

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197899.002	Mercury	mg/kg	0.05	0.17	0.2	70 - 130	87
LB197900.002	Mercury	mg/kg	0.05	0.18	0.2	70 - 130	91

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197893.002	Naphthalene	mg/kg	0.1	3.9	4	60 - 140	98
	Acenaphthylene	mg/kg	0.1	4.1	4	60 - 140	103
	Acenaphthene	mg/kg	0.1	4.1	4	60 - 140	103
	Phenanthrene	mg/kg	0.1	4.0	4	60 - 140	100
	Anthracene	mg/kg	0.1	3.8	4	60 - 140	96
	Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	94
	Pyrene	mg/kg	0.1	3.8	4	60 - 140	95
	Benzo(a)pyrene	mg/kg	0.1	4.4	4	60 - 140	109
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	79
LB197894.002	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	87
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	80
	Naphthalene	mg/kg	0.1	3.9	4	60 - 140	98
	Acenaphthylene	mg/kg	0.1	4.0	4	60 - 140	99
	Acenaphthene	mg/kg	0.1	4.1	4	60 - 140	104
	Phenanthrene	mg/kg	0.1	4.0	4	60 - 140	101
	Anthracene	mg/kg	0.1	3.8	4	60 - 140	96
	Fluoranthene	mg/kg	0.1	3.8	4	60 - 140	94
	Pyrene	mg/kg	0.1	3.9	4	60 - 140	98
	Benzo(a)pyrene	mg/kg	0.1	4.2	4	60 - 140	106
Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	77
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	78

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197938.002	Naphthalene	µg/L	0.1	29	40	60 - 140	72
	Acenaphthylene	µg/L	0.1	37	40	60 - 140	93
	Acenaphthene	µg/L	0.1	39	40	60 - 140	96
	Phenanthrene	µg/L	0.1	39	40	60 - 140	98
	Anthracene	µg/L	0.1	36	40	60 - 140	89
	Fluoranthene	µg/L	0.1	40	40	60 - 140	99
	Pyrene	µg/L	0.1	39	40	60 - 140	96
	Benzo(a)pyrene	µg/L	0.1	37	40	60 - 140	93
	Surrogates						
	d5-nitrobenzene (Surrogate)	µg/L	-	0.3	0.5	40 - 130	60
Surrogates	2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.5	40 - 130	68
	d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	80

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197897.002	Arsenic, As	mg/kg	1	360	318.22	80 - 120	112
	Cadmium, Cd	mg/kg	0.3	5.5	5.41	80 - 120	102
	Chromium, Cr	mg/kg	0.5	38	38.31	80 - 120	100
	Copper, Cu	mg/kg	0.5	320	290	80 - 120	109
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
	Lead, Pb	mg/kg	1	100	89.9	80 - 120	111
	Zinc, Zn	mg/kg	2	300	273	80 - 120	108
LB197898.002	Arsenic, As	mg/kg	1	350	318.22	80 - 120	111
	Cadmium, Cd	mg/kg	0.3	5.5	5.41	80 - 120	102
	Chromium, Cr	mg/kg	0.5	42	38.31	80 - 120	110
	Copper, Cu	mg/kg	0.5	310	290	80 - 120	108
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
	Lead, Pb	mg/kg	1	100	89.9	80 - 120	111
	Zinc, Zn	mg/kg	2	290	273	80 - 120	108

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR
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Trace Metals (Dissolved) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197906.002	Arsenic, As	µg/L	1	18	20	80 - 120	92
	Cadmium, Cd	µg/L	0.1	19	20	80 - 120	97
	Chromium, Cr	µg/L	1	20	20	80 - 120	102
	Copper, Cu	µg/L	1	20	20	80 - 120	102
	Lead, Pb	µg/L	1	18	20	80 - 120	91
	Nickel, Ni	µg/L	1	20	20	80 - 120	101
	Zinc, Zn	µg/L	5	20	20	80 - 120	101

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB197893.002	TRH C10-C14	mg/kg	20	40	40	60 - 140	100	
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	108	
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	88	
	TRH F Bands	TRH >C10-C16	mg/kg	25	42	40	60 - 140	105
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	100	
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90	
LB197894.002	TRH C10-C14	mg/kg	20	40	40	60 - 140	100	
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	108	
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	88	
	TRH F Bands	TRH >C10-C16	mg/kg	25	42	40	60 - 140	105
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	100	
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	90	

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB197938.002	TRH C10-C14	µg/L	50	1200	1200	60 - 140	99	
	TRH C15-C28	µg/L	200	1400	1200	60 - 140	115	
	TRH C29-C36	µg/L	200	1300	1200	60 - 140	109	
	TRH F Bands	TRH >C10-C16	µg/L	60	1300	1200	60 - 140	106
		TRH >C16-C34 (F3)	µg/L	500	1400	1200	60 - 140	120
		TRH >C34-C40 (F4)	µg/L	500	610	600	60 - 140	102

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197891.002	Monocyclic	Benzene	mg/kg	0.1	4.2	5	60 - 140	83
	Aromatic	Toluene	mg/kg	0.1	4.5	5	60 - 140	89
		Ethylbenzene	mg/kg	0.1	4.4	5	60 - 140	89
		m/p-xylene	mg/kg	0.2	8.8	10	60 - 140	88
		o-xylene	mg/kg	0.1	4.4	5	60 - 140	87
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	10	70 - 130	111
		d8-toluene (Surrogate)	mg/kg	-	11.4	10	70 - 130	114
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.7	10	70 - 130	77
LB197892.002	Monocyclic	Benzene	mg/kg	0.1	4.2	5	60 - 140	83
	Aromatic	Toluene	mg/kg	0.1	4.3	5	60 - 140	86
		Ethylbenzene	mg/kg	0.1	4.4	5	60 - 140	88
		m/p-xylene	mg/kg	0.2	8.9	10	60 - 140	89
		o-xylene	mg/kg	0.1	4.4	5	60 - 140	89
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	10	70 - 130	111
		d8-toluene (Surrogate)	mg/kg	-	11.0	10	70 - 130	110
		Bromofluorobenzene (Surroaate)	mg/ka	-	10.2	10	70 - 130	102

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197940.002	Monocyclic	Benzene	µg/L	0.5	62	45.45	60 - 140	136
	Aromatic	Toluene	µg/L	0.5	60	45.45	60 - 140	132
		Ethylbenzene	µg/L	0.5	61	45.45	60 - 140	134
		m/p-xylene	µg/L	1	120	90.9	60 - 140	133
		o-xylene	µg/L	0.5	60	45.45	60 - 140	133
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.7	10	60 - 140	107
		d8-toluene (Surrogate)	µg/L	-	9.6	10	70 - 130	96
		Bromofluorobenzene (Surrogate)	µg/L	-	10.6	10	70 - 130	106

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Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB197891.002	TRH C6-C10	mg/kg	25	84	92.5	60 - 140	91	
	TRH C6-C9	mg/kg	20	74	80	60 - 140	92	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	10	70 - 130	111
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.7	10	70 - 130	77
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	58	62.5	60 - 140	93
LB197892.002	TRH C6-C10	mg/kg	25	86	92.5	60 - 140	93	
	TRH C6-C9	mg/kg	20	76	80	60 - 140	95	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.1	10	70 - 130	111
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.2	10	70 - 130	102
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	60	62.5	60 - 140	96

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB197940.002	TRH C6-C10	µg/L	50	980	946.63	60 - 140	104	
	TRH C6-C9	µg/L	40	850	818.71	60 - 140	104	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.7	10	60 - 140	107
		d8-toluene (Surrogate)	µg/L	-	9.6	10	70 - 130	96
		Bromofluorobenzene (Surrogate)	µg/L	-	10.6	10	70 - 130	106
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	620	639.67	60 - 140	96

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

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Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205381.001	LB197899.004	Mercury	mg/kg	0.05	0.20	<0.05	0.2	93
SE205381.021	LB197900.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	103

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205381.008	LB197894.004	Naphthalene	mg/kg	0.1	3.9	<0.1	4	98
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	3.9	<0.1	4	96
		Acenaphthene	mg/kg	0.1	4.2	<0.1	4	104
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.0	<0.1	4	100
		Anthracene	mg/kg	0.1	3.8	<0.1	4	96
		Fluoranthene	mg/kg	0.1	3.7	<0.1	4	92
		Pyrene	mg/kg	0.1	3.8	<0.1	4	96
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.1	<0.1	4	103
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	4.1	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.3	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.2	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	31	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.3	-	76
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	86
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	80
SE205382.001	LB197893.004	Naphthalene	mg/kg	0.1	3.7	<0.1	4	93
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	3.7	<0.1	4	93
		Acenaphthene	mg/kg	0.1	4.0	<0.1	4	100
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	3.9	<0.1	4	98
		Anthracene	mg/kg	0.1	3.7	<0.1	4	94
		Fluoranthene	mg/kg	0.1	3.7	<0.1	4	92
		Pyrene	mg/kg	0.1	3.7	<0.1	4	93
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.1	<0.1	4	103
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	4.1	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	4.3	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.2	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	31	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	79
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	88
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	82

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR
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Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-(ENV)QU-022). For more information refer to the footnotes in the concluding page of this report.

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Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-(ENV)AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205381.001	LB197897.004	Arsenic, As	mg/kg	1	60	12	50	97
		Cadmium, Cd	mg/kg	0.3	50	<0.3	50	99
		Chromium, Cr	mg/kg	0.5	58	11	50	93
		Copper, Cu	mg/kg	0.5	63	11	50	102
		Nickel, Ni	mg/kg	0.5	49	2.0	50	95
		Lead, Pb	mg/kg	1	64	19	50	90
		Zinc, Zn	mg/kg	2	72	19	50	106
SE205381.021	LB197898.004	Arsenic, As	mg/kg	1	56	10	50	91
		Cadmium, Cd	mg/kg	0.3	48	<0.3	50	96
		Chromium, Cr	mg/kg	0.5	57	10	50	94
		Copper, Cu	mg/kg	0.5	64	15	50	96
		Nickel, Ni	mg/kg	0.5	49	4.1	50	90
		Lead, Pb	mg/kg	1	71	22	50	99
		Zinc, Zn	mg/kg	2	76	25	50	103

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-(ENV)AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205381.008	LB197894.004	TRH C10-C14	mg/kg	20	44	<20	40	110
		TRH C15-C28	mg/kg	45	<45	<45	40	105
		TRH C29-C36	mg/kg	45	<45	<45	40	93
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	mg/kg	25	42	<25	40	105
		TRH >C10-C16	mg/kg	25	42	<25	-	-
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	42	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	105
SE205382.001	LB197893.004	TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-
		TRH C10-C14	mg/kg	20	38	<20	40	95
		TRH C15-C28	mg/kg	45	<45	<45	40	85
		TRH C29-C36	mg/kg	45	<45	<45	40	80
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	mg/kg	25	36	<25	40	90
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	32	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	88
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-(ENV)AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205381.008	LB197892.004	Monocyclic	Benzene	mg/kg	0.1	3.7	<0.1	5	74
			Aromatic	Toluene	mg/kg	0.1	3.9	<0.1	5
		Ethylbenzene		mg/kg	0.1	4.0	<0.1	5	79
		m/p-xylene		mg/kg	0.2	8.1	<0.2	10	80
		o-xylene		mg/kg	0.1	4.1	<0.1	5	80
		Polycyclic		Naphthalene	mg/kg	0.1	<0.1	<0.1	-
			Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	11.3	10
		d8-toluene (Surrogate)		mg/kg	-	10.9	11.1	10	109
		Bromofluorobenzene (Surrogate)		mg/kg	-	10.5	10.5	10	105
		Totals	Total Xylenes	mg/kg	0.3	12	<0.3	-	-
			Total BTEX	mg/kg	0.6	24	<0.6	-	-
SE205382.001	LB197891.004	Monocyclic	Benzene	mg/kg	0.1	3.4	<0.1	5	68
			Aromatic	Toluene	mg/kg	0.1	3.8	<0.1	5
		Ethylbenzene		mg/kg	0.1	3.9	<0.1	5	78
		m/p-xylene		mg/kg	0.2	7.8	<0.2	10	77
		o-xylene		mg/kg	0.1	3.9	<0.1	5	78
		Polycyclic		Naphthalene	mg/kg	0.1	<0.1	<0.1	-
			Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	9.7	10
		d8-toluene (Surrogate)		mg/kg	-	10.3	10.0	10	103
		Bromofluorobenzene (Surrogate)		mg/kg	-	7.2	7.5	10	72
		Totals	Total Xylenes	mg/kg	0.3	12	<0.3	-	-
			Total BTEX	mg/kg	0.6	23	<0.6	-	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-(ENV)QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-(ENV)AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205381.008	LB197892.004	TRH C6-C10	mg/kg	25	82	<25	92.5	88
		TRH C6-C9	mg/kg	20	74	<20	80	92
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.0	11.3	10	110
		d8-toluene (Surrogate)	mg/kg	-	10.9	11.1	10	109
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.5	10.5	-	105
		VPH F						
		Benzene (F0)	mg/kg	0.1	3.7	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	58	<25	62.5	93
SE205382.001	LB197891.004	TRH C6-C10	mg/kg	25	61	<25	92.5	66
		TRH C6-C9	mg/kg	20	54	<20	80	67
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.1	9.7	10	101
		d8-toluene (Surrogate)	mg/kg	-	10.3	10.0	10	103
		Bromofluorobenzene (Surrogate)	mg/kg	-	7.2	7.5	-	72
		VPH F						
		Benzene (F0)	mg/kg	0.1	3.4	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	39	<25	62.5	62



MATRIX SPIKE DUPLICATES

SE205381 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.



Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: <https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

- * NATA accreditation does not cover the performance of this service.
 - ** Indicative data, theoretical holding time exceeded.
 - Sample not analysed for this analyte.
 - IS Insufficient sample for analysis.
 - LNR Sample listed, but not received.
 - LOR Limit of reporting.
 - QFH QC result is above the upper tolerance.
 - QFL QC result is below the lower tolerance.
-
- ① At least 2 of 3 surrogates are within acceptance criteria.
 - ② RPD failed acceptance criteria due to sample heterogeneity.
 - ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
 - ④ Recovery failed acceptance criteria due to matrix interference.
 - ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
 - ⑥ LOR was raised due to sample matrix interference.
 - ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
 - ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
 - ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
 - ⑩ LOR was raised due to high conductivity of the sample (required dilution).
 - † Refer to relevant report comments for further information.

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SGS Environmental Services Sydney
 Unit 16, 33 Maddox Street
 Alexandria NSW 2015
 Telephone No: (02) 85940400
 Facsimile No: (02) 85940499
 Email: au.samplerreceipt.syd@sgs.com

Lab ID Number: (please quote on correspondence)

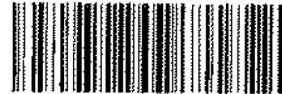
CHAIN OF CUSTODY & ANALYSIS REQUEST

Page 1 of 1

Company Name:	WSP	Project Name/No:	PS119057 – Wentworthville PS Block H Val 2
Address:	Level 27, Ernst & Young Centre	Purchase Order No:	PS119057
	680 George Street	Results Required Date:	24h TAT
	Sydney NSW 2000	Telephone:	D: 0400 359 547
Contact Name:	Hamish Donovan / Poushali Talukder	Email Results to:	Hamish.Donovan@wsp.com , Poushali.talukder@wsp.com , Leila.bowe@wsp.com
Quotation No:	SY141023-1-IS		

SGS ID	Client Sample ID	Sampled Report ID date	Matrix (Tick as appropriate)			NO. OF CONTAINERS	ANALYSIS REQUESTED										Additional Report Formats
			Soil Sample	Water Sample	FRAGMENT		CL10	DDT	Hold	CL5							
1	VS01_0.0	21/4	1				X										
2	VS02_0.0	21/4	1				X										
3	VS06_0.0	21/4	1				X										COLA
4	VS07A_0.0	21/4	1				X										COLA
5	VS08_0.0	17/4	1				X										COLA
6	VS09_0.0	21/4	1				X										
7	VS10_0.0	21/4	1				X										
8	VS03A_0.0	17/4	1				X										Tank wall
9	VS03B_0.0	21/4	1				X										Tank wall
10	VS03C_0.0	20/4	1				X										Tank wall
11	VS03D_0.0	17/4	1				X										Tank wall
12	VS03E_0.0	20/4	1				X										Tank wall
13	VS03F_0.0	20/4	1				X										Tank wall
14	VS13_0.0	17/4	1				X										
15	VS13_0.1	17/4	1				X										Tree- North west corner Please change VS13_0.1 to VS19_0.1
16	VS14_0.0	17/4	1				X										
17	VS16_0.0																

SGS EHS Alexandria Laboratory



SE205381 COC

Received: 22 – Apr – 2020

17	VS17_0.1	17/4						X											
	VS17_0.3	↓							X										
18	VS18_0.1	↓	1					X											Tree- next to temporary gate
	VS18_0.3	↓	1						X										Tree- next to temporary gate
19	VS19_0.3	21/4	1					X											Tree -North west corner
20	VS20_0.1	↓	1					X											Tree- next to temporary gate
21	VS20_0.3	↓	1					X											Tree- next to temporary gate
22	QA01	17/4	1					X											
	QA01A		1					X											Please forward this to Eurofins – TRH, BTEXN, PAHS, metals
23	QA03	17/4	1					X											
	QA03A		1					X											Please forward this to Eurofins – TRH, BTEXN, PAHS, metals
Relinquished By: / WSP: Poushali Talukder			Date/Time: 21/04/2020			Received By: 			Date/Time: 22/4 @ 10.20										
Relinquished By:			Date/Time:			Received By:			Date/Time:										
Samples Intact: Yes / No			Temperature: 11 °C			Sample Security Sealed: Yes / No			Hazards: e.g. may contain Asbestos										
Comments / Subcontracting details:																			

Yin, Emily (Sydney)

From: Donovan, Hamish <Hamish.Donovan@wsp.com>
Sent: Wednesday, 22 April 2020 3:27 PM
To: AU.SampleReceipt.Sydney (Sydney)
Cc: Talukder, Poushali
Subject: RE: [EXTERNAL] PS119057 - CoC

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments. ***

Hi Emily,

Okay thanks. All good re VS16. I think I have a previous result for it.

Please analyse the rinsate and spikes. IDs as follows:

24 Rinsate = RN210420	24	21 (x)
27 Spike1 = TS190420	25	16 (x)
28 Spike2 = TS210420	26	16 (x)

Thanks,

Hamish Donovan
Senior Environmental Scientist



T: +61 2 92725532
M: +61 400 359547
Hamish.Donovan@wsp.com

WSP Australia Pty Limited
Level 27, 680 George Street
Sydney, NSW
2000 Australia

wsp.com

From: AU.SampleReceipt.Sydney (Sydney) <AU.SampleReceipt.Sydney@sgs.com>
Sent: Wednesday, 22 April 2020 3:19 PM
To: Donovan, Hamish <Hamish.Donovan@wsp.com>
Subject: FW: [EXTERNAL] PS119057 - CoC

Thanks Hamish.
VS16_0.0 not received.
Extra samples WC03_0.6, Rinsate and 2xTrip Spike received.
Do you want them analysed?
Please advise as soon as possible.
Thank You.

Regards,

Emily Yin

Yin, Emily (Sydney)

From: Donovan, Hamish <Hamish.Donovan@wsp.com>
Sent: Wednesday, 22 April 2020 4:50 PM
To: AU.SampleReceipt.Sydney (Sydney)
Cc: Talukder, Poushali
Subject: RE: [EXTERNAL] PS119057 - CoC

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments. ***

Hi Emily, you are correct, I should have said VS18_0.1 and VS20_0.1.

Nah just hold TP14_0.5 and TP13_0.7 until I direct otherwise.

Cheers,

Hamish Donovan
Senior Environmental Scientist



T: +61 2 92725532
M: +61 400 359547
Hamish.Donovan@wsp.com

WSP Australia Pty Limited
Level 27, 680 George Street
Sydney, NSW
2000 Australia

wsp.com

From: AU.SampleReceipt.Sydney (Sydney) <AU.SampleReceipt.Sydney@sgs.com>
Sent: Wednesday, 22 April 2020 3:59 PM
To: Donovan, Hamish <Hamish.Donovan@wsp.com>
Cc: Talukder, Poushali <Poushali.Talukder@wsp.com>
Subject: RE: [EXTERNAL] PS119057 - CoC

Thanks Hamish.
Samples were labelled VS instead of TS.
Are they the samples you want to be placed on hold?

Also two samples TP14_0.5 and TP13_0.7 received on 20/4/20 in a bag.
Do you want them analysed?
Please advise as soon as possible.
Thank You.

Regards,

Emily Yin
Environment, Health & Safety
Sample Receipt



SAMPLE RECEIPT ADVICE

SE205381

CLIENT DETAILS

Contact Hamish Donovan
Client WSP AUSTRALIA PTY LIMITED
Address Level 27, Ernst & Young Centre
680 George St
NSW 2000

Telephone 02 9272 1453
Facsimile 02 9272 5101
Email Hamish.Donovan@wsp.com

Project **PS119057-Wentworthville PS Block H Val 2**
Order Number **PS119057**
Samples 26

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Wed 22/4/2020
Report Due Thu 23/4/2020
SGS Reference **SE205381**

SUBMISSION DETAILS

This is to confirm that 26 samples were received on Wednesday 22/4/2020. Results are expected to be ready by COB Thursday 23/4/2020. Please quote SGS reference SE205381 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice
Samples received in correct containers	Yes	Sample counts by matrix	25 Soil, 1 Water
Date documentation received	22/4/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	11°C	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

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SAMPLE RECEIPT ADVICE

SE205381

CLIENT DETAILS

Client WSP AUSTRALIA PTY LIMITED

Project PS119057-Wentworthville PS Block H Val 2

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	VS01_0.0	1	26	7	10	11	7
002	VS02_0.0	1	26	7	10	11	7
003	VS06_0.0	1	26	7	10	11	7
004	VS07A_0.0	1	26	7	10	11	7
005	VS08_0.0	1	26	7	10	11	7
006	VS09_0.0	1	26	7	10	11	7
007	VS10_0.0	1	26	7	10	11	7
008	VS03A_0.0	1	26	7	10	11	7
009	VS03B_0.0	1	26	7	10	11	7
010	VS03C_0.0	1	26	7	10	11	7
011	VS03D_0.0	1	26	7	10	11	7
012	VS03E_0.0	1	26	7	10	11	7
013	VS03F_0.0	1	26	7	10	11	7
014	VS13_0.0	1	26	7	10	11	7
015	VS19_0.1	1	26	7	10	11	7
016	VS14_0.0	1	26	7	10	11	7
017	VS17_0.1	1	26	7	10	11	7
019	VS19_0.3	1	26	7	10	11	7
021	VS20_0.3	1	26	7	10	11	7
022	QA01	1	26	7	10	11	7
023	QA03	1	26	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.



SAMPLE RECEIPT ADVICE

SE205381

CLIENT DETAILS

Client WSP AUSTRALIA PTY LIMITED

Project PS119057-Wentworthville PS Block H Val 2

SUMMARY OF ANALYSIS

No.	Sample ID	VOC's in Soil
025	TS190420	8
026	TS210420	8

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE205381

CLIENT DETAILS

Client WSP AUSTRALIA PTY LIMITED

Project PS119057-Wentworthville PS Block H Val 2

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content	PAH (Polynuclear Aromatic Hydrocarbons) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
001	VS01_0.0	1	-	-	-	-	-
002	VS02_0.0	1	-	-	-	-	-
003	VS06_0.0	1	-	-	-	-	-
004	VS07A_0.0	1	-	-	-	-	-
005	VS08_0.0	1	-	-	-	-	-
006	VS09_0.0	1	-	-	-	-	-
007	VS10_0.0	1	-	-	-	-	-
008	VS03A_0.0	1	-	-	-	-	-
009	VS03B_0.0	1	-	-	-	-	-
010	VS03C_0.0	1	-	-	-	-	-
011	VS03D_0.0	1	-	-	-	-	-
012	VS03E_0.0	1	-	-	-	-	-
013	VS03F_0.0	1	-	-	-	-	-
014	VS13_0.0	1	-	-	-	-	-
015	VS19_0.1	1	-	-	-	-	-
016	VS14_0.0	1	-	-	-	-	-
017	VS17_0.1	1	-	-	-	-	-
019	VS19_0.3	1	-	-	-	-	-
021	VS20_0.3	1	-	-	-	-	-
022	QA01	1	-	-	-	-	-
023	QA03	1	-	-	-	-	-
024	RN210420	-	22	7	9	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.



SAMPLE RECEIPT ADVICE

SE205381

CLIENT DETAILS

Client WSP AUSTRALIA PTY LIMITED

Project PS119057-Wentworthville PS Block H Val 2

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water
024	RN210420	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CLIENT DETAILS

Contact Hamish Donovan
 Client WSP AUSTRALIA PTY LIMITED
 Address Level 27, Ernst & Young Centre
 680 George St
 NSW 2000

Telephone 02 9272 1453
 Facsimile 02 9272 5101
 Email Hamish.Donovan@wsp.com

Project **PS119057- Wentworthville PS Block D**
 Order Number **PS119057**
 Samples 9

LABORATORY DETAILS

Manager Huong Crawford
 Laboratory SGS Alexandria Environmental
 Address Unit 16, 33 Maddox St
 Alexandria NSW 2015

Telephone +61 2 8594 0400
 Facsimile +61 2 8594 0499
 Email au.environmental.sydney@sgs.com

SGS Reference **SE205225 R2**
 Date Received 16/4/2020
 Date Reported 7/5/2020

COMMENTS

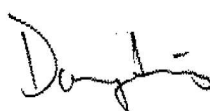
Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

This report cancels and supersedes the report No.SE205225 R1 dated 23/04/20 issued by SGS Environment, Health and Safety due to amended sample description for # 1 as requested.

SIGNATORIES



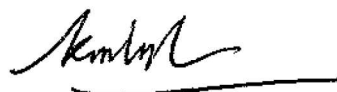
Bennet LO
 Senior Organic Chemist/Metals Chemist



Dong LIANG
 Metals/Inorganics Team Leader



Kamrul AHSAN
 Senior Chemist



Ly Kim HA
 Organic Section Head



ANALYTICAL RESULTS

SE205225 R2

VOC's in Soil [AN433] Tested: 17/4/2020

PARAMETER	UOM	LOR	TP35_0.1	VS12-0.0	VS11-0.0	VS05-0.0	VS05A-0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/4/2020 SE205225.001	16/4/2020 SE205225.002	16/4/2020 SE205225.003	16/4/2020 SE205225.004	16/4/2020 SE205225.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	VS07-0.0	VS15-0.0	VS16-0.0	VS03-0.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			16/4/2020 SE205225.006	16/4/2020 SE205225.007	16/4/2020 SE205225.008	16/4/2020 SE205225.009
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1



ANALYTICAL RESULTS

SE205225 R2

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 17/4/2020

			TP35_0.1	VS12-0.0	VS11-0.0	VS05-0.0	VS05A-0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/4/2020	16/4/2020	16/4/2020	16/4/2020	16/4/2020
PARAMETER	UOM	LOR	SE205225.001	SE205225.002	SE205225.003	SE205225.004	SE205225.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

			VS07-0.0	VS15-0.0	VS16-0.0	VS03-0.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			16/4/2020	16/4/2020	16/4/2020	16/4/2020
PARAMETER	UOM	LOR	SE205225.006	SE205225.007	SE205225.008	SE205225.009
TRH C6-C9	mg/kg	20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25



ANALYTICAL RESULTS

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TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 17/4/2020

PARAMETER	UOM	LOR	TP35_0.1	VS12-0.0	VS11-0.0	VS05-0.0	VS05A-0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/4/2020 SE205225.001	16/4/2020 SE205225.002	16/4/2020 SE205225.003	16/4/2020 SE205225.004	16/4/2020 SE205225.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	VS07-0.0	VS15-0.0	VS16-0.0	VS03-0.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			16/4/2020 SE205225.006	16/4/2020 SE205225.007	16/4/2020 SE205225.008	16/4/2020 SE205225.009
TRH C10-C14	mg/kg	20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 17/4/2020

PARAMETER	UOM	LOR	TP35_0.1	VS12-0.0	VS11-0.0	VS05-0.0	VS05A-0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/4/2020 SE205225.001	16/4/2020 SE205225.002	16/4/2020 SE205225.003	16/4/2020 SE205225.004	16/4/2020 SE205225.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	VS07-0.0	VS15-0.0	VS16-0.0	VS03-0.0
			SOIL	SOIL	SOIL	SOIL
			16/4/2020 SE205225.006	16/4/2020 SE205225.007	16/4/2020 SE205225.008	16/4/2020 SE205225.009
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 17/4/2020

PARAMETER	UOM	LOR	TP35_0.1	VS12-0.0	VS11-0.0	VS05-0.0	VS05A-0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/4/2020 SE205225.001	16/4/2020 SE205225.002	16/4/2020 SE205225.003	16/4/2020 SE205225.004	16/4/2020 SE205225.005
Hexachlorobenzene (HCB)	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	-	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	-	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	-	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	-	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	-	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	-	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 17/4/2020 (continued)

PARAMETER	UOM	LOR	VS07-0.0	VS15-0.0	VS16-0.0	VS03-0.0
			SOIL	SOIL	SOIL	SOIL
			16/4/2020 SE205225.006	16/4/2020 SE205225.007	16/4/2020 SE205225.008	16/4/2020 SE205225.009
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1



ANALYTICAL RESULTS

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Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 17/4/2020

PARAMETER	UOM	LOR	TP35_0.1	VS12-0.0	VS11-0.0	VS05-0.0	VS05A-0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/4/2020 SE205225.001	16/4/2020 SE205225.002	16/4/2020 SE205225.003	16/4/2020 SE205225.004	16/4/2020 SE205225.005
Arsenic, As	mg/kg	1	7	12	11	7	12
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	11	11	13	11	10
Copper, Cu	mg/kg	0.5	15	11	9.3	7.8	12
Lead, Pb	mg/kg	1	58	18	21	17	19
Nickel, Ni	mg/kg	0.5	4.9	2.5	2.4	2.6	2.3
Zinc, Zn	mg/kg	2	76	17	20	12	17

PARAMETER	UOM	LOR	VS07-0.0	VS15-0.0	VS16-0.0	VS03-0.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			16/4/2020 SE205225.006	16/4/2020 SE205225.007	16/4/2020 SE205225.008	16/4/2020 SE205225.009
Arsenic, As	mg/kg	1	14	10	11	10
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	17	16	11	4.2
Copper, Cu	mg/kg	0.5	14	12	13	11
Lead, Pb	mg/kg	1	22	23	19	8
Nickel, Ni	mg/kg	0.5	1.0	1.5	1.8	1.2
Zinc, Zn	mg/kg	2	17	16	25	21



ANALYTICAL RESULTS

SE205225 R2

Mercury in Soil [AN312] Tested: 17/4/2020

			TP35_0.1	VS12-0.0	VS11-0.0	VS05-0.0	VS05A-0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/4/2020	16/4/2020	16/4/2020	16/4/2020	16/4/2020
PARAMETER	UOM	LOR	SE205225.001	SE205225.002	SE205225.003	SE205225.004	SE205225.005
Mercury	mg/kg	0.05	0.06	<0.05	<0.05	<0.05	<0.05

			VS07-0.0	VS15-0.0	VS16-0.0	VS03-0.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			16/4/2020	16/4/2020	16/4/2020	16/4/2020
PARAMETER	UOM	LOR	SE205225.006	SE205225.007	SE205225.008	SE205225.009
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05



ANALYTICAL RESULTS

SE205225 R2

Moisture Content [AN002] Tested: 17/4/2020

			TP35_0.1	VS12-0.0	VS11-0.0	VS05-0.0	VS05A-0.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/4/2020	16/4/2020	16/4/2020	16/4/2020	16/4/2020
PARAMETER	UOM	LOR	SE205225.001	SE205225.002	SE205225.003	SE205225.004	SE205225.005
% Moisture	%w/w	1	7.7	20.3	22.8	18.0	20.4

			VS07-0.0	VS15-0.0	VS16-0.0	VS03-0.0
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			16/4/2020	16/4/2020	16/4/2020	16/4/2020
PARAMETER	UOM	LOR	SE205225.006	SE205225.007	SE205225.008	SE205225.009
% Moisture	%w/w	1	23.8	25.0	21.4	12.7

METHOD

METHODOLOGY SUMMARY

AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE205225 R2

CLIENT DETAILS

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Project **PS119057- Wentworthville PS Block D**
Order Number **PS119057**
Samples 9

LABORATORY DETAILS

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SGS Reference **SE205225 R2**
Date Received 16 Apr 2020
Date Reported 07 May 2020

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	2 items
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	Other Lab	Sample cooling method	None
Samples received in correct containers	Yes	Sample counts by matrix	9 Soil
Date documentation received	16/4/2020 @ 9:28PM	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	21°C	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP35_0.1	SE205225.001	LB197558	16 Apr 2020	16 Apr 2020	14 May 2020	17 Apr 2020	14 May 2020	20 Apr 2020
VS12-0.0	SE205225.002	LB197558	16 Apr 2020	16 Apr 2020	14 May 2020	17 Apr 2020	14 May 2020	20 Apr 2020
VS11-0.0	SE205225.003	LB197558	16 Apr 2020	16 Apr 2020	14 May 2020	17 Apr 2020	14 May 2020	20 Apr 2020
VS05-0.0	SE205225.004	LB197558	16 Apr 2020	16 Apr 2020	14 May 2020	17 Apr 2020	14 May 2020	20 Apr 2020
VS05A-0.0	SE205225.005	LB197558	16 Apr 2020	16 Apr 2020	14 May 2020	17 Apr 2020	14 May 2020	20 Apr 2020
VS07-0.0	SE205225.006	LB197558	16 Apr 2020	16 Apr 2020	14 May 2020	17 Apr 2020	14 May 2020	20 Apr 2020
VS15-0.0	SE205225.007	LB197558	16 Apr 2020	16 Apr 2020	14 May 2020	17 Apr 2020	14 May 2020	20 Apr 2020
VS16-0.0	SE205225.008	LB197558	16 Apr 2020	16 Apr 2020	14 May 2020	17 Apr 2020	14 May 2020	20 Apr 2020
VS03-0.0	SE205225.009	LB197558	16 Apr 2020	16 Apr 2020	14 May 2020	17 Apr 2020	14 May 2020	20 Apr 2020

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP35_0.1	SE205225.001	LB197546	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	22 Apr 2020	20 Apr 2020
VS12-0.0	SE205225.002	LB197546	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	22 Apr 2020	20 Apr 2020
VS11-0.0	SE205225.003	LB197546	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	22 Apr 2020	20 Apr 2020
VS05-0.0	SE205225.004	LB197546	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	22 Apr 2020	20 Apr 2020
VS05A-0.0	SE205225.005	LB197546	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	22 Apr 2020	20 Apr 2020
VS07-0.0	SE205225.006	LB197546	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	22 Apr 2020	20 Apr 2020
VS15-0.0	SE205225.007	LB197546	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	22 Apr 2020	20 Apr 2020
VS16-0.0	SE205225.008	LB197546	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	22 Apr 2020	20 Apr 2020
VS03-0.0	SE205225.009	LB197546	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	22 Apr 2020	20 Apr 2020

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP35_0.1	SE205225.001	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS12-0.0	SE205225.002	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS11-0.0	SE205225.003	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05-0.0	SE205225.004	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05A-0.0	SE205225.005	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS07-0.0	SE205225.006	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS15-0.0	SE205225.007	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS16-0.0	SE205225.008	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS03-0.0	SE205225.009	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP35_0.1	SE205225.001	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS12-0.0	SE205225.002	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS11-0.0	SE205225.003	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05-0.0	SE205225.004	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05A-0.0	SE205225.005	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS07-0.0	SE205225.006	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS15-0.0	SE205225.007	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS16-0.0	SE205225.008	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS03-0.0	SE205225.009	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP35_0.1	SE205225.001	LB197557	16 Apr 2020	16 Apr 2020	13 Oct 2020	17 Apr 2020	13 Oct 2020	20 Apr 2020
VS12-0.0	SE205225.002	LB197557	16 Apr 2020	16 Apr 2020	13 Oct 2020	17 Apr 2020	13 Oct 2020	20 Apr 2020
VS11-0.0	SE205225.003	LB197557	16 Apr 2020	16 Apr 2020	13 Oct 2020	17 Apr 2020	13 Oct 2020	20 Apr 2020
VS05-0.0	SE205225.004	LB197557	16 Apr 2020	16 Apr 2020	13 Oct 2020	17 Apr 2020	13 Oct 2020	20 Apr 2020
VS05A-0.0	SE205225.005	LB197557	16 Apr 2020	16 Apr 2020	13 Oct 2020	17 Apr 2020	13 Oct 2020	20 Apr 2020
VS07-0.0	SE205225.006	LB197557	16 Apr 2020	16 Apr 2020	13 Oct 2020	17 Apr 2020	13 Oct 2020	20 Apr 2020
VS15-0.0	SE205225.007	LB197557	16 Apr 2020	16 Apr 2020	13 Oct 2020	17 Apr 2020	13 Oct 2020	20 Apr 2020
VS16-0.0	SE205225.008	LB197557	16 Apr 2020	16 Apr 2020	13 Oct 2020	17 Apr 2020	13 Oct 2020	20 Apr 2020
VS03-0.0	SE205225.009	LB197557	16 Apr 2020	16 Apr 2020	13 Oct 2020	17 Apr 2020	13 Oct 2020	20 Apr 2020

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP35_0.1	SE205225.001	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS12-0.0	SE205225.002	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
VS11-0.0	SE205225.003	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05-0.0	SE205225.004	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05A-0.0	SE205225.005	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS07-0.0	SE205225.006	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS15-0.0	SE205225.007	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS16-0.0	SE205225.008	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS03-0.0	SE205225.009	LB197545	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP35_0.1	SE205225.001	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS12-0.0	SE205225.002	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS11-0.0	SE205225.003	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05-0.0	SE205225.004	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05A-0.0	SE205225.005	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS07-0.0	SE205225.006	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS15-0.0	SE205225.007	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS16-0.0	SE205225.008	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS03-0.0	SE205225.009	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TP35_0.1	SE205225.001	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS12-0.0	SE205225.002	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS11-0.0	SE205225.003	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05-0.0	SE205225.004	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS05A-0.0	SE205225.005	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS07-0.0	SE205225.006	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS15-0.0	SE205225.007	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS16-0.0	SE205225.008	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020
VS03-0.0	SE205225.009	LB197544	16 Apr 2020	16 Apr 2020	30 Apr 2020	17 Apr 2020	27 May 2020	20 Apr 2020

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-(ENV)QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-(ENV)AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	VS12-0.0	SE205225.002	%	60 - 130%	105
	VS11-0.0	SE205225.003	%	60 - 130%	103
	VS05-0.0	SE205225.004	%	60 - 130%	101
	VS05A-0.0	SE205225.005	%	60 - 130%	103
	VS07-0.0	SE205225.006	%	60 - 130%	93
	VS15-0.0	SE205225.007	%	60 - 130%	113
	VS16-0.0	SE205225.008	%	60 - 130%	105
	VS03-0.0	SE205225.009	%	60 - 130%	107

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-(ENV)AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TP35_0.1	SE205225.001	%	70 - 130%	83
	VS12-0.0	SE205225.002	%	70 - 130%	85
	VS11-0.0	SE205225.003	%	70 - 130%	80
	VS05-0.0	SE205225.004	%	70 - 130%	83
	VS05A-0.0	SE205225.005	%	70 - 130%	88
	VS07-0.0	SE205225.006	%	70 - 130%	83
	VS15-0.0	SE205225.007	%	70 - 130%	84
	VS16-0.0	SE205225.008	%	70 - 130%	79
	VS03-0.0	SE205225.009	%	70 - 130%	83
d14-p-terphenyl (Surrogate)	TP35_0.1	SE205225.001	%	70 - 130%	81
	VS12-0.0	SE205225.002	%	70 - 130%	85
	VS11-0.0	SE205225.003	%	70 - 130%	81
	VS05-0.0	SE205225.004	%	70 - 130%	82
	VS05A-0.0	SE205225.005	%	70 - 130%	80
	VS07-0.0	SE205225.006	%	70 - 130%	85
	VS15-0.0	SE205225.007	%	70 - 130%	80
	VS16-0.0	SE205225.008	%	70 - 130%	79
	VS03-0.0	SE205225.009	%	70 - 130%	79
d5-nitrobenzene (Surrogate)	TP35_0.1	SE205225.001	%	70 - 130%	80
	VS12-0.0	SE205225.002	%	70 - 130%	84
	VS11-0.0	SE205225.003	%	70 - 130%	82
	VS05-0.0	SE205225.004	%	70 - 130%	84
	VS05A-0.0	SE205225.005	%	70 - 130%	81
	VS07-0.0	SE205225.006	%	70 - 130%	83
	VS15-0.0	SE205225.007	%	70 - 130%	81
	VS16-0.0	SE205225.008	%	70 - 130%	79
	VS03-0.0	SE205225.009	%	70 - 130%	82

VOC's in Soil

Method: ME-(AU)-(ENV)AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP35_0.1	SE205225.001	%	60 - 130%	97
	VS12-0.0	SE205225.002	%	60 - 130%	97
	VS11-0.0	SE205225.003	%	60 - 130%	92
	VS05-0.0	SE205225.004	%	60 - 130%	96
	VS05A-0.0	SE205225.005	%	60 - 130%	93
	VS07-0.0	SE205225.006	%	60 - 130%	98
	VS15-0.0	SE205225.007	%	60 - 130%	95
	VS16-0.0	SE205225.008	%	60 - 130%	102
	VS03-0.0	SE205225.009	%	60 - 130%	98
d4-1,2-dichloroethane (Surrogate)	TP35_0.1	SE205225.001	%	60 - 130%	119
	VS12-0.0	SE205225.002	%	60 - 130%	116
	VS11-0.0	SE205225.003	%	60 - 130%	109
	VS05-0.0	SE205225.004	%	60 - 130%	116
	VS05A-0.0	SE205225.005	%	60 - 130%	108
	VS07-0.0	SE205225.006	%	60 - 130%	118
	VS15-0.0	SE205225.007	%	60 - 130%	113
	VS16-0.0	SE205225.008	%	60 - 130%	124
	VS03-0.0	SE205225.009	%	60 - 130%	118
d8-toluene (Surrogate)	TP35_0.1	SE205225.001	%	60 - 130%	113
	VS12-0.0	SE205225.002	%	60 - 130%	110
	VS11-0.0	SE205225.003	%	60 - 130%	98

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	VS05-0.0	SE205225.004	%	60 - 130%	111
	VS05A-0.0	SE205225.005	%	60 - 130%	102
	VS07-0.0	SE205225.006	%	60 - 130%	113
	VS15-0.0	SE205225.007	%	60 - 130%	108
	VS16-0.0	SE205225.008	%	60 - 130%	118
	VS03-0.0	SE205225.009	%	60 - 130%	110

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TP35_0.1	SE205225.001	%	60 - 130%	97
	VS12-0.0	SE205225.002	%	60 - 130%	97
	VS11-0.0	SE205225.003	%	60 - 130%	92
	VS05-0.0	SE205225.004	%	60 - 130%	96
	VS05A-0.0	SE205225.005	%	60 - 130%	93
	VS07-0.0	SE205225.006	%	60 - 130%	98
	VS15-0.0	SE205225.007	%	60 - 130%	95
	VS16-0.0	SE205225.008	%	60 - 130%	102
	VS03-0.0	SE205225.009	%	60 - 130%	98
d4-1,2-dichloroethane (Surrogate)	TP35_0.1	SE205225.001	%	60 - 130%	119
	VS12-0.0	SE205225.002	%	60 - 130%	116
	VS11-0.0	SE205225.003	%	60 - 130%	109
	VS05-0.0	SE205225.004	%	60 - 130%	116
	VS05A-0.0	SE205225.005	%	60 - 130%	108
	VS07-0.0	SE205225.006	%	60 - 130%	118
	VS15-0.0	SE205225.007	%	60 - 130%	113
	VS16-0.0	SE205225.008	%	60 - 130%	124
	VS03-0.0	SE205225.009	%	60 - 130%	118
d8-toluene (Surrogate)	TP35_0.1	SE205225.001	%	60 - 130%	113
	VS12-0.0	SE205225.002	%	60 - 130%	110
	VS11-0.0	SE205225.003	%	60 - 130%	98
	VS05-0.0	SE205225.004	%	60 - 130%	111
	VS05A-0.0	SE205225.005	%	60 - 130%	102
	VS07-0.0	SE205225.006	%	60 - 130%	113
	VS15-0.0	SE205225.007	%	60 - 130%	108
	VS16-0.0	SE205225.008	%	60 - 130%	118
	VS03-0.0	SE205225.009	%	60 - 130%	110

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB197558.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB197545.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Endrin Ketone	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	96

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB197545.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
	d5-nitrobenzene (Surrogate)	%	-	94
	2-fluorobiphenyl (Surrogate)	%	-	98
	d14-p-terphenyl (Surrogate)	%	-	93
Surrogates				

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB197557.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES (continued)

Method: ME-(AU)-(ENV)AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB197557.001	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-(ENV)AN403

Sample Number	Parameter	Units	LOR	Result
LB197545.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-(ENV)AN433

Sample Number		Parameter	Units	LOR	Result
LB197544.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	125
		d8-toluene (Surrogate)	%	-	118
		Bromofluorobenzene (Surrogate)	%	-	105
	Totals	Total BTEX	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-(ENV)AN433

Sample Number	Parameter	Units	LOR	Result
LB197544.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205225.009	LB197558.013	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205225.005	LB197546.011	% Moisture	%w/w	1	20.4	19.1	35	7
SE205227.003	LB197546.019	% Moisture	%w/w	1	12.7	12.2	38	4

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205227.003	LB197545.022	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.16	30	1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205225.005	LB197545.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]JAN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205225.005	LB197545.014	Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	9
SE205225.009	LB197545.023	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
		Naphthalene	mg/kg	0.1	<0.1	0	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	0	200	0
		Acenaphthene	mg/kg	0.1	<0.1	0.0006905190	200	0
		Fluorene	mg/kg	0.1	<0.1	0.0024630690	200	0
		Phenanthrene	mg/kg	0.1	<0.1	0.0008252105	200	0
		Anthracene	mg/kg	0.1	<0.1	0.0007373188	200	0
		Fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Pyrene	mg/kg	0.1	<0.1	0	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	0.0051835051	200	0
		Chrysene	mg/kg	0.1	<0.1	0.0052405515	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	0	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	0	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	0	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	mg/kg	0.2	<0.2	0	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	mg/kg	0.3	<0.3	0.242	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	mg/kg	0.2	<0.2	0.121	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	0	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4177306038	30	2
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4216937561	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.3967407208	30	1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]JAN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205225.009	LB197557.013	Arsenic, As	mg/kg	1	10	7	42	39
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	4.2	2.7	45	43
		Copper, Cu	mg/kg	0.5	11	7.1	35	47 @
		Nickel, Ni	mg/kg	0.5	1.2	0.9	76	26
		Lead, Pb	mg/kg	1	8	5	45	39
		Zinc, Zn	mg/kg	2	21	12	42	52 @

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]JAN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205225.005	LB197545.014	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE205225.009	LB197545.023	TRH C10-C14	mg/kg	20	<20	0	200	0
		TRH C15-C28	mg/kg	45	<45	0	200	0
		TRH C29-C36	mg/kg	45	<45	0	200	0
		TRH C37-C40	mg/kg	100	<100	0	200	0
		TRH C10-C36 Total	mg/kg	110	<110	0	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	0	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-(ENV)AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205225.009	LB197545.023	TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	0	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	0	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	0	200	0
SE205227.003	LB197545.022	TRH >C34-C40 (F4)	mg/kg	120	<120	0	200	0
		TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands						
		TRH >C10-C16	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-(ENV)AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205225.005	LB197544.014	Monocyclic						
		Aromatic						
		Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
		o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic						
		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.8	11.8	50	9
		d8-toluene (Surrogate)	mg/kg	-	10.2	11.0	50	7
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	9.8	50	5
		Totals						
SE205227.003	LB197544.022	Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
		Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
		Monocyclic						
		Aromatic						
		Benzene	mg/kg	0.1	<0.1	<0.1	200	0
		Toluene	mg/kg	0.1	<0.1	<0.1	200	0
		Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
		o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic						
		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.1	11.4	50	6
		d8-toluene (Surrogate)	mg/kg	-	11.2	10.6	50	6
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	9.2	50	4
		Totals						
		Total Xylenes	mg/kg	0.3	<0.3	<0.3	200	0
		Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-(ENV)AN433

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205225.005	LB197544.014	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	10.8	11.8	30	9
		d8-toluene (Surrogate)	mg/kg	-	10.2	11.0	30	7
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	9.8	30	5
		VPH F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
SE205227.003	LB197544.022	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
		TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.1	11.4	30	6
		d8-toluene (Surrogate)	mg/kg	-	11.2	10.6	30	6
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.6	9.2	30	4
		VPH F Bands						
		Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197558.002	Mercury	mg/kg	0.05	0.18	0.2	70 - 130	91

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197545.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	100
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	90
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	90
	Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	94
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	93
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	85
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	95

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197545.002	Naphthalene	mg/kg	0.1	3.9	4	60 - 140	97
	Acenaphthylene	mg/kg	0.1	4.2	4	60 - 140	104
	Acenaphthene	mg/kg	0.1	4.1	4	60 - 140	103
	Phenanthrene	mg/kg	0.1	4.1	4	60 - 140	101
	Anthracene	mg/kg	0.1	3.8	4	60 - 140	95
	Fluoranthene	mg/kg	0.1	3.7	4	60 - 140	92
	Pyrene	mg/kg	0.1	3.9	4	60 - 140	99
	Benzo(a)pyrene	mg/kg	0.1	3.8	4	60 - 140	95
Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	85
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	93
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	74

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197557.002	Arsenic, As	mg/kg	1	360	318.22	80 - 120	112
	Cadmium, Cd	mg/kg	0.3	5.8	5.41	80 - 120	106
	Chromium, Cr	mg/kg	0.5	37	38.31	80 - 120	98
	Copper, Cu	mg/kg	0.5	340	290	80 - 120	116
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	98
	Lead, Pb	mg/kg	1	99	89.9	80 - 120	110
	Zinc, Zn	mg/kg	2	300	273	80 - 120	111

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197545.002	TRH C10-C14	mg/kg	20	38	40	60 - 140	95
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	98
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	78
	TRH >C10-C16	mg/kg	25	38	40	60 - 140	95
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	93
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197544.002	Monocyclic	Benzene	mg/kg	0.1	3.8	5	60 - 140	77
	Aromatic	Toluene	mg/kg	0.1	4.0	5	60 - 140	80
		Ethylbenzene	mg/kg	0.1	4.2	5	60 - 140	84
		m/p-xylene	mg/kg	0.2	8.4	10	60 - 140	84
		o-xylene	mg/kg	0.1	4.2	5	60 - 140	83
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.3	10	70 - 130	123
		d8-toluene (Surrogate)	mg/kg	-	11.8	10	70 - 130	118
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.7	10	70 - 130	107

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB197544.002	TRH C6-C10	mg/kg	25	73	92.5	60 - 140	79	
	TRH C6-C9	mg/kg	20	64	80	60 - 140	80	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.3	10	70 - 130	123
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.7	10	70 - 130	107



LABORATORY CONTROL SAMPLES

SE205225 R2

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197544.002	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	48	62.5	60 - 140	77

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-(ENV)QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-(ENV)JAN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205225.001	LB197558.004	Mercury	mg/kg	0.05	0.24	0.06	0.2	92

OC Pesticides in Soil

Method: ME-(AU)-(ENV)JAN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205208.001	LB197545.004	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	101
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	94
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	89
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	<0.2	<0.2	0.2	92
		Endrin	mg/kg	0.2	<0.2	<0.2	0.2	92
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	88
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
		Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.16	-	103	

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-(ENV)JAN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205208.001	LB197545.004	Naphthalene	mg/kg	0.1	3.9	<0.1	4	97
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.0	<0.1	4	100
		Acenaphthene	mg/kg	0.1	4.0	<0.1	4	101
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	3.9	<0.1	4	97
		Anthracene	mg/kg	0.1	3.6	<0.1	4	89
		Fluoranthene	mg/kg	0.1	3.7	0.2	4	86
		Pyrene	mg/kg	0.1	3.8	0.2	4	90
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	3.7	0.1	4	90
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	3.7	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	3.9	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	3.8	<0.2	-	-
		Surrogates	Total PAH (18)	mg/kg	0.8	31	<0.8	-
d5-nitrobenzene (Surrogate)	mg/kg		-	0.4	0.4	-	83	

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE205208.001	LB197545.004	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	89
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	72

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205225.001	LB197557.004	Arsenic, As	mg/kg	1	55	7	50	95
		Cadmium, Cd	mg/kg	0.3	48	<0.3	50	95
		Chromium, Cr	mg/kg	0.5	57	11	50	93
		Copper, Cu	mg/kg	0.5	64	15	50	97
		Nickel, Ni	mg/kg	0.5	51	4.9	50	93
		Lead, Pb	mg/kg	1	81	58	50	46 Ⓣ
		Zinc, Zn	mg/kg	2	110	76	50	72

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE205208.001	LB197545.004	TRH C10-C14	mg/kg	20	50	<20	40	125	
		TRH C15-C28	mg/kg	45	45	<45	40	113	
		TRH C29-C36	mg/kg	45	<45	<45	40	90	
		TRH C37-C40	mg/kg	100	<100	<100	-	-	
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-	
		TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-	
		TRH F Bands	TRH >C10-C16	mg/kg	25	48	<25	40	120
		TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	44	<25	-	-	
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	103	
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-	

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205208.001	LB197544.004	Monocyclic	Benzene	mg/kg	0.1	3.5	<0.1	5	69
		Aromatic	Toluene	mg/kg	0.1	3.7	<0.1	5	73
			Ethylbenzene	mg/kg	0.1	3.9	<0.1	5	77
			m/p-xylene	mg/kg	0.2	7.9	<0.2	10	78
			o-xylene	mg/kg	0.1	3.9	<0.1	5	78
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.9	12.7	10	119
			d8-toluene (Surrogate)	mg/kg	-	11.4	12.0	10	114
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.5	10.7	10	105
		Totals	Total Xylenes	mg/kg	0.3	12	<0.3	-	-
			Total BTEX	mg/kg	0.6	23	<0.6	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205208.001	LB197544.004	TRH C6-C10	mg/kg	25	63	<25	92.5	67
		TRH C6-C9	mg/kg	20	56	<20	80	69
		Surrogates						
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	11.9	12.7	10	119
		d8-toluene (Surrogate)	mg/kg	-	11.4	12.0	10	114
		Bromofluorobenzene (Surrogate)	mg/kg	-	10.5	10.7	-	105
		VPH F						
		Benzene (F0)	mg/kg	0.1	3.5	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	ma/kq	25	40	<25	62.5	63



MATRIX SPIKE DUPLICATES

SE205225 R2

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : <https://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

- * NATA accreditation does not cover the performance of this service.
 - ** Indicative data, theoretical holding time exceeded.
 - Sample not analysed for this analyte.
 - IS Insufficient sample for analysis.
 - LNR Sample listed, but not received.
 - LOR Limit of reporting.
 - QFH QC result is above the upper tolerance.
 - QFL QC result is below the lower tolerance.
-
- ① At least 2 of 3 surrogates are within acceptance criteria.
 - ② RPD failed acceptance criteria due to sample heterogeneity.
 - ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
 - ④ Recovery failed acceptance criteria due to matrix interference.
 - ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
 - ⑥ LOR was raised due to sample matrix interference.
 - ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
 - ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
 - ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
 - ⑩ LOR was raised due to high conductivity of the sample (required dilution).
 - † Refer to relevant report comments for further information.

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SGS**E-MAILED**

16/4 @ 9.28

CHAIN OF CUSTODY & ANALYSIS REQUESTPage 1 of 1

SGS Environmental Services Sydney
Unit 16, 33 Maddox Street
Alexandria NSW 2015

Telephone No: (02) 85940400

Facsimile No: (02) 85940499

Email: au.sample@sgs.com

Lab ID Number: (please quote on correspondence)

Company
Name:

WSP

Project Name/No:

PS119057 – Wentworthville PS Block D

Address:

Level 27, Ernst & Young Centre

Purchase Order
No:

680 George Street

Results Required
Date:

24h TAT

Sydney NSW 2000

Telephone:

D: 0400 359 547

Contact Name:

Hamish Donovan / Poushali Talukder

Email Results to:

Hamish.Donovan@wsp.com, Poushali.talukder@wsp.com,

Quotation No:

SY141023-1-IS

Lella.bowe@wsp.com

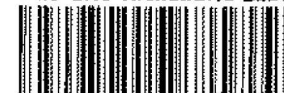
Matrix
(Tick as
appropriate)

ANALYSIS REQUESTED

Additional Report Formats

SGS ID	Client Sample ID	Report ID	Matrix (Tick as appropriate)			NO. OF CONTAINERS	ANALYSIS REQUESTED										Notes/Guidelines/LOR/ Special Instructions
			Soil Sample	Water Sample	FRAGMENT		CL10	DDT	Hex	CL5							
1	WC01_0.1		1				X										
2	WC02_0.2		1						X								
	WC01_0.1 (bag)		1						X								
	WC02_0.2 (bag)		1						X								
3	VS12-0.3						1	1									
4	VS11-0.3						1	1									
5	VS05-0.5						1	1									
6	VS05-1.4						1	1									
7	VS07-0.3						1	1									
8	VS15-0.6						1	1									
9	VS16-0.6						1	1									
	VS03-1.4						1	1									

SGS EHS Alexandria Laboratory

**SE205225 COC**

Received: 16 – Apr – 2020

Trench sample

Trench sample

Trench sample

Tank wall sample

Relinquished By: / WSP

Date/Time:

Received By: *[Signature]*

Date/Time:

16/04 14:50

Relinquished By:

Date/Time:

Received By:

Date/Time:

Samples Intact: ☒ / No

Temperature: 21 °C

Sample Security Sealed: Yes / ☒ No

Hazards: e.g. may contain Asbestos

Yin, Emily (Sydney)

From: AU.Environmental.Sydney (Sydney)
Sent: Thursday, 23 April 2020 3:55 PM
To: AU.SampleReceipt.Sydney (Sydney)
Subject: FW: [EXTERNAL] RE: Report Job SE205225, your reference PS119057-Wentworthville PS Block D, order number PS119057

Hi Emily,

Can you please amend the depths as below and let me know? Thanks.

Kind Regards,

Huong Crawford
Environment, Health & Safety
Production Manager
SGS Australia Pty Ltd
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Phone: +61 (0)2 8594 0403
Fax: + 61 (0)2 8594 0499
E-mail: Huong.Crawford@sgs.com
Web: www.au.sgs.com
View Your Results Online: engage.sgs.com

-----Original Message-----

From: Donovan, Hamish <Hamish.Donovan@wsp.com>
Sent: Thursday, 23 April 2020 3:52 PM
To: AU.Environmental.Sydney (Sydney) <AU.Environmental.Sydney@sgs.com>
Cc: Talukder, Poushali <Poushali.Talukder@wsp.com>
Subject: [EXTERNAL] RE: Report Job SE205225, your reference PS119057- Wentworthville PS Block D, order number PS119057

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments. ***

Hi team,

If possible, can I please have the depths on this report amended as follows:

VS12-0.3 change to VS12-0.0
VS11-0.3 change to VS11-0.0
VS05-0.5 change to VS05-0.0
VS05-1.4 change to VS05A-0.0
VS07-0.3 change to VS07-0.0
VS15-0.6 change to VS15-0.0
VS16-0.6 change to VS16-0.0
VS03-1.4 change to VS03-0.0

Thank you!



SAMPLE RECEIPT ADVICE

SE205225

CLIENT DETAILS

Contact Hamish Donovan
Client WSP AUSTRALIA PTY LIMITED
Address Level 27, Ernst & Young Centre
680 George St
NSW 2000

Telephone 02 9272 1453
Facsimile 02 9272 5101
Email Hamish.Donovan@wsp.com

Project **PS119057- Wentworthville PS Block D**
Order Number **PS119057**
Samples 9

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Thu 16/4/2020
Report Due Mon 20/4/2020
SGS Reference **SE205225**

SUBMISSION DETAILS

This is to confirm that 9 samples were received on Thursday 16/4/2020. Results are expected to be ready by COB Monday 20/4/2020. Please quote SGS reference SE205225 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	Other Lab	Sample cooling method	None
Samples received in correct containers	Yes	Sample counts by matrix	9 Soil
Date documentation received	16/4/2020 @ 9:28PM	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	21°C	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

1 sample has been placed on hold as no tests have been assigned for it. This sample will not be processed.
WC01_0.1(bag) and WC02_0.2(bag) not received.

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SAMPLE RECEIPT ADVICE

SE205225

CLIENT DETAILS

Client WSP AUSTRALIA PTY LIMITED

Project PS119057- Wentworthville PS Block D

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	OC Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	WC01_0.1	1	-	26	7	10	11	7
002	VS12-0.0	1	29	26	7	10	11	7
003	VS11-0.0	1	29	26	7	10	11	7
004	VS05-0.0	1	29	26	7	10	11	7
005	VS05A-0.0	1	29	26	7	10	11	7
006	VS07-0.0	1	29	26	7	10	11	7
007	VS15-0.0	1	29	26	7	10	11	7
008	VS16-0.0	1	29	26	7	10	11	7
009	VS03-0.0	1	29	26	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE205225

CLIENT DETAILS

Client WSP AUSTRALIA PTY LIMITED

Project PS119057- Wentworthville PS Block D

SUMMARY OF ANALYSIS

No.	Sample ID	Moisture Content
001	WC01_0.1	1
002	VS12-0.0	1
003	VS11-0.0	1
004	VS05-0.0	1
005	VS05A-0.0	1
006	VS07-0.0	1
007	VS15-0.0	1
008	VS16-0.0	1
009	VS03-0.0	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CLIENT DETAILS

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 NSW 2000

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Project **PS119057**
 Order Number **PS119057**
 Samples 1

LABORATORY DETAILS

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 Alexandria NSW 2015

Telephone +61 2 8594 0400
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 Email au.environmental.sydney@sgs.com

SGS Reference **SE205447 R0**
 Date Received 23/4/2020
 Date Reported 24/4/2020

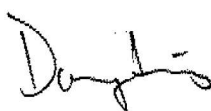
COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES



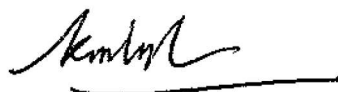
Bennet LO
 Senior Organic Chemist/Metals Chemist



Dong LIANG
 Metals/Inorganics Team Leader



Kamrul AHSAN
 Senior Chemist



Ly Kim HA
 Organic Section Head



ANALYTICAL RESULTS

SE205447 R0

VOC's in Soil [AN433] Tested: 23/4/2020

			VS21_0.0
			SOIL
			-
			23/4/2020
			SE205447.001
PARAMETER	UOM	LOR	
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes	mg/kg	0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1



ANALYTICAL RESULTS

SE205447 R0

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 23/4/2020

			VS21_0.0
			SOIL
			-
			23/4/2020
PARAMETER	UOM	LOR	SE205447.001
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25



ANALYTICAL RESULTS

SE205447 R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 23/4/2020

			VS21_0.0
			SOIL
			-
			23/4/2020
			SE205447.001
PARAMETER	UOM	LOR	
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	<45
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210



ANALYTICAL RESULTS

SE205447 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 23/4/2020

			VS21_0.0
			SOIL
			-
			23/4/2020
PARAMETER	UOM	LOR	SE205447.001
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8



ANALYTICAL RESULTS

SE205447 R0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 23/4/2020

			VS21_0.0
			SOIL
			-
			23/4/2020
			SE205447.001
PARAMETER	UOM	LOR	
Arsenic, As	mg/kg	1	9
Cadmium, Cd	mg/kg	0.3	0.4
Chromium, Cr	mg/kg	0.5	18
Copper, Cu	mg/kg	0.5	35
Lead, Pb	mg/kg	1	200
Nickel, Ni	mg/kg	0.5	7.3
Zinc, Zn	mg/kg	2	220



ANALYTICAL RESULTS

SE205447 R0

Mercury in Soil [AN312] Tested: 23/4/2020

			VS21_0.0
			SOIL
			-
			23/4/2020
			SE205447.001
PARAMETER	UOM	LOR	
Mercury	mg/kg	0.05	0.06



ANALYTICAL RESULTS

SE205447 R0

Moisture Content [AN002] Tested: 23/4/2020

			VS21_0.0
			SOIL
			-
			23/4/2020
			SE205447.001
PARAMETER	UOM	LOR	
% Moisture	%w/w	1	8.4

METHOD

METHODOLOGY SUMMARY

AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	Carcinogenic PAHs may be expressed as Benzo(a)pyrene equivalents by applying the BaP toxicity equivalence factor (NEPM 1999, June 2013, B7). These can be reported as the individual PAHs and as a sum of carcinogenic PAHs. The sum is reported three ways, the first assuming all <LOR results are zero, the second assuming all < LOR results are half the LOR and the third assuming all <LOR results are the LOR.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the $\pm$ sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE205447 R0

CLIENT DETAILS

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Project **PS119057**
Order Number **PS119057**
Samples 1

LABORATORY DETAILS

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Email au.environmental.sydney@sgs.com

SGS Reference **SE205447 R0**
Date Received 23 Apr 2020
Date Reported 24 Apr 2020

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	3 items
Matrix Spike	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	3 items

SAMPLE SUMMARY



HOLDING TIME SUMMARY

SE205447 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
VS21_0.0	SE205447.001	LB197990	23 Apr 2020	23 Apr 2020	21 May 2020	23 Apr 2020	21 May 2020	24 Apr 2020

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
VS21_0.0	SE205447.001	LB197996	23 Apr 2020	23 Apr 2020	07 May 2020	23 Apr 2020	28 Apr 2020	24 Apr 2020

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
VS21_0.0	SE205447.001	LB197994	23 Apr 2020	23 Apr 2020	07 May 2020	23 Apr 2020	02 Jun 2020	24 Apr 2020

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
VS21_0.0	SE205447.001	LB197989	23 Apr 2020	23 Apr 2020	20 Oct 2020	23 Apr 2020	20 Oct 2020	24 Apr 2020

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
VS21_0.0	SE205447.001	LB197994	23 Apr 2020	23 Apr 2020	07 May 2020	23 Apr 2020	02 Jun 2020	24 Apr 2020

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
VS21_0.0	SE205447.001	LB197992	23 Apr 2020	23 Apr 2020	07 May 2020	23 Apr 2020	02 Jun 2020	24 Apr 2020

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
VS21_0.0	SE205447.001	LB197992	23 Apr 2020	23 Apr 2020	07 May 2020	23 Apr 2020	02 Jun 2020	24 Apr 2020

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-(ENV)QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-(ENV)AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	VS21_0.0	SE205447.001	%	70 - 130%	86
d14-p-terphenyl (Surrogate)	VS21_0.0	SE205447.001	%	70 - 130%	81
d5-nitrobenzene (Surrogate)	VS21_0.0	SE205447.001	%	70 - 130%	80

VOC's in Soil

Method: ME-(AU)-(ENV)AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	VS21_0.0	SE205447.001	%	60 - 130%	103
d4-1,2-dichloroethane (Surrogate)	VS21_0.0	SE205447.001	%	60 - 130%	117
d8-toluene (Surrogate)	VS21_0.0	SE205447.001	%	60 - 130%	115

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-(ENV)AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	VS21_0.0	SE205447.001	%	60 - 130%	103
d4-1,2-dichloroethane (Surrogate)	VS21_0.0	SE205447.001	%	60 - 130%	117
d8-toluene (Surrogate)	VS21_0.0	SE205447.001	%	60 - 130%	115

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB197990.001	Mercury	mg/kg	0.05	<0.05

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB197994.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
Surrogates	d5-nitrobenzene (Surrogate)	%	-	90
	2-fluorobiphenyl (Surrogate)	%	-	92
	d14-p-terphenyl (Surrogate)	%	-	96

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB197989.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB197994.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB197992.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	125
		d8-toluene (Surrogate)	%	-	120
		Bromofluorobenzene (Surrogate)	%	-	112
	Totals	Total BTEX	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result
LB197992.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205419.002	LB197990.014	Mercury	mg/kg	0.05	0.01070122320	0.0080403785	200	0
SE205447.001	LB197990.020	Mercury	mg/kg	0.05	0.06	0.06	108	1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205419.002	LB197989.014	Arsenic, As	mg/kg	1	2.72935907343	1.432230504	64	14
		Cadmium, Cd	mg/kg	0.3	0.10487058410	0.0506478725	200	0
		Chromium, Cr	mg/kg	0.5	33.58111174512	4.753253982	32	92 @
		Copper, Cu	mg/kg	0.5	2.41774438420	3.812608208	66	131 @
		Nickel, Ni	mg/kg	0.5	1.85972257981	2.515040780	62	39
		Lead, Pb	mg/kg	1	9.44745520339	9.9096725853	40	5
		Zinc, Zn	mg/kg	2	10.36629816875	5.5055693008	55	61 @
SE205447.001	LB197989.021	Arsenic, As	mg/kg	1	9	10	41	5
		Cadmium, Cd	mg/kg	0.3	0.4	0.4	105	6
		Chromium, Cr	mg/kg	0.5	18	22	32	20
		Copper, Cu	mg/kg	0.5	35	34	31	5
		Nickel, Ni	mg/kg	0.5	7.3	6.8	37	7
		Lead, Pb	mg/kg	1	200	200	31	1
		Zinc, Zn	mg/kg	2	220	200	31	7

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197990.002	Mercury	mg/kg	0.05	0.15	0.2	70 - 130	75

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197994.002	Naphthalene	mg/kg	0.1	4.2	4	60 - 140	105
	Acenaphthylene	mg/kg	0.1	4.4	4	60 - 140	110
	Acenaphthene	mg/kg	0.1	4.0	4	60 - 140	100
	Phenanthrene	mg/kg	0.1	4.4	4	60 - 140	110
	Anthracene	mg/kg	0.1	4.3	4	60 - 140	107
	Fluoranthene	mg/kg	0.1	4.0	4	60 - 140	101
	Pyrene	mg/kg	0.1	4.3	4	60 - 140	108
	Benzo(a)pyrene	mg/kg	0.1	4.7	4	60 - 140	118
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	90
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197989.002	Arsenic, As	mg/kg	1	330	318.22	80 - 120	103
	Cadmium, Cd	mg/kg	0.3	5.5	5.41	80 - 120	101
	Chromium, Cr	mg/kg	0.5	32	38.31	80 - 120	84
	Copper, Cu	mg/kg	0.5	290	290	80 - 120	102
	Nickel, Ni	mg/kg	0.5	180	187	80 - 120	95
	Lead, Pb	mg/kg	1	92	89.9	80 - 120	103
	Zinc, Zn	mg/kg	2	270	273	80 - 120	100

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197994.002	TRH C10-C14	mg/kg	20	39	40	60 - 140	98
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	90
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	78
	TRH F Bands						
	TRH >C10-C16	mg/kg	25	39	40	60 - 140	98
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	83
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB197992.002	Monocyclic	Benzene	mg/kg	0.1	4.4	5	60 - 140	88
	Aromatic	Toluene	mg/kg	0.1	4.6	5	60 - 140	91
		Ethylbenzene	mg/kg	0.1	4.7	5	60 - 140	93
		m/p-xylene	mg/kg	0.2	9.4	10	60 - 140	94
		o-xylene	mg/kg	0.1	4.7	5	60 - 140	93
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.7	10	70 - 130	127
		d8-toluene (Surrogate)	mg/kg	-	12.6	10	70 - 130	126
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.6	10	70 - 130	116

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB197992.002	TRH C6-C10	mg/kg	25	79	92.5	60 - 140	85	
	TRH C6-C9	mg/kg	20	69	80	60 - 140	86	
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	12.7	10	70 - 130	127
		Bromofluorobenzene (Surrogate)	mg/kg	-	11.6	10	70 - 130	116
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	51	62.5	60 - 140	82



MATRIX SPIKES

SE205447 R0

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-(ENV)QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-(ENV)AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205421.001	LB197990.004	Mercury	mg/kg	0.05	0.17	0.00692787958	0.2	82

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-(ENV)AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE205421.001	LB197989.004	Arsenic, As	mg/kg	1	340	36.8302405474	50	6 ④
		Cadmium, Cd	mg/kg	0.3	NVL	NVL	NVL	NVL
		Chromium, Cr	mg/kg	0.5	94	56.9397586891	50	74
		Copper, Cu	mg/kg	0.5	1300	25.2368972433	50	2085 ④
		Nickel, Ni	mg/kg	0.5	NVL	NVL	NVL	NVL
		Lead, Pb	mg/kg	1	150	06.8295531203	50	78
		Zinc, Zn	mg/kg	2	2900	596.132085947	50	601 ④



MATRIX SPIKE DUPLICATES

SE205447 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: <https://www.sgs.com.au/-/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

- * NATA accreditation does not cover the performance of this service.
 - ** Indicative data, theoretical holding time exceeded.
 - Sample not analysed for this analyte.
 - IS Insufficient sample for analysis.
 - LNR Sample listed, but not received.
 - LOR Limit of reporting.
 - QFH QC result is above the upper tolerance.
 - QFL QC result is below the lower tolerance.
-
- ① At least 2 of 3 surrogates are within acceptance criteria.
 - ② RPD failed acceptance criteria due to sample heterogeneity.
 - ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
 - ④ Recovery failed acceptance criteria due to matrix interference.
 - ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
 - ⑥ LOR was raised due to sample matrix interference.
 - ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
 - ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
 - ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
 - ⑩ LOR was raised due to high conductivity of the sample (required dilution).
 - † Refer to relevant report comments for further information.

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SGS

SGS Environmental Services Sydney
Unit 16, 33 Maddox Street
Alexandria NSW 2015
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Facsimile No: (02) 85940499
Email: au.sampleresults@sgs.com

Lab ID Number: (please quote on correspondence)

CHAIN OF CUSTODY & ANALYSIS REQUESTPage 1 of 1

Company Name:	WSP		Project Name/No:	PS114057	
Address:	Level 27, 680 George Street		Purchase Order No:	PS114057	
	Sydney NSW 2000		Results Required Date:	24TAT	
Contact Name:	Hamish Donovan/Poushadi Talukder		Telephone:	0449565381	Fax:
Quotation No:	SY141023-1-15		Email Results to:	Hamish.Donovan @ WSP.COM Leila.Bowe @ WSP.COM	

Matrix (Tick as appropriate)			NO. OF CONTAINERS	ANALYSIS REQUESTED												Additional Report Formats		Notes/Guidelines/LOR/ Special Instructions
Soil Sample	Water Sample	Other														☐ NEPM ☐ CSV ☐ ESDAT ☐ DOO ☐ GO, Guidelines ☐ Others		
			1	CLIO														
1	VS21-0-0	23/09/20	1		1	X												Middle tree

SGS EHS Alexandria Laboratory

**SE205447 COC**

Received: 23-Apr-2020

Relinquished By: Poushadi Talukder	Date/Time: 23/09/20	Received By: [Signature]	Date/Time: 23/4/20 5.20
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: Yes / No	Temperature: 20 °C	Sample Security Sealed: Yes / No	Hazards: e.g. may contain Asbestos

Comments / Subcontracting details:



SAMPLE RECEIPT ADVICE

SE205447

CLIENT DETAILS

Contact Hamish Donovan
Client WSP AUSTRALIA PTY LIMITED
Address Level 27, Ernst & Young Centre
680 George St
NSW 2000

Telephone 02 9272 1453
Facsimile 02 9272 5101
Email Hamish.Donovan@wsp.com

Project **PS119057**
Order Number **PS119057**
Samples 1

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
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Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Thu 23/4/2020
Report Due Fri 24/4/2020
SGS Reference **SE205447**

SUBMISSION DETAILS

This is to confirm that 1 sample was received on Thursday 23/4/2020. Results are expected to be ready by COB Friday 24/4/2020. Please quote SGS reference SE205447 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	None
Samples received in correct containers	Yes	Sample counts by matrix	1 Soil
Date documentation received	23/4/2020	Type of documentation received	COC
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	20°C	Sufficient sample for analysis	Yes
Turnaround time requested	Same Day		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

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SAMPLE RECEIPT ADVICE

SE205447

CLIENT DETAILS

Client WSP AUSTRALIA PTY LIMITED

Project PS119057

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	VS21_0.0	1	26	7	10	11	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .



SAMPLE RECEIPT ADVICE

SE205447

CLIENT DETAILS

Client **WSP AUSTRALIA PTY LIMITED**

Project **PS119057**

SUMMARY OF ANALYSIS

		Moisture Content
No.	Sample ID	
001	VS21_0.0	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CLIENT DETAILS

Contact Hamish Donovan
Client WSP AUSTRALIA PTY LIMITED
Address Level 27, Ernst & Young Centre
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NSW 2000

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Facsimile 02 9272 5101
Email Hamish.Donovan@wsp.com

Project **PS119057 - Wentworthville PS Block H**
Order Number **PS119057**
Samples 3

LABORATORY DETAILS

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Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

SGS Reference **SE205382A R0**
Date Received 27/4/2020
Date Reported 28/4/2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES



Ly Kim HA
Organic Section Head



ANALYTICAL RESULTS

SE205382A R0

OC Pesticides in Soil [AN420] Tested: 27/4/2020

PARAMETER	UOM	LOR	STP02_0.3	STP02A_0.3	STP02B_0.3
			SOIL	SOIL	SOIL
			21/4/2020 SE205382A.001	21/4/2020 SE205382A.002	21/4/2020 SE205382A.003
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1



ANALYTICAL RESULTS

SE205382A R0

OP Pesticides in Soil [AN420] Tested: 27/4/2020

PARAMETER	UOM	LOR	STP02_0.3	STP02A_0.3	STP02B_0.3
			SOIL	SOIL	SOIL
			-	-	-
			21/4/2020 SE205382A.001	21/4/2020 SE205382A.002	21/4/2020 SE205382A.003
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7



ANALYTICAL RESULTS

SE205382A R0

PCBs in Soil [AN420] Tested: 27/4/2020

PARAMETER	UOM	LOR	STP02_0.3	STP02A_0.3	STP02B_0.3
			SOIL	SOIL	SOIL
			-	-	-
			21/4/2020 SE205382A.001	21/4/2020 SE205382A.002	21/4/2020 SE205382A.003
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1

METHOD

METHODOLOGY SUMMARY

AN420

SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE205382A R0

CLIENT DETAILS

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Project **PS119057 - Wentworthville PS Block H**
Order Number **PS119057**
Samples 3

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

SGS Reference **SE205382A R0**
Date Received 27 Apr 2020
Date Reported 28 Apr 2020

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Alexandria Environmental laboratory).

SAMPLE SUMMARY

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice
Samples received in correct containers	Yes	Sample counts by matrix	3 Soil
Date documentation received	27/4/2020@4:17pm	Type of documentation received	Email
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	11.1°C	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
STP02_0.3	SE205382A.001	LB198221	21 Apr 2020	27 Apr 2020	05 May 2020	27 Apr 2020	06 Jun 2020	28 Apr 2020
STP02A_0.3	SE205382A.002	LB198221	21 Apr 2020	27 Apr 2020	05 May 2020	27 Apr 2020	06 Jun 2020	28 Apr 2020
STP02B_0.3	SE205382A.003	LB198221	21 Apr 2020	27 Apr 2020	05 May 2020	27 Apr 2020	06 Jun 2020	28 Apr 2020

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
STP02_0.3	SE205382A.001	LB198221	21 Apr 2020	27 Apr 2020	05 May 2020	27 Apr 2020	06 Jun 2020	28 Apr 2020
STP02A_0.3	SE205382A.002	LB198221	21 Apr 2020	27 Apr 2020	05 May 2020	27 Apr 2020	06 Jun 2020	28 Apr 2020
STP02B_0.3	SE205382A.003	LB198221	21 Apr 2020	27 Apr 2020	05 May 2020	27 Apr 2020	06 Jun 2020	28 Apr 2020

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
STP02_0.3	SE205382A.001	LB198221	21 Apr 2020	27 Apr 2020	05 May 2020	27 Apr 2020	06 Jun 2020	28 Apr 2020
STP02A_0.3	SE205382A.002	LB198221	21 Apr 2020	27 Apr 2020	05 May 2020	27 Apr 2020	06 Jun 2020	28 Apr 2020
STP02B_0.3	SE205382A.003	LB198221	21 Apr 2020	27 Apr 2020	05 May 2020	27 Apr 2020	06 Jun 2020	28 Apr 2020

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-(ENV)QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-(ENV)AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	STP02_0.3	SE205382A.001	%	60 - 130%	96
	STP02A_0.3	SE205382A.002	%	60 - 130%	99
	STP02B_0.3	SE205382A.003	%	60 - 130%	103

OP Pesticides in Soil

Method: ME-(AU)-(ENV)AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	STP02_0.3	SE205382A.001	%	60 - 130%	97
	STP02A_0.3	SE205382A.002	%	60 - 130%	98
	STP02B_0.3	SE205382A.003	%	60 - 130%	85
d14-p-terphenyl (Surrogate)	STP02_0.3	SE205382A.001	%	60 - 130%	93
	STP02A_0.3	SE205382A.002	%	60 - 130%	89
	STP02B_0.3	SE205382A.003	%	60 - 130%	88

PCBs in Soil

Method: ME-(AU)-(ENV)AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	STP02_0.3	SE205382A.001	%	60 - 130%	96
	STP02A_0.3	SE205382A.002	%	60 - 130%	99
	STP02B_0.3	SE205382A.003	%	60 - 130%	103

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB198221.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Endrin Ketone	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	113

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB198221.001	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	2-fluorobiphenyl (Surrogate)	%	-	102
Surrogates	d14-p-terphenyl (Surrogate)	%	-	97

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB198221.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochors)	mg/kg	1	<1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	113

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-(ENV)AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205382A.003	LB198221.010	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.16	30	1

OP Pesticides in Soil

Method: ME-(AU)-(ENV)AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205382A.003	LB198221.010	Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	12
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2

PCBs in Soil

Method: ME-(AU)-(ENV)AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE205382A.003	LB198221.010	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	1

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB198221.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	88
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	96
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	94
	Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	91
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	89
	p,p'-DDT	mg/kg	0.1	0.1	0.2	60 - 140	71
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.17	0.15	40 - 130	111

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB198221.002	Dichlorvos	mg/kg	0.5	1.7	2	60 - 140	87
	Diazinon (Dimpylate)	mg/kg	0.5	2.2	2	60 - 140	112
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.5	2	60 - 140	123
	Ethion	mg/kg	0.2	2.3	2	60 - 140	113
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	86

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB198221.002	Arochlor 1260	mg/kg	0.2	0.3	0.4	60 - 140	79



Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

QC Sample	Sample Number	Parameter	Units	LOR
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MATRIX SPIKE DUPLICATES

SE205382A R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: <https://www.sgs.com.au/-/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

- * NATA accreditation does not cover the performance of this service.
 - ** Indicative data, theoretical holding time exceeded.
 - Sample not analysed for this analyte.
 - IS Insufficient sample for analysis.
 - LNR Sample listed, but not received.
 - LOR Limit of reporting.
 - QFH QC result is above the upper tolerance.
 - QFL QC result is below the lower tolerance.
-
- ① At least 2 of 3 surrogates are within acceptance criteria.
 - ② RPD failed acceptance criteria due to sample heterogeneity.
 - ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
 - ④ Recovery failed acceptance criteria due to matrix interference.
 - ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
 - ⑥ LOR was raised due to sample matrix interference.
 - ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
 - ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
 - ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
 - ⑩ LOR was raised due to high conductivity of the sample (required dilution).
 - † Refer to relevant report comments for further information.

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This test report shall not be reproduced, except in full.

Yin, Emily (Sydney)

From: AU.Environmental.Sydney (Sydney)
Sent: Monday, 27 April 2020 4:31 PM
To: AU.SampleReceipt.Sydney (Sydney)
Subject: FW: [EXTERNAL] RE: Report Job SE205382, your reference PS119057 - Wentworthville PS Block H, order number PS119057

Hi Emily,

Again, 1 day TAT, thanks.

Kind Regards,

Huong Crawford
Environment, Health & Safety
Production Manager
SGS Australia Pty Ltd
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Phone: +61 (0)2 8594 0403
Fax: + 61 (0)2 8594 0499
E-mail: Huong.Crawford@sgs.com
Web: www.au.sgs.com
View Your Results Online: engage.sgs.com



-----Original Message-----

From: Donovan, Hamish <Hamish.Donovan@wsp.com>
Sent: Monday, 27 April 2020 4:17 PM
To: AU.Environmental.Sydney (Sydney) <AU.Environmental.Sydney@sgs.com>
Cc: Bowe, Leila <Leila.Bowe@wsp.com>; Talukder, Poushali <Poushali.Talukder@wsp.com>
Subject: [EXTERNAL] RE: Report Job SE205382, your reference PS119057 - Wentworthville PS Block H, order number PS119057

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments. ***

Hi team

Can I please schedule: OCP/OPP and PCBs on:

- STP02_0.3
- STP02A_0.3
- STP02B_0.3

24h TAT please.

(a second email coming as well)

Thanks!



SAMPLE RECEIPT ADVICE

SE205382A

CLIENT DETAILS

Contact Hamish Donovan
Client WSP AUSTRALIA PTY LIMITED
Address Level 27, Ernst & Young Centre
680 George St
NSW 2000

Telephone 02 9272 1453
Facsimile 02 9272 5101
Email Hamish.Donovan@wsp.com

Project **PS119057 - Wentworthville PS Block H**
Order Number **PS119057**
Samples 3

LABORATORY DETAILS

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Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

Samples Received Mon 27/4/2020
Report Due Tue 28/4/2020
SGS Reference **SE205382A**

SUBMISSION DETAILS

This is to confirm that 3 samples were received on Monday 27/4/2020. Results are expected to be ready by COB Tuesday 28/4/2020. Please quote SGS reference SE205382A when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice
Samples received in correct containers	Yes	Sample counts by matrix	3 Soil
Date documentation received	27/4/2020@4:17pm	Type of documentation received	Email
Samples received in good order	Yes	Samples received without headspace	Yes
Sample temperature upon receipt	11.1°C	Sufficient sample for analysis	Yes
Turnaround time requested	Next Day		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



SAMPLE RECEIPT ADVICE

SE205382A

CLIENT DETAILS

Client **WSP AUSTRALIA PTY LIMITED**

Project **PS119057 - Wentworthville PS Block H**

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PCBs in Soil
001	STP02_0.3	29	14	11
002	STP02A_0.3	29	14	11
003	STP02B_0.3	29	14	11

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CLIENT DETAILS

Contact Hamish Donovan
 Client WSP AUSTRALIA PTY LIMITED
 Address Level 27, Ernst & Young Centre
 680 George St
 NSW 2000

Telephone 02 9272 1453
 Facsimile 02 9272 5101
 Email Hamish.Donovan@wsp.com

Project **PS119057 - Wentworthville PS Block H**
 Order Number **PS119057**
 Samples 3

LABORATORY DETAILS

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SGS Reference **SE205282A R0**
 Date Received 27/4/2020
 Date Reported 28/4/2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES



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 Organic Section Head



ANALYTICAL RESULTS

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OC Pesticides in Soil [AN420] Tested: 27/4/2020

PARAMETER	UOM	LOR	STP01_0.3	STP01A_0.3	STP01B_0.3
			SOIL	SOIL	SOIL
			20/4/2020 SE205282A.001	20/4/2020 SE205282A.002	20/4/2020 SE205282A.003
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1



ANALYTICAL RESULTS

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OP Pesticides in Soil [AN420] Tested: 27/4/2020

PARAMETER	UOM	LOR	STP01_0.3	STP01A_0.3	STP01B_0.3
			SOIL	SOIL	SOIL
			-	-	-
			20/4/2020 SE205282A.001	20/4/2020 SE205282A.002	20/4/2020 SE205282A.003
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2
Methodathion	mg/kg	0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7



ANALYTICAL RESULTS

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PCBs in Soil [AN420] Tested: 27/4/2020

			STP01_0.3	STP01A_0.3	STP01B_0.3
			SOIL	SOIL	SOIL
			-	-	-
			20/4/2020	20/4/2020	20/4/2020
PARAMETER	UOM	LOR	SE205282A.001	SE205282A.002	SE205282A.003
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1