <0.1	all <0.1	NT
TP28	1.0	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	NT
TP29	0.4	<1	<14.02	0.62	all <0.1	all <0.1	all <0.1	NT
2008 Assessment								
BH101	0.8-1.0	<1	<4.37	0.12	all <0.1	all <0.1	all <0.1	ND
BH102	0.3-0.5	<1	<5.50	0.14	all <0.1	all <0.1	all <0.1	ND
BH103	0.0-0.1	<1	<3.74	<0.05	all <0.1	all <0.1	all <0.1	ND
BH104	0.8-1.0	<1	<1.89	<0.05	all <0.1	all <0.1	all <0.1	NT
BH105	1.8-2.0	<1	<2.65	0.08	all <0.1	all <0.1	all <0.1	NT
BH106	0.0-0.1	<1	<4.26	0.16	all <0.1	all <0.1	all <0.1	ND
BH107	0.8-1.0	<1	<7.63	0.4	all <0.1	all <0.1	all <0.1	ND
BD103	0.8-1.0	<1	<7.95	0.46	all <0.1	all <0.1	all <0.1	NT
BH108	0.3-0.5	<1	<2.74	<0.05	all <0.1	all <0.1	all <0.1	ND
BH109	0.0-0.1	<1	<3.06	0.15	all <0.1	all <0.1	all <0.1	ND
BD105	0.0-0.1	<1	<3.38	0.13	all <0.1	all <0.1	all <0.1	NT
TP110	0.2	<1	<1.99	<0.05	all <0.1	all <0.1	all <0.1	ND
TP111	0.8	<1	<1.99	<0.05	all <0.1	all <0.1	all <0.1	ND
TP112	1.8	<1	<1.75	<0.05	all <0.1	all <0.1	all <0.1	ND
TP113	0.5	<1	<1.61	<0.05	all <0.1	all <0.1	all <0.1	ND
TP114	0.2	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP115	1.0	<1	<3.60	0.2	all <0.1	all <0.1	all <0.1	ND
TP115A	0.6	<1	<1.85	<0.05	all <0.1	all <0.1	all <0.1	ND
TP116	1.5	<1	<3.02	0.12	all <0.1	all <0.1	all <0.1	ND
TP117	2.0	<1	<4.39	0.19	all <0.1	all <0.1	all <0.1	ND
TP118	3.5	<1	<2.75	<0.05	all <0.1	all <0.1	all <0.1	ND
TP119	1.0	<1	<1.85	<0.05	all <0.1	all <0.1	all <0.1	ND
TP160	4.0	<1	<4.91	0.21	all <0.1	all <0.1	all <0.1	ND
TP120	0.0-0.05	<1	<3.98	0.08	all <0.1	all <0.1	all <0.1	ND
TP121	0.3	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP122	0.5	<1	<2.38	0.08	all <0.1	all <0.1	all <0.1	ND
TP124	0.0-0.05	<1	<2.15	<0.05	all <0.1	all <0.1	all <0.1	ND
BD106	0.0-0.05	<1	<2.49	0.05	all <0.1	all <0.1	all <0.1	NT
TP125	0.3	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP126	0.7	<1	<7.00	0.2	all <0.1	all <0.1	all <0.1	ND
TP127	0.0-0.05	<1	<2.88	0.08	all <0.1	all <0.1	all <0.1	ND
TP128	0.0-0.05	<1	<1.85	<0.05	all <1	all <1	all <1	ND
BD108	0.0-0.05	<1	<2.06	<0.05	all <1	all <1	all <1	NT
TP128	1.6	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	NT
TP129	1.0	<1	<2.45	<0.05	all <0.1	all <0.1	all <0.1	ND
TP130	0.5	<1	<2.25	0.05	all <0.1	all <0.1	all <0.1	ND
TP131	0.9	<1	<1.75	<0.05	all <0.1	all <0.1	all <0.1	ND
TP131	1.3	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	NT
TP132	0.0-0.05	<1	<3.25	0.05	all <0.1	all <0.1	all <0.1	ND
TP134	0.1	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP135	0.0-0.05	<1	<3.73	0.13	all <0.1	all <0.1	all <0.1	ND
TP136A	0.0-0.05	<1	<3.25	0.05	all <0.1	all <0.1	all <0.1	ND

Notes to Table 16:

All results in mg/kg on a dry weight basis

NC - No Criteria

ND - Not Detected

1 - Health Based Criteria for Industrial/Commercial Land Use

2 - Correspondence from NSW EPA Director of Contaminated Sites to Accredited Site Auditors

3 - Fibre cement sheeting

D1 - Replicate sample of TP28/0.1

BD105 - Replicate sample of BH109/0.0-0.1

BD108 - Replicate sample of TP128/0.0-0.05

BD117 - Replicate sample of TP148/0.0-0.05

BH - Bore

PQL - Practical Quantitation Limits

NT - Not Tested

PID - Photoionisation Detector

BD103 - Replicate sample of BH107/0.8-1.0

BD106 - Replicate sample of TP124/0.0-0.05

BD116 - Replicate sample of TP140/0.1

BD121 - Replicate sample of TP168/0.0-0.02

TP - Pit

Table 16: Results of Chemical Analysis on Soil - PAH, PCB, OPP, OCP and Asbestos (continued)

Bore / Pit	Depth (m)	PID (ppm)	Total PAH	Benzo(a) Pyrene	PCB	Total OPP	Total OCP	Asbestos
2008 Assessment								
TP138	0.0-0.05	<1	<3.79	0.09	all <0.1	all <0.1	all <0.1	ND
TP139	2.3	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP140	0.1	<1	<1.75	<0.05	all <0.1	all <0.1	all <0.1	ND
BD116	0.1	<1	<1.59	<0.05	all <0.1	all <0.1	all <0.1	NT
TP141	1.9	<1	<2.25	<0.05	all <0.1	all <0.1	all <0.1	ND
TP142	0.1	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP143	0.65	<1	<2.86	0.06	all <0.1	all <0.1	all <0.1	ND
TP145	0.6	<1	<2.12	<0.05	all <0.1	all <0.1	all <0.1	ND
TP146	0.0	<1	<4.63	0.13	all <0.1	all <0.1	all <0.1	ND
TP147	0.9	<1	<3.35	0.15	all <0.1	all <0.1	all <0.1	ND
TP148	0.0-0.05	<1	<3.24	0.14	all <0.1	all <0.1	all <0.1	ND
BD117	0.0-0.05	<1	<3.82	0.12	all <0.1	all <0.1	all <0.1	NT
148A ²	0.0	NT	NT	NT	NT	NT	NT	Asbestos Detected
TP149	0.95	<1	<2.71	<0.05	all <0.1	all <0.1	all <0.1	ND
TP150	0.1	<1	<2.78	0.11	all <0.1	all <0.1	all <0.1	ND
TP150	0.5	<1	<3.66	0.09	all <0.1	all <0.1	all <0.1	ND
TP151	0.0-0.05	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP152	0.6	<1	<3.27	0.17	all <0.1	all <0.1	all <0.1	ND
TP153	0.0-0.05	<1	<1.56	0.06	all <0.1	all <0.1	all <0.1	ND
153A ²	0.0	NT	NT	NT	NT	NT	NT	Asbestos Detected
TP154	0.0-0.05	<1	<1.85	<0.05	all <0.1	all <0.1	all <0.1	ND
TP155	0.1	<1	<1.79	0.09	all <0.1	all <0.1	all <0.1	ND
TP156	0.0-0.05	<1	<2.93	0.13	all <0.1	all <0.1	all <0.1	ND
TP157	0.7	<1	<1.79	0.09	all <0.1	all <0.1	all <0.1	ND
TP158	0.2	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP159	0.5	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP162	1.3	<1	<1.65	<0.05	all <0.1	all <0.1	all <0.1	ND
TP163	0.1	<1	<2.80	0.12	all <0.1	all <0.1	all <0.1	ND
TP164	0.4	<1	<1.68	<0.05	all <0.1	all <0.1	all <0.1	ND
TP164	1.0	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	NT
TP165	0.1	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	ND
TP166	0.0-0.02	<1	<1.55	<0.05	all <0.1	all <0.1	all <0.1	NT
TP168	0.0-0.02	<1	<1.61	0.05	all <0.1	all <0.1	all <0.1	NT
BD121	0.0-0.02	<1	<1.56	0.05	all <0.1	all <0.1	all <0.1	NT
TP169	0.0-0.02	<1	<1.59	0.05	all <0.1	all <0.1	all <0.1	ND
Laboratory PQL			1.55 total	0.05	0.1/each	0.1/each	0.1/each	
NSW EPA - NEHF F ¹ (Ref 16)			100	5	50	NC	NC	No Asbestos present on the surface ²

Notes to Table 16:

All results in mg/kg on a dry weight basis

NC - No Criteria

ND - Not Detected

1 - Health Based Criteria for Industrial/Commercial Land Use

2 - Correspondence from NSW EPA Director of Contaminated Sites to Accredited Site Auditors

3 - Fibre cement sheeting

D1 - Replicate sample of TP28/0.1

BD105 - Replicate sample of BH109/0.0-0.1

BD108 - Replicate sample of TP128/0.0-0.05

BD117 - Replicate sample of TP148/0.0-0.05

BH - Bore

PQL - Practical Quantitation Limits

NT - Not Tested

PID - Photoionisation Detector

BD103 - Replicate sample of BH107/0.8-1.0

BD106 - Replicate sample of TP124/0.0-0.05

BD116 - Replicate sample of TP140/0.1

BD121 - Replicate sample of TP168/0.0-0.02

TP - Pit

Table 17: Results of Chemical Analysis on Soil - pH, EC, Chloride and Sulphate

Bore / Pit	Depth (m)	PID (ppm)	pH	EC (µs/cm)	Chloride (mg/kg)	Sulphate (mg/kg)
Previous Assessment, DP (Ref 1)						
TP14	0.8	<1	6.9	NT	98	270
TP18	1.0	<1	9.4	NT	12	210
TP28	0.1	<1	6.1	NT	81	21
D1	0.1	<1	7.1	NT	580	200
TP28	1.0	<1	6.4	NT	65	27
TP29	0.4	<1	6.2	NT	11	250
2008 Assessment						
BH104	0.8-1.0	<1	7.6	380	10	47
BH105	1.8-2.0	<1	4.7	160	4.7	550
TP110	0.2	<1	8.3	88	46	74
TP111	0.8	<1	7.1	130	3.1	28
TP112	1.8	<1	5.5	1400	3.8	2200
TP113	0.5	<1	8.3	220	5.8	5
TP114	0.2	<1	7.6	460	57	77
TP115	1.0	<1	7.6	24	0.7	3
TP115A	0.6	<1	7.9	230	6.3	17
TP116	1.5	<1	7.9	850	9.6	54
TP117	2.0	<1	7.6	700	12	47
TP118	3.5	<1	5.8	270	0.9	60
TP119	1.0	<1	8.9	530	4.6	89
TP160	4.0	<1	8.8	610	17	36
TP121	0.3	<1	6.8	36	3.7	4
TP129	1.0	<1	6.7	1100	5.3	390
TP143	0.65	<1	5.4	97	<0.5	12
TP145	0.6	<1	5.5	65	1.4	8
TP147	0.9	<1	6.0	12	14	30
TP150	0.5	<1	5.7	68	4.1	13
TP162	1.3	<1	6.8	94	7.9	2
Laboratory PQL			NA	<1	<0.5	<2

Notes to Table 17:

PQL - Practical Quantitation Limits

NT - Not Tested

NA - Not Applicable

D1 - Replicate sample of TP28/0.1

Table D: Soil Analytical Results- OCPs
Client: Aurizon Ltd
Project: Aurizon - Additional Contamination Sampling
Job No.: 2216395

		OC Pesticides																									
Field ID	Sample Date	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT + DDD + DDE	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor	OCPs (Sum of Total)
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.2	-
EPA 1994 ¹		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 1999 EIL ²		-	-	-	-	-	-	-	-	-	-	-	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 1999 HIL F ³		-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-	-	-
TP06 0.5	2/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11 2.5	24/09/2012	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
TP12 0.5	28/09/2012	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
TP14 3.0	28/09/2012	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
TP15 0.5	25/09/2012	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.2	<0.25
TP16 3.5	25/09/2012	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.2	<0.25
TP18 2.5	24/09/2012	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.2	<0.25
TP20 1.5	26/09/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20A 1.0	26/09/2012	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
TP27 1.5	26/09/2012	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
TP30 2.0	26/09/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33 0.5	26/09/2012	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
TP68 0.7-1.0	13/11/2012	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.2	<0.25
TP69 2.0-2.5	13/11/2012	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05

Where no detects have been recorded for OCPs, the respective sums have been claculated as the value of the lowest LOR

¹ NSW EPA (1994). Guidelines for Assessing Service Station Sites, Threshold Concentration for Sensitive Land Use

² National Environment Protection Council 1999 Schedule B(1), Ecological Investigation Levels

³ National Environment Protection Council 1999 Health-based Investigation Levels 'F' - Commerical/Industrial (NEPC 1999)

Table A: Soil Analytical Results- Metals and Major Ions
Client: Aurizon Ltd
Project: Aurizon - Additional Contamination Sampling
Job No.: 2216395

Field ID	Sample Date	Metals							
		Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR		5	1	2	5	5	0.1	2	5
EPA 1994 ¹		-	-	-	-	300	-	-	-
NEPM 1999 EIL ²		20	3	50 [^]	100	600	1	60	200
NEPM 1999 HIL F ³		500	100	500*	5000	1500	75	3000	35000
TP06 0.5	2/10/2012	60	<1	<2	22	27	<0.1	8	30
TP11 2.5	24/09/2012	8	<1	<2	12	28	1.4	5	12
TP12 0.5	28/09/2012	5	<1	<2	11	15	<0.1	6	25
TP14 3.0	28/09/2012	11	<1	<2	12	14	0.8	10	12
TP15 0.5	25/09/2012	6	<1	<2	11	18	0.2	2	112
TP16 3.5	25/09/2012	<5	<1	<2	11	15	0.1	2	165
TP18 2.5	24/09/2012	7	<1	3	19	17	0.2	41	144
TP20 1.5	26/09/2012	12	<1	<2	16	21	0.5	<2	28
TP20A 1.0	26/09/2012	11	<1	<2	16	20	0.3	15	49
TP27 1.5	26/09/2012	27	<1	<2	12	24	0.5	<2	72
TP30 2.0	26/09/2012	<5	<1	15	13	9	<0.1	26	54
TP33 0.5	26/09/2012	10	<1	8	17	16	0.2	10	49
TP68 0.7-1.0	13/11/2012	12	<1	6	19	15	0.2	10	56
TP69 2.0-2.5	13/11/2012	35	<1	<2	14	19	0.4	2	34

¹ NSW EPA (1994), Guidelines for Assessing Service Station Sites, Threshold Concentration for Sensitive Land Use

² National Environment Protection Council 1999 Schedule B(1), Ecological Investigation Levels

³ National Environment Protection Council 1999 Health-based Investigation Levels 'F' - Commercial/Industrial (NEPC 1999)

* Guideline for Chromium is based on Chromium (VI).

[^]ANZECC/NHMRC (1992) EIT for total chromium

Table B: Soil Analytical Results- TRH/TPH
Client: Aurizon Ltd
Project: Aurizon - Additional Contamination Sampling
Job No.: 2216395

Field ID	Sample Date	TRH					TPH - Silica Gel Cleanup			
		C6 - C 9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 (Sum of Total)	TRH C10-C14 Fraction after Silica Cleanup	TRH C15-C28 Fraction after Silica Cleanup	TRH C29-C36 Fraction after Silica Cleanup	TRH C10 - C36 Fraction after Silica Gel Cleanup
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR		10	50	100	100		50	100	100	50
EPA 1994 ¹		65	-	-	-	1000	-	-	-	1000
NEPM 1999 EIL ²		-	-	-	-	-	-	-	-	-
NEPM 1999 HIL F ³		-	-	-	-	-	-	-	-	-
TP06 0.5	2/10/2012	<10	<50	450	190	640	70	410	100	580
TP11 2.5	24/09/2012	<10	<50	230	<100	230	-	-	-	-
TP12 0.5	28/09/2012	<10	70	710	310	1090	60	580	200	840
TP14 3.0	28/09/2012	<10	<50	320	160	480	-	-	-	-
TP15 0.5	25/09/2012	13	100	1270	690	2060	<50	710	250	960
TP16 3.5	25/09/2012	<10	50	960	560	1570	-	-	-	-
TP18 2.5	24/09/2012	<10	140	2430	1600	4170	<50	1560	820	2380
TP20 1.5	26/09/2012	<10	70	730	260	1060	70	460	120	650
TP20A 1.0	26/09/2012	<10	<50	140	<100	140	<50	140	<100	140
TP27 1.5	26/09/2012	<10	<50	480	210	690	-	-	-	-
TP30 2.0	26/09/2012	<10	<50	120	<100	120	-	-	-	-
TP33 0.5	26/09/2012	<10	<50	640	360	1000	<50	380	210	590
TP68 0.7-1.0	13/11/2012	<10	<50	340	170	510	<50	280	100	380
TP69 2.0-2.5	13/11/2012	<10	<50	140	<100	140	<50	120	<100	120

Where no detects have been recorded for TPH/TRH, the Sum has been calculated as the value of the lowest LOR

¹ NSW EPA (1994), Guidelines for Assessing Service Station Sites, Threshold Concentration for Sensitive Land Use

² National Environment Protection Council 1999 Schedule B(1), Ecological Investigation Levels

³ National Environment Protection Council 1999 Health-based Investigation Levels 'F' - Commerical/Industrial (NEPC 1999)

Table C: Soil Analytical Results- PAHs, PCBs
Client: Aurizon Ltd
Project: Aurizon - Additional Contamination Sampling
Job No.: 2216395

		PAH																PCBs		
Field ID	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ (WHO)	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of Total)	PCBs (Total)
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1
EPA 1994 ¹		-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	20	-
NEPM 1999 EIL ²		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 1999 HIL F ³		-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	100	50
TP06 0.5	2/10/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	2	0.6	3.3	-
TP11 2.5	24/09/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	0.7	0.6	1.9	<0.1
TP12 0.5	28/09/2012	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	0.9	<0.5	<0.5	<0.5	2	0.9	5	<0.1
TP14 3.0	28/09/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	<0.5	1	<0.1
TP15 0.5	25/09/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1
TP16 3.5	25/09/2012	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	1	<0.5	<0.5	<0.5	2.4	1	5.7	<0.1
TP18 2.5	24/09/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	2	0.7	3.4	<0.1
TP20 1.5	26/09/2012	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	1.1	<0.5	<0.5	<0.5	2.4	0.9	5.9	-
TP20A 1.0	26/09/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	0.6	<0.1
TP27 1.5	26/09/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.7	<0.5	<0.5	<0.5	2	0.6	3.8	<0.1
TP30 2.0	26/09/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
TP33 0.5	26/09/2012	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	1	<0.5	<0.5	<0.5	1.8	0.9	4.8	<0.1
TP68 0.7-1.0	13/11/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	1.6	<0.5	2.1	<0.1
TP69 2.0-2.5	13/11/2012	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.1

Where no detects have been recorded for PAH, the Sum has been calculated as the value of the lowest LOR

¹ NSW EPA (1994), Guidelines for Assessing Service Station Sites, Threshold Concentration for Sensitive Land Use

² National Environment Protection Council 1999 Schedule B(1), Ecological Investigation Levels

³ National Environment Protection Council 1999 Health-based Investigation Levels 'F' - Commerical/Industrial (NEPC 1999)

Appendix C – Previous Ground Water Results

Table 18: Results of Chemical Analysis on Groundwater and Surface Water

Sample Type										Groundwater										Surface Water										Laboratory PQL	ANZECC 2000 - Trigger Values (Rat 13)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Sample Identification										SW201										SW202										SW203	SW204	SW205	SW206	SW207	SW208	SW209	SW210	SW211	SW212	SW213	SW214	SW215	SW216	SW217	SW218	SW219	SW220	SW221	SW222	SW223	SW224	SW225	SW226	SW227	SW228	SW229	SW230	SW231	SW232	SW233	SW234	SW235	SW236	SW237	SW238	SW239	SW240	SW241	SW242	SW243	SW244	SW245	SW246	SW247	SW248	SW249	SW250	SW251	SW252	SW253	SW254	SW255	SW256	SW257	SW258	SW259	SW260	SW261	SW262	SW263	SW264	SW265	SW266	SW267	SW268	SW269	SW270	SW271	SW272	SW273	SW274	SW275	SW276	SW277	SW278	SW279	SW280	SW281	SW282	SW283	SW284	SW285	SW286	SW287	SW288	SW289	SW290	SW291	SW292	SW293	SW294	SW295	SW296	SW297	SW298	SW299	SW300	SW301	SW302	SW303	SW304	SW305	SW306	SW307	SW308	SW309	SW310	SW311	SW312	SW313	SW314	SW315	SW316	SW317	SW318	SW319	SW320	SW321	SW322	SW323	SW324	SW325	SW326	SW327	SW328	SW329	SW330	SW331	SW332	SW333	SW334	SW335	SW336	SW337	SW338	SW339	SW340	SW341	SW342	SW343	SW344	SW345	SW346	SW347	SW348	SW349	SW350	SW351	SW352	SW353	SW354	SW355	SW356	SW357	SW358	SW359	SW360	SW361	SW362	SW363	SW364	SW365	SW366	SW367	SW368	SW369	SW370	SW371	SW372	SW373	SW374	SW375	SW376	SW377	SW378	SW379	SW380	SW381	SW382	SW383	SW384	SW385	SW386	SW387	SW388	SW389	SW390	SW391	SW392	SW393	SW394	SW395	SW396	SW397	SW398	SW399	SW400	SW401	SW402	SW403	SW404	SW405	SW406	SW407	SW408	SW409	SW410	SW411	SW412	SW413	SW414	SW415	SW416	SW417	SW418	SW419	SW420	SW421	SW422	SW423	SW424	SW425	SW426	SW427	SW428	SW429	SW430	SW431	SW432	SW433	SW434	SW435	SW436	SW437	SW438	SW439	SW440	SW441	SW442	SW443	SW444	SW445	SW446	SW447	SW448	SW449	SW450	SW451	SW452	SW453	SW454	SW455	SW456	SW457	SW458	SW459	SW460	SW461	SW462	SW463	SW464	SW465	SW466	SW467	SW468	SW469	SW470	SW471	SW472	SW473	SW474	SW475	SW476	SW477	SW478	SW479	SW480	SW481	SW482	SW483	SW484	SW485	SW486	SW487	SW488	SW489	SW490	SW491	SW492	SW493	SW494	SW495	SW496	SW497	SW498	SW499	SW500	SW501	SW502	SW503	SW504	SW505	SW506	SW507	SW508	SW509	SW510	SW511	SW512	SW513	SW514	SW515	SW516	SW517	SW518	SW519	SW520	SW521	SW522	SW523	SW524	SW525	SW526	SW527	SW528	SW529	SW530	SW531	SW532	SW533	SW534	SW535	SW536	SW537	SW538	SW539	SW540	SW541	SW542	SW543	SW544	SW545	SW546	SW547	SW548	SW549	SW550	SW551	SW552	SW553	SW554	SW555	SW556	SW557	SW558	SW559	SW560	SW561	SW562	SW563	SW564	SW565	SW566	SW567	SW568	SW569	SW570	SW571	SW572	SW573	SW574	SW575	SW576	SW577	SW578	SW579	SW580	SW581	SW582	SW583	SW584	SW585	SW586	SW587	SW588	SW589	SW590	SW591	SW592	SW593	SW594	SW595	SW596	SW597	SW598	SW599	SW600	SW601	SW602	SW603	SW604	SW605	SW606	SW607	SW608	SW609	SW610	SW611	SW612	SW613	SW614	SW615	SW616	SW617	SW618	SW619	SW620	SW621	SW622	SW623	SW624	SW625	SW626	SW627	SW628	SW629	SW630	SW631	SW632	SW633	SW634	SW635	SW636	SW637	SW638	SW639	SW640	SW641	SW642	SW643	SW644	SW645	SW646	SW647	SW648	SW649	SW650	SW651	SW652	SW653	SW654	SW655	SW656	SW657	SW658	SW659	SW660	SW661	SW662	SW663	SW664	SW665	SW666	SW667	SW668	SW669	SW670	SW671	SW672	SW673	SW674	SW675	SW676	SW677	SW678	SW679	SW680	SW681	SW682	SW683	SW684	SW685	SW686	SW687	SW688	SW689	SW690	SW691	SW692	SW693	SW694	SW695	SW696	SW697	SW698	SW699	SW700	SW701	SW702	SW703	SW704	SW705	SW706	SW707	SW708	SW709	SW710	SW711	SW712	SW713	SW714	SW715	SW716	SW717	SW718	SW719	SW720	SW721	SW722	SW723	SW724	SW725	SW726	SW727	SW728	SW729	SW730	SW731	SW732	SW733	SW734	SW735	SW736	SW737	SW738	SW739	SW740	SW741	SW742	SW743	SW744	SW745	SW746	SW747	SW748	SW749	SW750	SW751	SW752	SW753	SW754	SW755	SW756	SW757	SW758	SW759	SW760	SW761	SW762	SW763	SW764	SW765	SW766	SW767	SW768	SW769	SW770	SW771	SW772	SW773	SW774	SW775	SW776	SW777	SW778	SW779	SW780	SW781	SW782	SW783	SW784	SW785	SW786	SW787	SW788	SW789	SW790	SW791	SW792	SW793	SW794	SW795	SW796	SW797	SW798	SW799	SW800	SW801	SW802	SW803	SW804	SW805	SW806	SW807	SW808	SW809	SW810	SW811	SW812	SW813	SW814	SW815	SW816	SW817	SW818	SW819	SW820	SW821	SW822	SW823	SW824	SW825	SW826	SW827	SW828	SW829	SW830	SW831	SW832	SW833	SW834	SW835	SW836	SW837	SW838	SW839	SW840	SW841	SW842	SW843	SW844	SW845	SW846	SW847	SW848	SW849	SW850	SW851	SW852	SW853	SW854	SW855	SW856	SW857	SW858	SW859	SW860	SW861	SW862	SW863	SW864	SW865	SW866	SW867	SW868	SW869	SW870	SW871	SW872	SW873	SW874	SW875	SW876	SW877	SW878	SW879	SW880	SW881	SW882	SW883	SW884	SW885	SW886	SW887	SW888	SW889	SW890	SW891	SW892	SW893	SW894	SW895	SW896	SW897	SW898	SW899	SW900	SW901	SW902	SW903	SW904	SW905	SW906	SW907	SW908	SW909	SW910	SW911	SW912	SW913	SW914	SW915	SW916	SW917	SW918	SW919	SW920	SW921	SW922	SW923	SW924	SW925	SW926	SW927	SW928	SW929	SW930	SW931	SW932	SW933	SW934	SW935	SW936	SW937	SW938	SW939	SW940	SW941	SW942	SW943	SW944	SW945	SW946	SW947	SW948	SW949	SW950	SW951	SW952	SW953	SW954	SW955	SW956	SW957	SW958	SW959	SW960	SW961	SW962	SW963	SW964	SW965	SW966	SW967	SW968	SW969	SW970	SW971	SW972	SW973	SW974	SW975	SW976	SW977	SW978	SW979	SW980	SW981	SW982	SW983	SW984	SW985	SW986	SW987	SW988	SW989	SW990	SW991	SW992	SW993	SW994	SW995	SW996	SW997	SW998	SW999	SW1000	SW1001	SW1002	SW1003	SW1004	SW1005	SW1006	SW1007	SW1008	SW1009	SW1010	SW1011	SW1012	SW1013	SW1014	SW1015	SW1016	SW1017	SW1018	SW1019	SW1020	SW1021	SW1022	SW1023	SW1024	SW1025	SW1026	SW1027	SW1028	SW1029	SW1030	SW1031	SW1032	SW1033	SW1034	SW1035	SW1036	SW1037	SW1038	SW1039	SW1040	SW1041	SW1042	SW1043	SW1044	SW1045	SW1046	SW1047	SW1048	SW1049	SW1050	SW1051	SW1052	SW1053	SW1054	SW1055	SW1056	SW1057	SW1058	SW1059	SW1060	SW1061	SW1062	SW1063	SW1064	SW1065	SW1066	SW1067	SW1068	SW1069	SW1070	SW1071	SW1072	SW1073	SW1074	SW1075	SW1076	SW1077	SW1078	SW1079	SW1080	SW1081	SW1082	SW1083	SW1084	SW1085	SW1086	SW1087	SW1088	SW1089	SW1090	SW1091	SW1092	SW1093	SW1094	SW1095	SW1096	SW1097	SW1098	SW1099	SW1100	SW1101	SW1102	SW1103	SW1104	SW1105	SW1106	SW1107	SW1108	SW1109	SW1110	SW1111	SW1112	SW1113	SW1114	SW1115	SW1116	SW1117	SW1118	SW1119	SW1120	SW1121	SW1122	SW1123	SW1124	SW1125	SW1126	SW1127	SW1128	SW1129	SW1130	SW1131	SW1132	SW1133	SW1134	SW1135	SW1136	SW1137	SW1138	SW1139	SW1140	SW1141	SW1142	SW1143	SW1144	SW1145	SW1146	SW1147	SW1148	SW1149	SW1150	SW1151	SW1152	SW1153	SW1154	SW1155	SW1156	SW1157	SW1158	SW1159	SW1160	SW1161	SW1162	SW1163	SW1164	SW1165	SW1166	SW1167	SW1168	SW1169	SW1170	SW1171	SW1172	SW1173	SW1174	SW1175	SW1176	SW1177	SW1178	SW1179	SW1180	SW1181	SW1182	SW1183	SW1184	SW1185	SW1186	SW1187	SW1188	SW1189	SW1190	SW1191	SW1192	SW1193	SW1194	SW1195	SW1196	SW1197	SW1198	SW1199	SW1200	SW1201	SW1202	SW1203	SW1204	SW1205	SW1206	SW1207

(11) - Polyaromatic hydrocarbons (PAHs) - Intervention values for mineral oil in groundwater
(12) - Netherlands Environmental Quality Objectives - Intervention values for mineral oil in groundwater
(13) - Trigger value based on Tsvetkov (1998) in absence of specific hydrocarbon species data (ANZECC 2000 Table 8.3.2.4)
(14) - Trigger value based on physico-chemical stressor guidelines for the protection of aquatic life
(15) - Trigger value based on tolerance of livestock to dissolved solids - poultry (caponative)

Appendix D – Acid Sulfate Soil Results

Table E: Soil Analytical Results- ASS/NAG

Client: Aurizon
Project: Aurizon - Track Lowering Investigation
Job No.: 2216395

Field ID	Sample Date	Net Acid Generation		ASS- pH		ASS- Acidity Trail				ASS- Sulfur Trail				ASS- Acid Base Accounting			
		pHox	Net Acid Generation (pH 4.5)	pH Unit	pHox	pH Unit	pHox	Net Acid Generation (pH 7.0)	pH Unit	pHox	Net Acid Generation (pH 4.5)	pH Unit	pHox	Net Acid Generation (pH 7.0)	pH Unit	Net Acidity	LR
Units		pH Unit	kg/12502kgH2SO4	pH Unit	pH Unit	pH Unit	pHox	kg/12502kgH2SO4	pH Unit	pHox	kg/12502kgH2SO4	pH Unit	pHox	kg/12502kgH2SO4	pH Unit	kg CaCO3	%S
LOD		0.1	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.02
ASS (1998) 1-1000dis/urbed ¹																	
ASS (1998) 1-1000dis/urbed ¹			<4.5 ¹														
ASS (1998) 1-1000dis/urbed ¹			<4.5 ¹														
TP69 0.5	13/12/012	3.4	4.1	12	7.1	2.5		200	200	165	<0.02	0.26	0.26	1.5	188	14	0.3
COMPOSITE1	13/12/012	3.8	3.4	10	7.2	3	<0.02	0.33	0.33	115	0.04	0.23	0.10	1.5	176	13	0.28
COMPOSITE2	13/12/012	3.8	1.9	14.9	8.3	2.8	<0.02	0.42	<2	260	<0.02	0.46	0.46	1.5	270	20	0.43
Douglas Partners ASS May 2012																	
14_2.4	May-12	-	-	-	5.6	-	-	6	359	-	-	-	0.65	-	-	-	-
16_3.0-3.45	May-12	-	-	-	6.8	-	-	<2	388	-	-	-	0.08	-	-	-	-
27_1.5-1.95	May-12	-	-	-	5.5	-	-	21	184	-	-	-	<0.02	-	-	-	-
28_3.3	May-12	-	-	-	5.9	-	-	4	<2	-	-	-	<0.02	-	-	-	-
30_0.4	May-12	-	-	-	5.4	-	-	16	230	-	-	-	0.04	-	-	-	-

¹ Acid Sulfate Soils Management/Advisory Committee (1998), Acid Sulfate Soil Assessment Guidelines, Medium to Heavy Clays and Silty Clays (Fine)

² Acid Sulfate Soils Management/Advisory Committee (1998), Acid Sulfate Soil Assessment Guidelines, Sandy Loams to Light Clays (medium)

³ Acid Sulfate Soils Management/Advisory Committee (1998), Acid Sulfate Soil Assessment Guidelines, Sands to Loamy Sands (Coarse)

⁴ DTR (2007a), Managing acid and metalliferous drainage, Leading Practice Sustainable Development Program for the Mining Industry, Canberra, Australia.

TP69_0.5 comprises predominantly coal-chiller

¹Composite 1 includes samples TP69 0.7-1.0 and TP69 2.0-2.5 (predominantly coal-chiller)

²Composite 2 includes samples TP69 0.5-1.0, TP69 2.0-2.5 and TP69 3.0-3.4 (predominantly coal-fines)

Table F: Soil Analytical Results- ASS Field
Client: Aurizon
Project: Aurizon - Track Lowering Investigation
Job No.: 2216395

		pH			Strength of Reaction ^a	Sample Description
Field ID	Sample Date	pH _F	pH _{FOX}	pH _F -pH _{FOX}		
Units						
LOR						
ASS (1998): 1-1000t disturbed ¹		<4	<3.5	>1	-	
ASS (1998): 1-1000t disturbed ²		<4	<3.5	>1	-	
ASS (1998): 1-1000t disturbed ³		<4	<3.5	>1	-	
Douglas Partners ASS May 2012						
14_2.4	May-12	7.2	2.6	4.6	3FH	Silty Sand - grey
14_2.9	May-12	7.4	5.2	2.2	1	Silty Sand - grey
16_2.3	May-12	7.3	6.1	1.2	1 to 2	Silty Clay - grey/brown
16_2.8	May-12	7.6	6.5	1.1	1	Sandy silty Clay - grey
16_3.0-3.45	May-12	7.6	2.3	5.3	1 to 2	Sandy Silty Clay - grey
21_0.5-0.95	May-12	7.4	6.2	1.2	1 to 2	Silty Clay - grey/brown
21_1.5-1.95	May-12	7.6	6.9	0.7	1	Silty Clay - grey/brown
21_2.4	May-12	7.5	6.9	0.6	1	Sandy Silt - grey
21_3.0-3.45	May-12	7.6	6.2	1.4	1	Clayey Sand - grey
22_0.4	May-12	6.8	5.9	0.9	1H	Silty Clay - grey
22_0.9	May-12	6.8	6.7	0.1	1H	Silty Clay - grey
22_1.4	May-12	7	6.8	0.2	1	Clayey Silty Sand - grey mottled orange
22_1.7	May-12	7.1	6.9	0.2	1	Clayey Silty Sand - grey mottled orange
22_2.4	May-12	7.1	6.9	0.2	1	Silty Clay - grey
23_0.7	May-12	7.4	6.6	0.8	1H	Silty Clay - grey
23_0.9	May-12	7.2	6.6	0.6	1H	Silty Clay - grey
23_1.2	May-12	7.1	7	0.1	1H	Clayey Silty Sand - grey
24_0.4	May-12	7.3	6	1.3	1	Silty Clay - grey brown
24_0.7	May-12	6.7	6.3	0.4	1	Silty Sand - grey
24_0.9	May-12	6.7	6.2	0.5	1	Silty Sand - grey
24_1.6	May-12	6.5	5.5	1	1	Silty Sand - grey
25_0.8-0.95	May-12	8.4	7.2	1.2	1	Silty Sand - grey
25_1.4	May-12	8	7.5	0.5	1	Silty Sand - brown
25_1.5-1.95	May-12	8	6.4	1.6	1	Silty Sand - brown
25_2.4	May-12	8.5	6.9	1.6	1 to 2	Silty Sand - brown (shells)
25_3.9	May-12	8.3	6.3	2	1 to 2	Silty Sand - brown
27_1.5-1.95	May-12	8.1	5.5	2.6	1	Silty clay - grey
27_2.4	May-12	8.1	6.3	1.7	1	Clayey Silty Sand - grey
27_2.9	May-12	8	6	2	1 to 2	Clayey Silty Sand - grey
27_3.0-3.45	May-12	8.2	7.2	1	1 to 2	Clayey Silty Sand - grey
28_3.3	May-12	7.8	3.9	3.9	1 to 2	Silty Clay - grey
28_4.5-4.95	May-12	7.6	5.6	2	1 to 2	Sandy Silt - grey
30_0.4	May-12	5.9	4.4	1.5	2	Sandy Clay - brown
30_0.5-0.95	May-12	6.3	6.3	0	1 to 2	Sandy Clay - brown
30_1.4	May-12	7.2	6.6	0.6	1 to 2	Clay - grey
30_1.5-1.95	May-12	7.1	6.5	0.6	1	Clay - grey
30_2.4	May-12	7	6.6	0.4	1	Silty Sand - grey mottled orange
30_3.0-3.45	May-12	7.7	2.4	5.3	1 to 2	Clayey Silt - grey (shells)
30_4.5-4.95	May-12	7.5	2.6	4.9	4HF	Clayey Silt - grey (shells)
31_1.3	May-12	7.4	6.1	1.3	1H	Silty Clay - grey mottled orange
31_1.5	May-12	7	6.9	0.1	1H	Silty Clay - grey mottled orange
31_1.8	May-12	7.7	7.6	0.1	1H	Silty Clay - grey mottled orange
34_1.3	May-12	7.2	6.4	0.8	1	Silty Clay - grey
34_1.4-1.95	May-12	7.1	6.5	0.6	1	Silty Clay - grey
34_2.4	May-12	7	6.1	0.9	1	Silty Clay - grey
34_3.0-3.45	May-12	7.2	4.5	2.7	1	Silty clay - grey
36_0.4	May-12	6.9	5.4	1.5	1 to 2	Silty Sand - brown
36_0.5-0.95	May-12	7.6	7.6	0	1	Sandy Clay - brown
36_1.4	May-12	8	7.8	0.2	1	Sand - brown
36_1.5-1.95	May-12	8.1	7.8	0.3	1	Sand - brown
36_2.5	May-12	8.1	6.6	1.5	1	Silty Sand - grey
36_3.0-3.45	May-12	8.1	4.8	3.3	1 to 2	Silty Sand - grey
36_4.0	May-12	8.2	6.8	1.4	1 to 2	Silty Sand - grey
37_1.4	May-12	7.3	5.2	2.1	1	Clay - grey
37_2.4	May-12	7.3	2.9	4.4	1	Clayey Silt - grey

¹ Acid Sulfate Soils Management Advisory Committee (1998), Acid Sulfate Soils Assessment Guidelines, Medium to Heavy Clays and Silty Clays (Fine)

² Acid Sulfate Soils Management Advisory Committee (1998), Acid Sulfate Soils Assessment Guidelines, Sandy Loams to Light Clays (medium)

³ Acid Sulfate Soils Management Advisory Committee (1998), Acid Sulfate Soils Assessment Guidelines, Sands to Loamy Sands (Coarse)

⁴ DITR (2007a). Managing acid and metalliferous drainage, Leading Practice Sustainable Development Program for the Mining Industry, Canberra, Australia.

⁵ 1 denotes no or slight reaction, 2 denotes moderate reaction, 3 denotes high reaction, 4 denotes very vigorous reaction, F denotes bubbling/ frothy reaction indicative of organics, H denotes heat generated

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