

Client Sample ID			EV2262-BH5-2.8	EV2262-BH6-0.9	EV2262-BH6-2.8	EV2262-BH7-1.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00211	M17-De00212	M17-De00213	M17-De00214
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	147	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	64	-
Triazines						
Atrazine	0.2	mg/kg	-	-	< 0.2	-
NEPM 2013 Acid Herbicides						
Picloram	0.5	mg/kg	-	-	< 0.5	-
2,4-D	0.5	mg/kg	-	-	< 0.5	-
2,4,5-T	0.5	mg/kg	-	-	< 0.5	-
MCPA	0.5	mg/kg	-	-	< 0.5	-
MCPB	0.5	mg/kg	-	-	< 0.5	-
Mecoprop	0.5	mg/kg	-	-	< 0.5	-
Warfarin (surr.)	1	%	-	-	114	-
NEPM 2013 Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Mirex	0.01	mg/kg	-	-	< 0.01	-
4,4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4,4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4,4'-DDT	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	1	mg/kg	-	-	< 1	-
Dibutylchlorendate (surr.)	1	%	-	-	147	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	64	-
NEPM 2013 Phenols						
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	< 0.4	-
Pentachlorophenol	1.0	mg/kg	-	-	< 1	-
Phenol	0.5	mg/kg	-	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	-	107	-
Chromium (hexavalent)	1	mg/kg	-	-	< 1	-
Cyanide (free)	5	mg/kg	-	-	< 5	-
Sulphate (as SO4)	30	mg/kg	-	-	170	-
% Moisture	1	%	16	18	16	11

Client Sample ID			EV2262-BH5-2.8	EV2262-BH6-0.9	EV2262-BH6-2.8	EV2262-BH7-1.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00211	M17-De00212	M17-De00213	M17-De00214
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	7.8	11	5.4	3.7
Beryllium	2	mg/kg	-	-	< 2	-
Boron	10	mg/kg	-	-	< 10	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	9.7	13	11	10
Cobalt	5	mg/kg	-	-	< 5	-
Copper	5	mg/kg	15	19	35	35
Lead	5	mg/kg	13	21	18	22
Manganese	5	mg/kg	-	-	13	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	5	mg/kg	-	< 5	-	-
Nickel	5	mg/kg	< 5	< 5	< 5	28
Selenium	2	mg/kg	-	< 2	< 2	-
Silver	0.2	mg/kg	-	< 0.2	-	-
Tin	10	mg/kg	-	< 10	-	-
Zinc	5	mg/kg	17	14	23	120

Client Sample ID			EV2262-BH7-3.3	EV2262-BH8-1.4	EV2262-BH8-2.9	EV2262-BH9-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00215	M17-De00216	M17-De00217	M17-De00218
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	< 20	-	< 20
TRH C10-C14	20	mg/kg	-	< 20	-	< 20
TRH C15-C28	50	mg/kg	-	< 50	-	< 50
TRH C29-C36	50	mg/kg	-	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	-	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Xylenes - Total	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	57
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.2.4-Trichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
Hexachlorobutadiene	0.5	mg/kg	-	< 0.5	-	-
1.1-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
1.1.1-Trichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.2-Trichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dibromoethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			EV2262-BH7-3.3	EV2262-BH8-1.4	EV2262-BH8-2.9	EV2262-BH9-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00215	M17-De00216	M17-De00217	M17-De00218
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Volatile Organics						
1,2-Dichloroethane	0.5	mg/kg	-	< 0.5	-	-
1,2-Dichloropropane	0.5	mg/kg	-	< 0.5	-	-
1,2,3-Trichloropropane	0.5	mg/kg	-	< 0.5	-	-
1,2,4-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	-
1,3-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
1,3-Dichloropropane	0.5	mg/kg	-	< 0.5	-	-
1,3,5-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	-
1,4-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
2-Butanone (MEK)	0.5	mg/kg	-	< 0.5	-	-
2-Propanone (Acetone)	0.5	mg/kg	-	< 0.5	-	-
4-Chlorotoluene	0.5	mg/kg	-	< 0.5	-	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	< 0.5	-	-
Allyl chloride	0.5	mg/kg	-	< 0.5	-	-
Benzene	0.1	mg/kg	-	< 0.1	-	-
Bromobenzene	0.5	mg/kg	-	< 0.5	-	-
Bromochloromethane	0.5	mg/kg	-	< 0.5	-	-
Bromodichloromethane	0.5	mg/kg	-	< 0.5	-	-
Bromoform	0.5	mg/kg	-	< 0.5	-	-
Bromomethane	0.5	mg/kg	-	< 0.5	-	-
Carbon disulfide	0.5	mg/kg	-	< 0.5	-	-
Carbon Tetrachloride	0.5	mg/kg	-	< 0.5	-	-
Chlorobenzene	0.5	mg/kg	-	< 0.5	-	-
Chloroethane	0.5	mg/kg	-	< 0.5	-	-
Chloroform	0.5	mg/kg	-	< 0.5	-	-
Chloromethane	0.5	mg/kg	-	< 0.5	-	-
cis-1,2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
cis-1,3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	-
Dibromochloromethane	0.5	mg/kg	-	< 0.5	-	-
Dibromomethane	0.5	mg/kg	-	< 0.5	-	-
Dichlorodifluoromethane	0.5	mg/kg	-	< 0.5	-	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	-
Iodomethane	0.5	mg/kg	-	< 0.5	-	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	< 0.5	-	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	-
Methylene Chloride	0.5	mg/kg	-	< 0.5	-	-
o-Xylene	0.1	mg/kg	-	< 0.1	-	-
Styrene	0.5	mg/kg	-	< 0.5	-	-
Tetrachloroethene	0.5	mg/kg	-	< 0.5	-	-
Toluene	0.1	mg/kg	-	< 0.1	-	-
trans-1,2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
trans-1,3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	-
Trichloroethene	0.5	mg/kg	-	< 0.5	-	-
Trichlorofluoromethane	0.5	mg/kg	-	< 0.5	-	-
Vinyl chloride	0.5	mg/kg	-	< 0.5	-	-
Xylenes - Total	0.3	mg/kg	-	< 0.3	-	-
Total MAH*	0.5	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	< 0.5	-	-
4-Bromofluorobenzene (surr.)	1	%	-	112	-	-
Toluene-d8 (surr.)	1	%	-	102	-	-

Client Sample ID			EV2262-BH7-3.3	EV2262-BH8-1.4	EV2262-BH8-2.9	EV2262-BH9-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00215	M17-De00216	M17-De00217	M17-De00218
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	-	< 0.5	-	< 0.5
TRH C6-C10	20	mg/kg	-	< 20	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	< 20	-	< 20
TRH >C10-C16	50	mg/kg	-	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	-	< 50	-	< 50
TRH >C16-C34	100	mg/kg	-	< 100	-	< 100
TRH >C34-C40	100	mg/kg	-	< 100	-	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	-	< 0.5	-	-
Benzo(g,h,i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a,h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	90	-	-
p-Terphenyl-d14 (surr.)	1	%	-	89	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4,4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4,4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4,4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-BHC	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-BHC	0.05	mg/kg	-	< 0.05	-	-
d-BHC	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-

Client Sample ID			EV2262-BH7-3.3	EV2262-BH8-1.4	EV2262-BH8-2.9	EV2262-BH9-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00215	M17-De00216	M17-De00217	M17-De00218
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	1	mg/kg	-	< 1	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	73	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	80	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-	-
Total PCB*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	73	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	80	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-	-
2,4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
2,4,5-Trichlorophenol	1.0	mg/kg	-	< 1	-	-
2,4,6-Trichlorophenol	1.0	mg/kg	-	< 1	-	-
2,6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-	-
4-Chloro-3-methylphenol	1.0	mg/kg	-	< 1	-	-
Pentachlorophenol	1.0	mg/kg	-	< 1	-	-
Tetrachlorophenols - Total	1.0	mg/kg	-	< 1	-	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	-	< 20	-	-
2-Methyl-4,6-dinitrophenol	5	mg/kg	-	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-	-
2,4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-	-
2,4-Dinitrophenol	5	mg/kg	-	< 5	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-	-
4-Nitrophenol	5	mg/kg	-	< 5	-	-
Dinoseb	20	mg/kg	-	< 20	-	-
Phenol	0.5	mg/kg	-	< 0.5	-	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-	-
Phenol-d6 (surr.)	1	%	-	86	-	-
% Clay	1	%	-	-	19	-
Chromium (hexavalent)	1	mg/kg	-	< 1	-	-
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	-	-	58	-
Cyanide (total)	5	mg/kg	-	< 5	-	-

Client Sample ID			EV2262-BH7-3.3	EV2262-BH8-1.4	EV2262-BH8-2.9	EV2262-BH9-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00215	M17-De00216	M17-De00217	M17-De00218
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Fluoride	100	mg/kg	-	280	-	-
pH (1:5 Aqueous extract)	0.1	pH Units	-	7.6	-	-
pH (units)(1:5 soil:CaCl2 extract)	0.1	pH Units	-	-	4.5	-
Total Organic Carbon	0.1	%	-	-	0.1	-
% Moisture	1	%	10	12	11	13
Heavy Metals						
Arsenic	2	mg/kg	3.6	5.0	5.3	9.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	7.3	7.0	6.9	8.3
Copper	5	mg/kg	24	29	22	25
Iron	20	mg/kg	-	-	27000	-
Lead	5	mg/kg	15	18	13	21
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	5	mg/kg	< 5	< 5	< 5	-
Nickel	5	mg/kg	6.0	5.3	< 5	< 5
Selenium	2	mg/kg	< 2	< 2	< 2	-
Silver	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Tin	10	mg/kg	< 10	< 10	< 10	-
Zinc	5	mg/kg	39	44	18	25
Heavy Metals						
Iron (%)	0.01	%	-	-	2.7	-
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	-	-	9.8	-

Client Sample ID			EV2262-BH9-2.7	EV2262-GW3-0.8	EV2262-GW3-2.0	EV2262-GW3-4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00219	M17-De00220	M17-De00221	M17-De00222
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	-	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	-	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	-	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	-	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	89	62	97

Client Sample ID			EV2262-BH9-2.7	EV2262-GW3-0.8	EV2262-GW3-2.0	EV2262-GW3-4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00219	M17-De00220	M17-De00221	M17-De00222
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	-	-
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	-	-
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	-	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	-	-
Allyl chloride	0.5	mg/kg	< 0.5	-	-	-
Benzene	0.1	mg/kg	< 0.1	-	-	-
Bromobenzene	0.5	mg/kg	< 0.5	-	-	-
Bromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromodichloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromoform	0.5	mg/kg	< 0.5	-	-	-
Bromomethane	0.5	mg/kg	< 0.5	-	-	-
Carbon disulfide	0.5	mg/kg	< 0.5	-	-	-
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	-	-
Chlorobenzene	0.5	mg/kg	< 0.5	-	-	-
Chloroethane	0.5	mg/kg	< 0.5	-	-	-
Chloroform	0.5	mg/kg	< 0.5	-	-	-
Chloromethane	0.5	mg/kg	< 0.5	-	-	-
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-
Dibromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Dibromomethane	0.5	mg/kg	< 0.5	-	-	-
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
Iodomethane	0.5	mg/kg	< 0.5	-	-	-
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
Methylene Chloride	0.5	mg/kg	< 0.5	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Styrene	0.5	mg/kg	< 0.5	-	-	-
Tetrachloroethene	0.5	mg/kg	< 0.5	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-

Client Sample ID			EV2262-BH9-2.7	EV2262-GW3-0.8	EV2262-GW3-2.0	EV2262-GW3-4.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00219	M17-De00220	M17-De00221	M17-De00222
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Volatile Organics						
Trichloroethene	0.5	mg/kg	< 0.5	-	-	-
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	-	-
Vinyl chloride	0.5	mg/kg	< 0.5	-	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	-
Total MAH*	0.5	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	-	-
4-Bromofluorobenzene (surr.)	1	%	119	-	-	-
Toluene-d8 (surr.)	1	%	108	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	-	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	-	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	-	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	-	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100
% Moisture	1	%	9.8	8.9	15	19
Heavy Metals						
Arsenic	2	mg/kg	6.7	4.4	7.4	4.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	8.8	9.2	10	7.4
Copper	5	mg/kg	30	38	28	38
Lead	5	mg/kg	15	22	19	17
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	5	mg/kg	< 5	-	-	-
Nickel	5	mg/kg	6.6	11	5.4	16
Selenium	2	mg/kg	< 2	-	-	-
Silver	0.2	mg/kg	< 0.2	-	-	-
Tin	10	mg/kg	< 10	-	-	-
Zinc	5	mg/kg	49	67	38	85

Client Sample ID			EV2262-BH10-0.6	EV2262-BH10-2.8	EV2262-BH11-0.5	EV2262-BH11-3.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00223	M17-De00224	M17-De00225	M17-De00226
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	-	-	< 20
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	-	< 50
TRH C29-C36	50	mg/kg	-	-	-	< 50
TRH C10-36 (Total)	50	mg/kg	-	-	-	< 50

Client Sample ID			EV2262-BH10-0.6	EV2262-BH10-2.8	EV2262-BH11-0.5	EV2262-BH11-3.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00223	M17-De00224	M17-De00225	M17-De00226
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Xylenes - Total	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	66
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
1.1.1-Trichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.2-Trichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dibromoethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichloropropane	0.5	mg/kg	-	< 0.5	-	-
1.2.3-Trichloropropane	0.5	mg/kg	-	< 0.5	-	-
1.2.4-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	-
1.3-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
1.3-Dichloropropane	0.5	mg/kg	-	< 0.5	-	-
1.3.5-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	-
1.4-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
2-Butanone (MEK)	0.5	mg/kg	-	< 0.5	-	-
2-Propanone (Acetone)	0.5	mg/kg	-	< 0.5	-	-
4-Chlorotoluene	0.5	mg/kg	-	< 0.5	-	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	< 0.5	-	-
Allyl chloride	0.5	mg/kg	-	< 0.5	-	-
Benzene	0.1	mg/kg	-	< 0.1	-	-
Bromobenzene	0.5	mg/kg	-	< 0.5	-	-
Bromochloromethane	0.5	mg/kg	-	< 0.5	-	-
Bromodichloromethane	0.5	mg/kg	-	< 0.5	-	-
Bromoform	0.5	mg/kg	-	< 0.5	-	-
Bromomethane	0.5	mg/kg	-	< 0.5	-	-
Carbon disulfide	0.5	mg/kg	-	< 0.5	-	-
Carbon Tetrachloride	0.5	mg/kg	-	< 0.5	-	-
Chlorobenzene	0.5	mg/kg	-	< 0.5	-	-
Chloroethane	0.5	mg/kg	-	< 0.5	-	-
Chloroform	0.5	mg/kg	-	< 0.5	-	-
Chloromethane	0.5	mg/kg	-	< 0.5	-	-
cis-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
cis-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	-
Dibromochloromethane	0.5	mg/kg	-	< 0.5	-	-
Dibromomethane	0.5	mg/kg	-	< 0.5	-	-
Dichlorodifluoromethane	0.5	mg/kg	-	< 0.5	-	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	-
Iodomethane	0.5	mg/kg	-	< 0.5	-	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			EV2262-BH10-0.6	EV2262-BH10-2.8	EV2262-BH11-0.5	EV2262-BH11-3.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00223	M17-De00224	M17-De00225	M17-De00226
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Volatile Organics						
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	-
Methylene Chloride	0.5	mg/kg	-	< 0.5	-	-
o-Xylene	0.1	mg/kg	-	< 0.1	-	-
Styrene	0.5	mg/kg	-	< 0.5	-	-
Tetrachloroethene	0.5	mg/kg	-	< 0.5	-	-
Toluene	0.1	mg/kg	-	< 0.1	-	-
trans-1,2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
trans-1,3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	-
Trichloroethene	0.5	mg/kg	-	< 0.5	-	-
Trichlorofluoromethane	0.5	mg/kg	-	< 0.5	-	-
Vinyl chloride	0.5	mg/kg	-	< 0.5	-	-
Xylenes - Total	0.3	mg/kg	-	< 0.3	-	-
Total MAH*	0.5	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	< 0.5	-	-
4-Bromofluorobenzene (surr.)	1	%	-	125	-	-
Toluene-d8 (surr.)	1	%	-	118	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	-	-	-	< 0.5
TRH C6-C10	20	mg/kg	-	-	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	-	-	< 20
TRH >C10-C16	50	mg/kg	-	-	-	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	-	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	-	< 100
TRH >C34-C40	100	mg/kg	-	-	-	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	-	-	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-	-
2-Fluorobiphenyl (surr.)	1	%	91	-	-	-
p-Terphenyl-d14 (surr.)	1	%	98	-	-	-
Organochlorine Pesticides						
Bifenthrin	0.05	mg/kg	< 0.05	-	-	-

Client Sample ID			EV2262-BH10-0.6	EV2262-BH10-2.8	EV2262-BH11-0.5	EV2262-BH11-3.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00223	M17-De00224	M17-De00225	M17-De00226
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorodate (surr.)	1	%	76	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	78	-	-	-
Triazines						
Atrazine	0.2	mg/kg	< 0.2	-	-	-
NEPM 2013 Acid Herbicides						
Picloram	0.5	mg/kg	< 0.5	-	-	-
2,4-D	0.5	mg/kg	< 0.5	-	-	-
2,4,5-T	0.5	mg/kg	< 0.5	-	-	-
MCPA	0.5	mg/kg	< 0.5	-	-	-
MCPB	0.5	mg/kg	< 0.5	-	-	-
Mecoprop	0.5	mg/kg	< 0.5	-	-	-
Warfarin (surr.)	1	%	108	-	-	-
NEPM 2013 Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Mirex	0.01	mg/kg	< 0.01	-	-	-
4,4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4,4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4,4'-DDT	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-
Dibutylchlorodate (surr.)	1	%	76	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	78	-	-	-
NEPM 2013 Phenols						
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
Pentachlorophenol	1.0	mg/kg	< 1	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Phenol-d6 (surr.)	1	%	88	-	-	-

Client Sample ID			EV2262-BH10-0.6	EV2262-BH10-2.8	EV2262-BH11-0.5	EV2262-BH11-3.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00223	M17-De00224	M17-De00225	M17-De00226
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	< 1	-	-	-
Cyanide (free)	5	mg/kg	< 5	-	-	-
% Moisture	1	%	12	9.9	6.3	7.8
Heavy Metals						
Arsenic	2	mg/kg	7.5	6.5	5.1	6.6
Beryllium	2	mg/kg	< 2	-	-	-
Boron	10	mg/kg	< 10	-	-	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	9.8	10	9.0	11
Cobalt	5	mg/kg	< 5	-	-	-
Copper	5	mg/kg	42	54	40	50
Lead	5	mg/kg	15	19	15	24
Manganese	5	mg/kg	32	-	-	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	5	mg/kg	-	< 5	< 5	-
Nickel	5	mg/kg	7.6	27	15	29
Selenium	2	mg/kg	< 2	< 2	< 2	-
Silver	0.2	mg/kg	-	< 0.2	< 0.2	-
Tin	10	mg/kg	-	< 10	< 10	-
Zinc	5	mg/kg	57	140	110	190

Client Sample ID			EV2262-BH12-0.7	EV2262-BH12-2.6	EV2262-T1-0.8	EV2262-T1-3.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00227	M17-De00228	M17-De00229	M17-De00230
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	-	-	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-	-

Client Sample ID			EV2262-BH12-0.7	EV2262-BH12-2.6	EV2262-T1-0.8	EV2262-T1-3.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00227	M17-De00228	M17-De00229	M17-De00230
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
2-Fluorobiphenyl (surr.)	1	%	89	-	-	-
p-Terphenyl-d14 (surr.)	1	%	82	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	88	86
Tetrachloro-m-xylene (surr.)	1	%	-	-	90	88
% Moisture	1	%	7.3	13	13	15
Heavy Metals						
Arsenic	2	mg/kg	8.0	7.4	7.2	4.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	13	11	12	6.9
Copper	5	mg/kg	40	49	43	33
Lead	5	mg/kg	39	23	26	15
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	18	19	12	8.1
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	5	mg/kg	84	100	73	55

Client Sample ID			EV2262-T2-0.4	EV2262-T2-2.9	EV2262-T3-0.9	EV2262-T3-2.9
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00231	M17-De00232	M17-De00233	M17-De00234
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	93	86	86	90

Client Sample ID			EV2262-T2-0.4	EV2262-T2-2.9	EV2262-T3-0.9	EV2262-T3-2.9
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00231	M17-De00232	M17-De00233	M17-De00234
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	98	91	92	91
p-Terphenyl-d14 (surr.)	1	%	106	107	117	108
% Moisture	1	%	7.2	9.6	17	17
Heavy Metals						
Arsenic	2	mg/kg	5.9	6.9	16	6.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	8.2	8.8	24	14
Copper	5	mg/kg	23	30	21	12
Lead	5	mg/kg	15	14	24	12
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	13	28	11	< 5

Client Sample ID			EV2262-T3-4.8	EV2262-DP1	EV2262-DP2	EV2262-DP3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00235	M17-De00236	M17-De00237	M17-De00238
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	92	96	115	76
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	-	-	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-	-
2-Fluorobiphenyl (surr.)	1	%	65	-	-	-
p-Terphenyl-d14 (surr.)	1	%	78	-	-	-
% Moisture	1	%	16	13	9.6	21

Client Sample ID			EV2262-T3-4.8	EV2262-DP1	EV2262-DP2	EV2262-DP3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			M17-De00235	M17-De00236	M17-De00237	M17-De00238
Date Sampled			Nov 27, 2017	Nov 27, 2017	Nov 27, 2017	Nov 27, 2017
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	6.7	4.4	6.8	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	6.5	9.5	13	29
Copper	5	mg/kg	17	25	49	21
Lead	5	mg/kg	17	22	24	23
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	29	7.4
Zinc	5	mg/kg	39	25	170	24

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Vic EPA IWRG 621 (Solids)			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C36	Melbourne	Dec 04, 2017	14 Day
Volatile Organics - Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices	Melbourne	Dec 04, 2017	7 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Melbourne	Dec 04, 2017	14 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Melbourne	Dec 04, 2017	14 Day
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soils by GCMS	Melbourne	Dec 04, 2017	14 Day
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Melbourne	Dec 04, 2017	14 Day
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Melbourne	Dec 04, 2017	28 Days
Phenols (Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soils by GCMS	Melbourne	Dec 04, 2017	14 Days
Phenols (non-Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soils by GCMS	Melbourne	Dec 04, 2017	14 Day
Chromium (hexavalent) - Method: APHA 3500-Cr Hexavalent Chromium- (Extraction:- USEPA3060)	Melbourne	Dec 04, 2017	28 Day
Cyanide (total) - Method: LTM-INO-4020 Total Free WAD Cyanide by CFA	Melbourne	Dec 04, 2017	14 Day
Fluoride - Method: LTM-INO-4150 Determination of Total Fluoride PART A - CIC	Melbourne	Dec 05, 2017	28 Day
pH (1:5 Aqueous extract) - Method: LTM-GEN-7090 pH in soil by ISE	Melbourne	Dec 04, 2017	7 Day
IWRG 621 Metals : Metals M12 - Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)	Melbourne	Dec 04, 2017	28 Day
Eurofins mgt Suite B6			
BTEX - Method: TRH C6-C40 - LTM-ORG-2010	Melbourne	Dec 04, 2017	14 Day
Metals M8 - Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)	Melbourne	Dec 04, 2017	28 Days
NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding Methyl Mercury/PBDE			
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS	Melbourne	Dec 04, 2017	14 Day
Triazines - Method: LTM-ORG-2080	Melbourne	Dec 04, 2017	14 Day
NEPM 2013 Acid Herbicides - Method: MGT 530	Melbourne	Dec 04, 2017	14 Day
NEPM 2013 Organochlorine Pesticides - Method: USEPA 8081 Organochlorine Pesticides	Melbourne	Dec 04, 2017	14 Day
NEPM 2013 Phenols - Method: USEPA 8270 Phenols	Melbourne	Dec 04, 2017	14 Day
NEPM 2013 Metals : Metals M12 - Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)	Melbourne	Dec 04, 2017	28 Day
Heavy Metals - Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)	Melbourne	Dec 04, 2017	180 Day
NEPM Screen for Soil Classification			

Description	Testing Site	Extracted	Holding Time
% Clay - Method: LTM-GEN-7040	Brisbane	Dec 05, 2017	6 Day
Conductivity (1:5 aqueous extract at 25°C) - Method: LTM-INO-4030	Melbourne	Dec 04, 2017	7 Day
pH (units)(1:5 soil:CaCl ₂ extract) - Method: LTM-GEN-7090 pH in soil by ISE	Melbourne	Dec 04, 2017	7 Day
Total Organic Carbon - Method: APHA 5310B Total Organic Carbon	Melbourne	Dec 05, 2017	28 Day
Cation Exchange Capacity - Method: LTM-MET-3060 - Cation Exchange Capacity (CEC) & Exchangeable Sodium Percentage (ESP)	Melbourne	Dec 05, 2017	180 Days
Sulphate (as SO ₄) - Method: LTM-INO-4110 Sulfate by Discrete Analyser	Melbourne	Dec 04, 2017	28 Day
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	Dec 01, 2017	14 Day

Company Name: EnviroProtect (VIC) Pty Ltd
Address: 298 Kororoit Creek Rd
Williamstown
VIC 3016

Project Name: 76-100 CHRUCH ST PARRAMATTA NSW
Project ID: EV2262

Order No.: V3422
Report #: 575193
Phone: 9399 7999
Fax: 9399 7900

Received: Nov 29, 2017 2:03 PM
Due: Dec 6, 2017
Priority: 5 Day
Contact Name: -Alex Sepulveda

Eurofins | mgt Analytical Services Manager : Natalie Krasselt

Sample Detail

Sample Detail						Vic EPA IWRG 621 (Solids)					
						X					
Eurofins mgt Suite B6						X					
Eurofins mgt Suite B7						X					
NEPM Screen for Soil Classification						X	X				
NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding						X					
Moisture Set						X	X				
Volatile Organics						X					
IWRG 621 Metals : Metals M12						X	X				
Polychlorinated Biphenyls						X					
Polycyclic Aromatic Hydrocarbons						X					
Sulphate (as SO4)						X	X				
Melbourne Laboratory - NATA Site # 1254 & 14271 Sydney Laboratory - NATA Site # 18217 Brisbane Laboratory - NATA Site # 20794 Perth Laboratory - NATA Site # 23736 External Laboratory											
						No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID
						1	EV2262-BH1-0.7	Nov 27, 2017		Soil	M17-De00191
						2	EV2262-BH1-2.5	Nov 27, 2017		Soil	M17-De00192
						3	EV2262-BH2-0.5	Nov 27, 2017		Soil	M17-De00193
						4	EV2262-BH2-2.4	Nov 27, 2017		Soil	M17-De00194
						5	EV2262-BH2-4.0	Nov 27, 2017		Soil	M17-De00195
6	EV2262-BH2-	Nov 27, 2017		Soil	M17-De00196	X					

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Sample Detail

				Vic EPA IWRG 621 (Solids)	
Melbourne Laboratory - NATA Site # 1254 & 14271				X	X
Sydney Laboratory - NATA Site # 18217				X	
Brisbane Laboratory - NATA Site # 20794				X	
Perth Laboratory - NATA Site # 23736				X	
5.3					
7	EV2262-GW1-0.6	Nov 27, 2017	Soil	M17-De00197	
8	EV2262-GW1-2.6	Nov 27, 2017	Soil	M17-De00198	
9	EV2262-GW1-4.2	Nov 27, 2017	Soil	M17-De00199	
10	EV2262-BH3-1.0	Nov 27, 2017	Soil	M17-De00200	
11	EV2262-BH3-2.5	Nov 27, 2017	Soil	M17-De00201	
12	EV2262-BH3-4.5	Nov 27, 2017	Soil	M17-De00202	
13	EV2262-BH4-	Nov 27, 2017	Soil	M17-De00203	
Eurofins mgt Suite B6				X	
Eurofins mgt Suite B7				X	
NEPM Screen for Soil Classification				X	
NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding				X	
Moisture Set				X	
Volatile Organics				X	
IWRG 621 Metals : Metals M12				X	
Polychlorinated Biphenyls				X	
Polycyclic Aromatic Hydrocarbons				X	
Sulphate (as SO4)				X	

Company Name: EnviroProtect (VIC) Pty Ltd
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Williamstown
VIC 3016

Project Name: 76-100 CHURCH ST PARRAMATTA NSW
Project ID: EV2262

Order No.: V3422
Report #: 575193
Phone: 9399 7999
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Received: Nov 29, 2017 2:03 PM
Due: Dec 6, 2017
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Contact Name: -Alex Sepulveda

Eurofins | mgt Analytical Services Manager : Natalie Krasselt

Sample Detail

				Vic EPA IWRG 621 (Solids)	
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					
Brisbane Laboratory - NATA Site # 20794					
Perth Laboratory - NATA Site # 23736					
0.4					
14	EV2262-BH4-3.0	Nov 27, 2017	Soil	M17-De00204	
15	EV2262-BH4-4.8	Nov 27, 2017	Soil	M17-De00205	
16	EV2262-GW2-0.4	Nov 27, 2017	Soil	M17-De00206	
17	EV2262-GW2-1.2	Nov 27, 2017	Soil	M17-De00207	
18	EV2262-GW2-3.0	Nov 27, 2017	Soil	M17-De00208	
19	EV2262-GW2-4.5	Nov 27, 2017	Soil	M17-De00209	
20	EV2262-BH5-	Nov 27, 2017	Soil	M17-De00210	
				Eurofins mgt Suite B6	
				Eurofins mgt Suite B7	
				NEPM Screen for Soil Classification	
				NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding	
				Moisture Set	
				Volatile Organics	
				IWRG 621 Metals : Metals M12	
				Polychlorinated Biphenyls	
				Polycyclic Aromatic Hydrocarbons	
				Sulphate (as SO4)	

Company Name: EnviroProtect (VIC) Pty Ltd
Address: 298 Kororoit Creek Rd
Williamstown

Project Name: 76-100 CHURCH ST PARRAMATTA NSW
Project ID: EV2262

Order No.:	V3422
Report #:	575193
Phone:	9399 79
Fax:	9399 79

Received: Nov 29, 2017 2:03 PM
Due: Dec 6, 2017
Priority: 5 Day
Contact Name: -Alex Sepulveda

Eurofins | mgt Analytical Services Manager : Natalie Krasselt

Sample Detail										Vic EPA IWRG 621 (Solids)										
										Eurofins mgt Suite B6										
										Eurofins mgt Suite B7										
										NEPM Screen for Soil Classification										
										NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding										
										Moisture Set										
										Volatile Organics										
										IWRG 621 Metals : Metals M12										
										Polychlorinated Biphenyls										
										Polycyclic Aromatic Hydrocarbons										
										Sulphate (as SO4)										
										Melbourne Laboratory - NATA Site # 1254 & 14271										
										Sydney Laboratory - NATA Site # 18217										
										Brisbane Laboratory - NATA Site # 20794										
										Perth Laboratory - NATA Site # 23736										
										0.4										
										21	EV2262-BH5-2.8	Nov 27, 2017		Soil				M17-De00211		
										22	EV2262-BH6-0.9	Nov 27, 2017		Soil				M17-De00212		
										23	EV2262-BH6-2.8	Nov 27, 2017		Soil				M17-De00213		
24	EV2262-BH7-1.2	Nov 27, 2017		Soil				M17-De00214												
25	EV2262-BH7-3.3	Nov 27, 2017		Soil				M17-De00215												
26	EV2262-BH8-1.4	Nov 27, 2017		Soil				M17-De00216												
27	EV2262-BH8-	Nov 27, 2017		Soil				M17-De00217												

Company Name: EnviroProtect (VIC) Pty Ltd
Address: 298 Kororoit Creek Rd
Williamstown
VIC 3016

Project Name: 76-100 CHURCH ST PARRAMATTA NSW
Project ID: EV2262

Order No.: V3422
Report #: 575193
Phone: 9399 7999
Fax: 9399 7900

Received: Nov 29, 2017 2:03 PM
Due: Dec 6, 2017
Priority: 5 Day
Contact Name: -Alex Sepulveda

Eurofins | mgt Analytical Services Manager : Natalie Krasselt

Sample Detail

				Vic EPA IWRG 621 (Solids)	
Melbourne Laboratory - NATA Site # 1254 & 14271				X	
Sydney Laboratory - NATA Site # 18217				X	
Brisbane Laboratory - NATA Site # 20794					
Perth Laboratory - NATA Site # 23736					
2.9					
28	EV2262-BH9-0.6	Nov 27, 2017	Soil		X
29	EV2262-BH9-2.7	Nov 27, 2017	Soil		
30	EV2262-GW3-0.8	Nov 27, 2017	Soil		X
31	EV2262-GW3-2.0	Nov 27, 2017	Soil		X
32	EV2262-GW3-4.0	Nov 27, 2017	Soil		X
33	EV2262-BH10-0.6	Nov 27, 2017	Soil		
34	EV2262-BH10-	Nov 27, 2017	Soil		
				Eurofins mgt Suite B6	
				X	
				Eurofins mgt Suite B7	
				X	
				NEPM Screen for Soil Classification	
				X	
				NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding	
				X	
				Moisture Set	
				X	
				Volatile Organics	
				X	
				IWRG 621 Metals : Metals M12	
				X	
				Polychlorinated Biphenyls	
				X	
				Polycyclic Aromatic Hydrocarbons	
				X	
				Sulphate (as SO4)	
				X	

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Sample Detail

				Vic EPA IWRG 621 (Solids)	
Melbourne Laboratory - NATA Site # 1254 & 14271				X	
Sydney Laboratory - NATA Site # 18217				X	
Brisbane Laboratory - NATA Site # 20794					
Perth Laboratory - NATA Site # 23736					
2.8					
35	EV2262-BH11-0.5	Nov 27, 2017	Soil		
36	EV2262-BH11-3.2	Nov 27, 2017	Soil		X
37	EV2262-BH12-0.7	Nov 27, 2017	Soil		
38	EV2262-BH12-2.6	Nov 27, 2017	Soil		
39	EV2262-T1-0.8	Nov 27, 2017	Soil		
40	EV2262-T1-3.2	Nov 27, 2017	Soil		
41	EV2262-T2	Nov 27, 2017	Soil		X
				Eurofins mgt Suite B6	
				Eurofins mgt Suite B7	
				NEPM Screen for Soil Classification	
				NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding	
				Moisture Set	
				Volatile Organics	
				IWRG 621 Metals : Metals M12	
				Polychlorinated Biphenyls	
				Polycyclic Aromatic Hydrocarbons	
				Sulphate (as SO4)	

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Sample Detail

				Vic EPA IWRG 621 (Solids)	
Eurofins mgt Suite B6				X	
Eurofins mgt Suite B7				X	
NEPM Screen for Soil Classification				X	
NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding				X	
Moisture Set				X	
Volatile Organics				X	
IWRG 621 Metals : Metals M12				X	
Polychlorinated Biphenyls				X	
Polycyclic Aromatic Hydrocarbons				X	
Sulphate (as SO4)				X	
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					
Brisbane Laboratory - NATA Site # 20794					
Perth Laboratory - NATA Site # 23736					
0.4					
42	EV2262-T2-2.9	Nov 27, 2017	Soil	M17-De00232	
43	EV2262-T3-0.9	Nov 27, 2017	Soil	M17-De00233	
44	EV2262-T3-2.9	Nov 27, 2017	Soil	M17-De00234	
45	EV2262-T3-4.8	Nov 27, 2017	Soil	M17-De00235	
46	EV2262-DP1	Nov 27, 2017	Soil	M17-De00236	
47	EV2262-DP2	Nov 27, 2017	Soil	M17-De00237	
48	EV2262-DP3	Nov 27, 2017	Soil	M17-De00238	
49	EV2262-TP1	Nov 27, 2017	Water	M17-De00239	

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	Vic EPA IWRG 621 (Solids)	X						3
Eurofins mgt Suite B6	X					X		20
Eurofins mgt Suite B7	X							8
NEPM Screen for Soil Classification	X		X					2
NEPM Screen Table 1(A) HIL's for Soil Contaminants - Basic Suite - Excluding	X							2
Moisture Set	X							48
Volatile Organics	X							2
IWRG 621 Metals : Metals M12	X							17
Polychlorinated Biphenyls	X							2
Polycyclic Aromatic Hydrocarbons	X							4
Sulphate (as SO ₄)	X							2
Sample Detail	Melbourne Laboratory - NATA Site # 1254 & 14271							
	Sydney Laboratory - NATA Site # 18217							
	Brisbane Laboratory - NATA Site # 20794							
	Perth Laboratory - NATA Site # 23736							
	50 EV2262-R1 Nov 27, 2017 Water						M17-De00240	
Test Counts								

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. All biota results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

ug/L: micrograms per litre

ppb: Parts per billion

org/100mL: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/L: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
Hexachlorobutadiene	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Benzene	mg/kg	< 0.1			0.1	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Bifenthrin	mg/kg	< 0.05			0.05	Pass	
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Triazines							
Atrazine	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4,5-Trichlorophenol	mg/kg	< 1			1.0	Pass	
2,4,6-Trichlorophenol	mg/kg	< 1			1.0	Pass	
2,6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1.0	Pass	
Pentachlorophenol	mg/kg	< 1			1.0	Pass	
Tetrachlorophenols - Total	mg/kg	< 1			1.0	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4,6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2,4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2,4-Dinitrophenol	mg/kg	< 5			5	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
NEPM 2013 Acid Herbicides							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Picloram	mg/kg	< 0.5			0.5	Pass	
2,4-D	mg/kg	< 0.5			0.5	Pass	
2,4,5-T	mg/kg	< 0.5			0.5	Pass	
MCPA	mg/kg	< 0.5			0.5	Pass	
MCPB	mg/kg	< 0.5			0.5	Pass	
Mecoprop	mg/kg	< 0.5			0.5	Pass	
Method Blank							
NEPM 2013 Organochlorine Pesticides							
Mirex	mg/kg	< 0.01			0.01	Pass	
Method Blank							
% Clay	%	< 1			1	Pass	
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Conductivity (1:5 aqueous extract at 25°C)	uS/cm	< 10			10	Pass	
Cyanide (free)	mg/kg	< 5			5	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride	mg/kg	< 100			100	Pass	
Sulphate (as SO ₄)	mg/kg	< 30			30	Pass	
Total Organic Carbon	%	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Iron	mg/kg	< 20			20	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 0.2			0.2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Cation Exchange Capacity							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	119			70-130	Pass	
TRH C10-C14	%	85			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	84			70-130	Pass	
Toluene	%	97			70-130	Pass	
Ethylbenzene	%	100			70-130	Pass	
m&p-Xylenes	%	92			70-130	Pass	
Xylenes - Total	%	93			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Volatile Organics							
1.1-Dichloroethene	%	97			70-130	Pass	
1.1.1-Trichloroethane	%	94			70-130	Pass	
1.2-Dichlorobenzene	%	114			70-130	Pass	
1.2-Dichloroethane	%	111			70-130	Pass	
Benzene	%	99			70-130	Pass	
Ethylbenzene	%	98			70-130	Pass	
m&p-Xylenes	%	97			70-130	Pass	
Toluene	%	103			70-130	Pass	
Trichloroethene	%	108			70-130	Pass	
Xylenes - Total	%	97			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	127			70-130	Pass	
TRH C6-C10	%	128			70-130	Pass	
TRH >C10-C16	%	78			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	85			70-130	Pass	
Acenaphthylene	%	89			70-130	Pass	
Anthracene	%	95			70-130	Pass	
Benz(a)anthracene	%	87			70-130	Pass	
Benzo(a)pyrene	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	%	97			70-130	Pass	
Benzo(g,h,i)perylene	%	81			70-130	Pass	
Benzo(k)fluoranthene	%	92			70-130	Pass	
Chrysene	%	85			70-130	Pass	
Dibenz(a,h)anthracene	%	79			70-130	Pass	
Fluoranthene	%	82			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	78			70-130	Pass	
Naphthalene	%	88			70-130	Pass	
Phenanthrene	%	96			70-130	Pass	
Pyrene	%	85			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Bifenthrin	%	90			70-130	Pass	
4.4'-DDD	%	99			70-130	Pass	
4.4'-DDE	%	100			70-130	Pass	
4.4'-DDT	%	103			70-130	Pass	
a-BHC	%	102			70-130	Pass	
Aldrin	%	109			70-130	Pass	
b-BHC	%	104			70-130	Pass	
d-BHC	%	101			70-130	Pass	
Dieldrin	%	107			70-130	Pass	
Endosulfan I	%	102			70-130	Pass	
Endosulfan II	%	104			70-130	Pass	
Endosulfan sulphate	%	103			70-130	Pass	
Endrin	%	130			70-130	Pass	
Endrin aldehyde	%	100			70-130	Pass	
Endrin ketone	%	96			70-130	Pass	
g-BHC (Lindane)	%	105			70-130	Pass	
Heptachlor	%	108			70-130	Pass	
Heptachlor epoxide	%	104			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobenzene	%	95			70-130	Pass	
Methoxychlor	%	121			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	92			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	85			30-130	Pass	
2,4-Dichlorophenol	%	82			30-130	Pass	
2,4,5-Trichlorophenol	%	84			30-130	Pass	
2,4,6-Trichlorophenol	%	82			30-130	Pass	
2,6-Dichlorophenol	%	84			30-130	Pass	
4-Chloro-3-methylphenol	%	87			30-130	Pass	
Pentachlorophenol	%	48			30-130	Pass	
Tetrachlorophenols - Total	%	87			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4,6-dinitrophenol	%	69			30-130	Pass	
2-Methyl-4,6-dinitrophenol	%	38			30-130	Pass	
2-Methylphenol (o-Cresol)	%	82			30-130	Pass	
2-Nitrophenol	%	85			30-130	Pass	
2,4-Dimethylphenol	%	82			30-130	Pass	
2,4-Dinitrophenol	%	70			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	86			30-130	Pass	
4-Nitrophenol	%	64			30-130	Pass	
Dinoseb	%	79			30-130	Pass	
Phenol	%	81			30-130	Pass	
LCS - % Recovery							
NEPM 2013 Acid Herbicides							
Picloram	%	96			70-130	Pass	
2,4-D	%	102			70-130	Pass	
2,4,5-T	%	102			70-130	Pass	
MCPA	%	105			70-130	Pass	
MCPB	%	108			70-130	Pass	
Mecoprop	%	93			70-130	Pass	
LCS - % Recovery							
NEPM 2013 Organochlorine Pesticides							
Mirex	%	94			70-130	Pass	
LCS - % Recovery							
% Clay	%	96			70-130	Pass	
Chromium (hexavalent)	%	96			70-130	Pass	
Cyanide (total)	%	97			70-130	Pass	
Fluoride	%	122			70-130	Pass	
Sulphate (as SO ₄)	%	120			70-130	Pass	
Total Organic Carbon	%	102			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	103			80-120	Pass	
Beryllium	%	106			80-120	Pass	
Boron	%	94			80-120	Pass	
Cadmium	%	95			80-120	Pass	
Chromium	%	103			80-120	Pass	
Cobalt	%	107			80-120	Pass	
Copper	%	92			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead			%	106			80-120	Pass	
Manganese			%	96			80-120	Pass	
Mercury			%	90			75-125	Pass	
Mercury			%	91			75-125	Pass	
Mercury			%	94			75-125	Pass	
Molybdenum			%	100			80-120	Pass	
Nickel			%	106			80-120	Pass	
Selenium			%	94			80-120	Pass	
Silver			%	86			80-120	Pass	
Tin			%	105			80-120	Pass	
Zinc			%	107			80-120	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	M17-No35593	NCP	%	87			70-130	Pass	
1.1.1-Trichloroethane	M17-No35593	NCP	%	77			70-130	Pass	
1.2-Dichlorobenzene	M17-No35593	NCP	%	94			70-130	Pass	
1.2-Dichloroethane	M17-No35593	NCP	%	100			70-130	Pass	
Trichloroethene	M17-No35593	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M17-No32014	NCP	%	97			70-130	Pass	
4.4'-DDE	M17-No32014	NCP	%	93			70-130	Pass	
4.4'-DDT	M17-No32014	NCP	%	112			70-130	Pass	
a-BHC	M17-No32014	NCP	%	97			70-130	Pass	
Aldrin	M17-No32014	NCP	%	94			70-130	Pass	
b-BHC	M17-No32014	NCP	%	100			70-130	Pass	
d-BHC	M17-No32014	NCP	%	93			70-130	Pass	
Dieldrin	M17-No32014	NCP	%	86			70-130	Pass	
Endosulfan I	M17-No32014	NCP	%	92			70-130	Pass	
Endosulfan II	M17-No32014	NCP	%	111			70-130	Pass	
Endosulfan sulphate	M17-No32014	NCP	%	95			70-130	Pass	
Endrin	M17-No32014	NCP	%	91			70-130	Pass	
Endrin aldehyde	M17-No32014	NCP	%	101			70-130	Pass	
Endrin ketone	M17-No32014	NCP	%	90			70-130	Pass	
g-BHC (Lindane)	M17-No32014	NCP	%	94			70-130	Pass	
Heptachlor	M17-No32014	NCP	%	111			70-130	Pass	
Heptachlor epoxide	M17-No32014	NCP	%	92			70-130	Pass	
Hexachlorobenzene	M17-No32014	NCP	%	96			70-130	Pass	
Methoxychlor	M17-No32014	NCP	%	105			70-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M17-De00606	NCP	%	93			70-130	Pass	
Fluoride	M17-No35794	NCP	%	72			70-130	Pass	
Spike - % Recovery									
				Result 1					
Sulphate (as SO ₄)	S17-No36637	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C16-C34	M17-No37037	NCP	%	370			70-130	Fail	Q08
TRH >C34-C40	M17-No37037	NCP	%	65			70-130	Fail	Q08
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M17-De00200	CP	%	104			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
TRH >C10-C16	M17-De00200	CP	%	91		70-130	Pass	
Spike - % Recovery								
Heavy Metals				Result 1				
Arsenic	M17-De00211	CP	%	77		75-125	Pass	
Beryllium	M17-De00211	CP	%	81		75-125	Pass	
Cadmium	M17-De00211	CP	%	74		75-125	Fail	Q08
Chromium	M17-De00211	CP	%	81		75-125	Pass	
Cobalt	M17-De00211	CP	%	76		75-125	Pass	
Copper	M17-De00211	CP	%	86		75-125	Pass	
Lead	M17-De00211	CP	%	76		75-125	Pass	
Manganese	M17-De00211	CP	%	78		75-125	Pass	
Mercury	M17-De00211	CP	%	99		70-130	Pass	
Molybdenum	M17-De00211	CP	%	79		75-125	Pass	
Nickel	M17-De00211	CP	%	76		75-125	Pass	
Silver	M17-De00211	CP	%	78		75-125	Pass	
Tin	M17-De00211	CP	%	75		75-125	Pass	
Zinc	M17-De00211	CP	%	55		75-125	Fail	Q08
Spike - % Recovery								
NEPM 2013 Acid Herbicides				Result 1				
Picloram	M17-No36986	NCP	%	88		70-130	Pass	
2,4-D	M17-No36986	NCP	%	101		70-130	Pass	
MCPA	M17-No36986	NCP	%	107		70-130	Pass	
MCPB	M17-No36986	NCP	%	102		70-130	Pass	
Spike - % Recovery								
				Result 1				
Chromium (hexavalent)	M17-De00213	CP	%	102		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1				
TRH C10-C14	M17-De00214	CP	%	83		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
TRH >C10-C16	M17-De00214	CP	%	76		70-130	Pass	
Spike - % Recovery								
Polychlorinated Biphenyls				Result 1				
Aroclor-1260	M17-De00216	CP	%	91		70-130	Pass	
Spike - % Recovery								
				Result 1				
Chromium (hexavalent)	M17-De00216	CP	%	98		70-130	Pass	
Spike - % Recovery								
Heavy Metals				Result 1				
Arsenic	M17-De00221	CP	%	99		75-125	Pass	
Beryllium	M17-De00221	CP	%	100		75-125	Pass	
Boron	M17-De00221	CP	%	69		75-125	Fail	Q08
Cadmium	M17-De00221	CP	%	93		75-125	Pass	
Chromium	M17-De00221	CP	%	96		75-125	Pass	
Cobalt	M17-De00221	CP	%	98		75-125	Pass	
Copper	M17-De00221	CP	%	93		75-125	Pass	
Lead	M17-De00221	CP	%	94		75-125	Pass	
Manganese	M17-De00221	CP	%	92		75-125	Pass	
Mercury	M17-De00221	CP	%	106		70-130	Pass	
Molybdenum	M17-De00221	CP	%	96		75-125	Pass	
Nickel	M17-De00221	CP	%	97		75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Selenium	M17-De00221	CP	%	86			75-125	Pass	
Silver	M17-De00221	CP	%	84			75-125	Pass	
Tin	M17-De00221	CP	%	95			75-125	Pass	
Zinc	M17-De00221	CP	%	102			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M17-De00223	CP	%	84			70-130	Pass	
Acenaphthylene	M17-De00223	CP	%	84			70-130	Pass	
Anthracene	M17-De00223	CP	%	72			70-130	Pass	
Benz(a)anthracene	M17-De00223	CP	%	72			70-130	Pass	
Benzo(a)pyrene	M17-De00223	CP	%	78			70-130	Pass	
Benzo(b&j)fluoranthene	M17-De00223	CP	%	77			70-130	Pass	
Benzo(g,h,i)perylene	M17-De00223	CP	%	70			70-130	Pass	
Benzo(k)fluoranthene	M17-De00223	CP	%	97			70-130	Pass	
Chrysene	M17-De00223	CP	%	96			70-130	Pass	
Dibenz(a,h)anthracene	M17-De00223	CP	%	70			70-130	Pass	
Fluoranthene	M17-De00223	CP	%	80			70-130	Pass	
Fluorene	M17-De00223	CP	%	79			70-130	Pass	
Indeno(1,2,3-cd)pyrene	M17-De00223	CP	%	71			70-130	Pass	
Naphthalene	M17-De00223	CP	%	84			70-130	Pass	
Phenanthrene	M17-De00223	CP	%	83			70-130	Pass	
Pyrene	M17-De00223	CP	%	84			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M17-De00223	CP	%	79			30-130	Pass	
2,4-Dichlorophenol	M17-De00223	CP	%	72			30-130	Pass	
2,4,5-Trichlorophenol	M17-De00223	CP	%	77			30-130	Pass	
2,4,6-Trichlorophenol	M17-De00223	CP	%	62			30-130	Pass	
2,6-Dichlorophenol	M17-De00223	CP	%	83			30-130	Pass	
4-Chloro-3-methylphenol	M17-De00223	CP	%	76			30-130	Pass	
Pentachlorophenol	M17-De00223	CP	%	81			30-130	Pass	
Tetrachlorophenols - Total	M17-De00223	CP	%	78			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4,6-dinitrophenol	M17-De00223	CP	%	89			30-130	Pass	
2-Methyl-4,6-dinitrophenol	M17-De00223	CP	%	61			30-130	Pass	
2-Methylphenol (o-Cresol)	M17-De00223	CP	%	73			30-130	Pass	
2-Nitrophenol	M17-De00223	CP	%	83			30-130	Pass	
2,4-Dimethylphenol	M17-De00223	CP	%	84			30-130	Pass	
2,4-Dinitrophenol	M17-De00223	CP	%	69			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M17-De00223	CP	%	88			30-130	Pass	
4-Nitrophenol	M17-De00223	CP	%	45			30-130	Pass	
Dinoseb	M17-De00223	CP	%	67			30-130	Pass	
Phenol	M17-De00223	CP	%	87			30-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M17-De00226	CP	%	96			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M17-De00226	CP	%	97			70-130	Pass	
Toluene	M17-De00226	CP	%	95			70-130	Pass	
Ethylbenzene	M17-De00226	CP	%	88			70-130	Pass	
m&p-Xylenes	M17-De00226	CP	%	85			70-130	Pass	
o-Xylene	M17-De00226	CP	%	85			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total	M17-De00226	CP	%	85			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M17-De00226	CP	%	76			70-130	Pass	
TRH C6-C10	M17-De00226	CP	%	101			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Bifenthrin	M17-No34717	NCP	%	112			70-130	Pass	
Spike - % Recovery									
NEPM 2013 Organochlorine Pesticides				Result 1					
Mirex	M17-No34717	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M17-De00231	CP	%	101			75-125	Pass	
Beryllium	M17-De00231	CP	%	108			75-125	Pass	
Boron	M17-De00231	CP	%	65			75-125	Fail	Q08
Cadmium	M17-De00231	CP	%	101			75-125	Pass	
Chromium	M17-De00231	CP	%	104			75-125	Pass	
Cobalt	M17-De00231	CP	%	103			75-125	Pass	
Copper	M17-De00231	CP	%	109			75-125	Pass	
Lead	M17-De00231	CP	%	99			75-125	Pass	
Manganese	M17-De00231	CP	%	112			75-125	Pass	
Mercury	M17-De00231	CP	%	100			70-130	Pass	
Molybdenum	M17-De00231	CP	%	106			75-125	Pass	
Nickel	M17-De00231	CP	%	102			75-125	Pass	
Selenium	M17-De00231	CP	%	93			75-125	Pass	
Silver	M17-De00231	CP	%	94			75-125	Pass	
Tin	M17-De00231	CP	%	100			75-125	Pass	
Zinc	M17-De00231	CP	%	107			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M17-De00234	CP	%	76			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M17-De00234	CP	%	70			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
% Clay	S17-No32927	NCP	%	15	14	5.0	30%	Pass	
Conductivity (1:5 aqueous extract at 25°C)	M17-De00300	NCP	uS/cm	110	99	7.0	30%	Pass	
Total Organic Carbon	M17-No35989	NCP	%	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Cation Exchange Capacity				Result 1	Result 2	RPD			
Cation Exchange Capacity	B17-No36212	NCP	meq/100g	15	14	3.0	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1,1-Dichloroethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1,2,4-Trichlorobenzene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobutadiene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1,1-Dichloroethene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1,1,1-Trichloroethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1,1,1,2-Tetrachloroethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1,1,2-Trichloroethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
1.1.2.2-Tetrachloroethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dibromoethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dichlorobenzene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dichloroethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dichloropropane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2.3-Trichloropropane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2.4-Trimethylbenzene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.3-Dichlorobenzene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.3-Dichloropropane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.3.5-Trimethylbenzene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.4-Dichlorobenzene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2-Butanone (MEK)	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2-Propanone (Acetone)	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Chlorotoluene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Methyl-2-pentanone (MIBK)	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Allyl chloride	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromobenzene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromochloromethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromodichloromethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromoform	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromomethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Carbon disulfide	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Carbon Tetrachloride	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chlorobenzene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chloroethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chloroform	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chloromethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
cis-1.2-Dichloroethene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
cis-1.3-Dichloropropene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibromochloromethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibromomethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorodifluoromethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Iodomethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Isopropyl benzene (Cumene)	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methylene Chloride	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Styrene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Tetrachloroethene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
trans-1.2-Dichloroethene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
trans-1.3-Dichloropropene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloroethene	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichlorofluoromethane	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Vinyl chloride	M17-De00802	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	M17-De04848	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4.4'-DDD	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4.4'-DDE	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4.4'-DDT	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-BHC	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Endosulfan II	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	M17-De04848	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Toxaphene	M17-De04848	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls				Result 1	Result 2	RPD		
Aroclor-1016	M17-De04848	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1221	M17-De04848	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1232	M17-De04848	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1242	M17-De04848	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1248	M17-De04848	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1254	M17-De04848	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1260	M17-De04848	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Total PCB*	M17-De04848	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Chromium (hexavalent)	M17-De00982	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Cyanide (total)	M17-De00605	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Fluoride	M17-No35333	NCP	mg/kg	180	170	8.0	30%	Pass
pH (1:5 Aqueous extract)	M17-De00300	NCP	pH Units	5.7	5.6	pass	30%	Pass
% Moisture	M17-De00194	CP	%	20	20	5.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Sulphate (as SO ₄)	S17-No36635	NCP	mg/kg	470	470	1.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	M17-De00204	CP	%	20	20	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M17-De00211	CP	mg/kg	7.8	8.1	4.0	30%	Pass
Beryllium	M17-De00211	CP	mg/kg	< 2	< 2	<1	30%	Pass
Boron	M17-De00211	CP	mg/kg	< 10	< 10	<1	30%	Pass
Cadmium	M17-De00211	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M17-De00211	CP	mg/kg	9.7	9.7	1.0	30%	Pass
Cobalt	M17-De00211	CP	mg/kg	< 5	< 5	<1	30%	Pass
Copper	M17-De00211	CP	mg/kg	15	15	2.0	30%	Pass
Lead	M17-De00211	CP	mg/kg	13	13	1.0	30%	Pass
Manganese	M17-De00211	CP	mg/kg	< 5	< 5	<1	30%	Pass
Mercury	M17-De00211	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Molybdenum	M17-De00211	CP	mg/kg	< 5	< 5	<1	30%	Pass
Nickel	M17-De00211	CP	mg/kg	< 5	< 5	<1	30%	Pass
Selenium	M17-De00211	CP	mg/kg	< 2	< 2	<1	30%	Pass
Silver	M17-De00211	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tin	M17-De00211	CP	mg/kg	< 10	< 10	<1	30%	Pass
Zinc	M17-De00211	CP	mg/kg	17	18	5.0	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Chlorpyrifos	M17-De03397	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass

Duplicate								
Triazines				Result 1	Result 2	RPD		
Atrazine	M17-De03397	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
NEPM 2013 Acid Herbicides				Result 1	Result 2	RPD		
Picloram	M17-No36985	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-D	M17-No36985	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4,5-T	M17-No36985	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
MCPA	M17-No36985	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
MCPB	M17-No36985	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Mecoprop	M17-No36985	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	M17-De00214	CP	%	11	11	2.0	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Phenols (Halogenated)				Result 1	Result 2	RPD		
2-Chlorophenol	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dichlorophenol	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4,5-Trichlorophenol	M17-De00216	CP	mg/kg	< 1	< 1	<1	30%	Pass
2,4,6-Trichlorophenol	M17-De00216	CP	mg/kg	< 1	< 1	<1	30%	Pass
2,6-Dichlorophenol	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Chloro-3-methylphenol	M17-De00216	CP	mg/kg	< 1	< 1	<1	30%	Pass
Pentachlorophenol	M17-De00216	CP	mg/kg	< 1	< 1	<1	30%	Pass
Tetrachlorophenols - Total	M17-De00216	CP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
Phenols (non-Halogenated)				Result 1	Result 2	RPD		
2-Cyclohexyl-4,6-dinitrophenol	M17-De00216	CP	mg/kg	< 20	< 20	<1	30%	Pass
2-Methyl-4,6-dinitrophenol	M17-De00216	CP	mg/kg	< 5	< 5	<1	30%	Pass
2-Methylphenol (o-Cresol)	M17-De00216	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
2-Nitrophenol	M17-De00216	CP	mg/kg	< 1	< 1	<1	30%	Pass
2,4-Dimethylphenol	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dinitrophenol	M17-De00216	CP	mg/kg	< 5	< 5	<1	30%	Pass
3&4-Methylphenol (m&p-Cresol)	M17-De00216	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
4-Nitrophenol	M17-De00216	CP	mg/kg	< 5	< 5	<1	30%	Pass
Dinoseb	M17-De00216	CP	mg/kg	< 20	< 20	<1	30%	Pass
Phenol	M17-De00216	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M17-De00220	CP	mg/kg	4.4	4.6	4.0	30%	Pass
Beryllium	M17-De00220	CP	mg/kg	< 2	< 2	<1	30%	Pass
Boron	M17-De00220	CP	mg/kg	< 10	< 10	<1	30%	Pass
Cadmium	M17-De00220	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M17-De00220	CP	mg/kg	9.2	9.1	1.0	30%	Pass
Cobalt	M17-De00220	CP	mg/kg	7.9	7.2	9.0	30%	Pass
Copper	M17-De00220	CP	mg/kg	38	40	4.0	30%	Pass
Lead	M17-De00220	CP	mg/kg	22	22	2.0	30%	Pass
Manganese	M17-De00220	CP	mg/kg	54	51	6.0	30%	Pass
Mercury	M17-De00220	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Molybdenum	M17-De00220	CP	mg/kg	< 5	< 5	<1	30%	Pass
Nickel	M17-De00220	CP	mg/kg	11	9.5	13	30%	Pass
Selenium	M17-De00220	CP	mg/kg	< 2	< 2	<1	30%	Pass
Silver	M17-De00220	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tin	M17-De00220	CP	mg/kg	< 10	< 10	<1	30%	Pass
Zinc	M17-De00220	CP	mg/kg	67	66	2.0	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	M17-De00221	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	M17-De00221	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	M17-De00221	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	M17-De00221	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	M17-De00221	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	M17-De00221	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total	M17-De00221	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	M17-De00221	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	M17-De00221	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M17-De00221	CP	mg/kg	7.4	8.2	9.0	30%	Pass
Beryllium	M17-De00221	CP	mg/kg	< 2	< 2	<1	30%	Pass
Boron	M17-De00221	CP	mg/kg	< 10	< 10	<1	30%	Pass
Cadmium	M17-De00221	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M17-De00221	CP	mg/kg	10	10	1.0	30%	Pass
Cobalt	M17-De00221	CP	mg/kg	< 5	< 5	<1	30%	Pass
Copper	M17-De00221	CP	mg/kg	28	28	1.0	30%	Pass
Lead	M17-De00221	CP	mg/kg	19	19	2.0	30%	Pass
Manganese	M17-De00221	CP	mg/kg	18	18	1.0	30%	Pass
Mercury	M17-De00221	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Molybdenum	M17-De00221	CP	mg/kg	< 5	< 5	<1	30%	Pass
Nickel	M17-De00221	CP	mg/kg	5.4	5.5	1.0	30%	Pass
Selenium	M17-De00221	CP	mg/kg	< 2	< 2	<1	30%	Pass
Silver	M17-De00221	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tin	M17-De00221	CP	mg/kg	< 10	< 10	<1	30%	Pass
Zinc	M17-De00221	CP	mg/kg	38	38	2.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	M17-De00224	CP	%	9.9	11	6.0	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Bifenthrin	M17-De02772	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass

Duplicate								
NEPM 2013 Organochlorine Pesticides				Result 1	Result 2	RPD		
Mirex	M17-De02772	NCP	mg/kg	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M17-De00230	CP	mg/kg	4.3	5.5	23	30%	Pass
Beryllium	M17-De00230	CP	mg/kg	< 2	< 2	<1	30%	Pass
Boron	M17-De00230	CP	mg/kg	< 10	< 10	<1	30%	Pass
Cadmium	M17-De00230	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M17-De00230	CP	mg/kg	6.9	8.9	25	30%	Pass
Cobalt	M17-De00230	CP	mg/kg	6.4	9.3	37	30%	Fail Q15
Copper	M17-De00230	CP	mg/kg	33	37	11	30%	Pass
Lead	M17-De00230	CP	mg/kg	15	18	18	30%	Pass
Manganese	M17-De00230	CP	mg/kg	44	49	11	30%	Pass
Molybdenum	M17-De00230	CP	mg/kg	< 5	< 5	<1	30%	Pass
Nickel	M17-De00230	CP	mg/kg	8.1	12	38	30%	Fail Q15
Selenium	M17-De00230	CP	mg/kg	< 2	< 2	<1	30%	Pass
Silver	M17-De00230	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tin	M17-De00230	CP	mg/kg	< 10	< 10	<1	30%	Pass
Zinc	M17-De00230	CP	mg/kg	55	64	15	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M17-De00231	CP	mg/kg	5.9	7.6	26	30%	Pass
Beryllium	M17-De00231	CP	mg/kg	< 2	< 2	<1	30%	Pass
Boron	M17-De00231	CP	mg/kg	< 10	< 10	<1	30%	Pass
Cadmium	M17-De00231	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M17-De00231	CP	mg/kg	8.2	11	30	30%	Pass
Cobalt	M17-De00231	CP	mg/kg	< 5	< 5	<1	30%	Pass
Copper	M17-De00231	CP	mg/kg	23	32	34	30%	Fail Q15
Lead	M17-De00231	CP	mg/kg	15	21	32	30%	Fail Q15
Manganese	M17-De00231	CP	mg/kg	< 5	< 5	<1	30%	Pass
Mercury	M17-De00231	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Molybdenum	M17-De00231	CP	mg/kg	< 5	< 5	<1	30%	Pass
Nickel	M17-De00231	CP	mg/kg	< 5	< 5	<1	30%	Pass
Selenium	M17-De00231	CP	mg/kg	< 2	< 2	<1	30%	Pass
Silver	M17-De00231	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tin	M17-De00231	CP	mg/kg	< 10	< 10	<1	30%	Pass
Zinc	M17-De00231	CP	mg/kg	13	13	5.0	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C10-C14	M17-De00233	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	M17-De00233	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	M17-De00233	CP	mg/kg	< 50	< 50	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	M17-De00233	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	M17-De00233	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	M17-De00233	CP	mg/kg	< 100	< 100	<1	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Comments

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference
Q15	The RPD reported passes Eurofins mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Natalie Krasselt	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Alex Petridis	Senior Analyst-Organic (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)
Jonathon Angell	Senior Analyst-Inorganic (QLD)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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CHAIN OF CUSTODY

EnviroProtect (Vic) Pty Ltd

Date:	27/11/17	Job No:	EV2262	PO:	V3422
Client:	Moits	Site Address:	76-100 Church St, Parramatta, NSW	Lab:	Eurofins/MGT
Location:	76-100 Church St, Parramatta				

SAMPLE NO.	SAMPLE TYPE	NO. OF CONTAINERS	ANALYSIS REQUIRED										ADDITIONAL
			PCB	PAH	NEPM R21	M12 (Metals)	VOC	SUTTE B1	SUTTE B7	IWRG SUTTE R1	Sutte B6	NEPM R20	
EV2262-BH1-0.7	Soil	1		X		X							
EV2262-BH1-2.5	Soil	1				X							
EV2262-BH2-0.5	Soil	1			X	X							
EV2262-BH2-2.4	Soil	1				X							
EV2262-BH2-4.0	Soil	1				X				X			
EV2262-BH2-5.3	Soil	1				X							Sulphate
EV2262-GW1-0.6	Soil	1									X		
EV2262-GW1-2.6	Soil	1									X		
EV2262-GW1-4.2	Soil	1									X		
EV2262-BH3-1.0	Soil	1							X				
EV2262-BH3-2.5	Soil	1							X				
EV2262-BH3-4.5	Soil	1							X				
EV2262-BH4-0.4	Soil	1								X			
EV2262-BH4-3.0	Soil	1									X		
EV2262-BH4-4.8	Soil	1				X							
EV2262-GW2-0.4	Soil	1									X		
EV2262-GW2-1.2	Soil	1									X		
EV2262-GW2-3.0	Soil	1									X		
EV2262-GW2-4.5	Soil	1									X		
EV2262-BH5-0.4	Soil	1		X		X							
EV2262-BH5-2.8	Soil	1		X		X					X		
EV2262-BH6-0.9	Soil	1		X		X							
EV2262-BH6-2.8	Soil	1											Sulphate
EV2262-BH7-1.2	Soil	1											
EV2262-BH7-3.3	Soil	1				X					X		
EV2262-BH8-1.4	Soil	1								X			
EV2262-BH8-2.9	Soil	1			X	X							
EV2262-BH9-0.6	Soil	1									X		
EV2262-BH9-2.7	Soil	1				X	X						
EV2262-GW3-0.8	Soil	1									X		
EV2262-GW3-2.0	Soil	1									X		

Office / Postal Address: 298 Kororoit Creek Road, Williamstown Vic 3016

EnviroProtect (Vic) Pty Ltd
Ph: (03) 9399 7999 Fax: (03) 9399 7900

CEC-005
EF1-091
29/11/2017

575193

CHAIN OF CUSTODY

EnviroProtect (Vic) Pty Ltd

Date:	27/11/17	Job No:	EV2262	PO:	V3422
Client:	Molts	Site Address:	76-100 Church St, Parramatta	Lab:	Eurofins/MGT
Location:	76-100 Church St, Parramatta				

ANALYSIS REQUIRED													
SAMPLE NO.	SAMPLE TYPE	NO. OF CONTAINERS	PCB	PAH	NEPM R21	M12 (Metals)	VOC	SUITE B1	SUITE B7	IWRG SUITE R1	Suite B6	NEPM R20	ADDITIONAL
EV2262-GW3-4.0	Soil	1									X		
EV2262-BH10-0.6	Soil	1										X	
EV2262-BH10-2.8	Soil	1				X	X						
EV2262-BH11-0.5	Soil	1				X							
EV2262-BH11-3.2	Soil	1									X		
EV2262-BH12-0.7	Soil	1		X		X							
EV2262-BH12-2.6	Soil	1				X							
EV2262-T1-0.8	Soil	1	X			X							
EV2262-T1-3.2	Soil	1	X			X							
EV2262-T2-0.4	Soil	1							X				
EV2262-T2-2.9	Soil	1							X				
EV2262-T3-0.9	Soil	1							X				
EV2262-T3-2.9	Soil	1							X				
EV2262-T3-4.8	Soil	1									X		
EV2262-DP1	Soil	1									X		
EV2262-DP2	Soil	1									X		
EV2262-DP3	Soil	1									X		
EV2262-SP1*	Soil	1									X		
EV2262-SP2*	Soil	1									X		
EV2262-SP3*	Soil	1									X		
EV2262-TP1	Water	2									X		
EV2262-R1	Water	2									X		
TOTAL NUMBER		45											
Relinquished By:	Alex Sepulveda	Date:	27/11/17		Results Turnaround		24 Hours	48 Hours	STANDARD				
Received By:	18/11/17	Date Received	29/11										

*Please note: EV2262-SP1, EV2262-SP2, EV2262-SP3 to be sent to a secondary lab (QA/QC samples)

Office / Postal Address: 298 Kororoit Creek Road, Williamstown Vic 3016
EnviroProtect (Vic) Pty Ltd
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578193

CERTIFICATE OF ANALYSIS 12544

Client Details

Client	EnviroProtect (Vic) Pty Ltd
Attention	Alex Sepulveda
Address	298 Kororoit Creek Rd, Williamstown, VIC, 3016

Sample Details

Your Reference	<u>EV2262 - 76-100 Church St. Parramatta</u>
Number of Samples	3 Soil
Date samples received	01/12/2017
Date completed instructions received	01/12/2017

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	11/12/2017
Date of Issue	11/12/2017

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Results Approved By

Chris De Luca, Senior Chemist

Authorised By



Pamela Adams, Laboratory Manager

Client Reference: EV2262 - 76-100 Church St, Parramatta

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		12544-1	12544-2	12544-3
Your Reference	UNITS	EV2262-SP1	EV2262-SP2	EV2262-SP3
Type of sample		Soil	Soil	Soil
Date extracted	-	05/12/2017	05/12/2017	05/12/2017
Date analysed	-	07/12/2017	07/12/2017	07/12/2017
vTRH C ₆ - C ₉	mg/kg	<25	<25	<25
vTRH C ₆ - C ₁₀	mg/kg	<25	<25	<25
TRH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	110	102

TRH Soil C10-C40 NEPM				
Our Reference		12544-1	12544-2	12544-3
Your Reference	UNITS	EV2262-SP1	EV2262-SP2	EV2262-SP3
Type of sample		Soil	Soil	Soil
Date extracted	-	05/12/2017	05/12/2017	05/12/2017
Date analysed	-	07/12/2017	07/12/2017	07/12/2017
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50
Surrogate o-Terphenyl	%	89	89	91

Client Reference: EV2262 - 76-100 Church St, Parramatta

Acid Extractable metals in soil				
Our Reference		12544-1	12544-2	12544-3
Your Reference	UNITS	EV2262-SP1	EV2262-SP2	EV2262-SP3
Type of sample		Soil	Soil	Soil
Date digested	-	06/12/2017	06/12/2017	06/12/2017
Date analysed	-	07/12/2017	07/12/2017	07/12/2017
Arsenic	mg/kg	<4	5	9
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	4	6	16
Copper	mg/kg	22	39	14
Lead	mg/kg	19	16	16
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	2	20	2
Zinc	mg/kg	17	140	10

Client Reference: EV2262 - 76-100 Church St, Parramatta

Moisture				
Our Reference		12544-1	12544-2	12544-3
Your Reference	UNITS	EV2262-SP1	EV2262-SP2	EV2262-SP3
Type of sample		Soil	Soil	Soil
Date prepared	-	05/12/2017	05/12/2017	05/12/2017
Date analysed	-	06/12/2017	06/12/2017	06/12/2017
Moisture	%	13	8.2	23

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Client Reference: EV2262 - 76-100 Church St, Parramatta

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1 [NT]
Date extracted	-			05/12/2017					05/12/2017
Date analysed	-			07/12/2017					07/12/2017
vTRH C ₆ - C ₉	mg/kg	25	Org-016	<25					95
vTRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25					95
Benzene	mg/kg	0.2	Org-016	<0.2					91
Toluene	mg/kg	0.5	Org-016	<0.5					94
Ethylbenzene	mg/kg	1	Org-016	<1					91
m+p-xylene	mg/kg	2	Org-016	<2					99
o-Xylene	mg/kg	1	Org-016	<1					97
Naphthalene	mg/kg	1	Org-014	<1					
Surrogate aaa-Trifluorotoluene	%		Org-016	108					107

Client Reference: EV2262 - 76-100 Church St, Parramatta

QUALITY CONTROL: TRH Soil C10-C40 NEPM						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			06/12/2017					06/12/2017	
Date analysed	-			07/12/2017					07/12/2017	
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50					86	
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100					89	
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100					80	
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50					86	
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100					89	
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100					80	
Surrogate o-Terphenyl	%		Org-003	83					86	

Client Reference: EV2262 - 76-100 Church St, Parramatta

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			06/12/2017					06/12/2017	
Date analysed	-			07/12/2017					07/12/2017	
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4					98	
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4					103	
Chromium	mg/kg	1	Metals-020 ICP-AES	<1					102	
Copper	mg/kg	1	Metals-020 ICP-AES	<1					98	
Lead	mg/kg	1	Metals-020 ICP-AES	<1					99	
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1					101	
Nickel	mg/kg	1	Metals-020 ICP-AES	<1					100	
Zinc	mg/kg	1	Metals-020 ICP-AES	<1					101	

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

SPOCAS ANALYTICAL DATA

Certificate of Analysis

EnviroProtect (VIC) Pty Ltd
298 Kororoit Creek Rd
Williamstown
VIC 3016



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards

Attention: -Michelle Matos

Report 591733-S-V2
Project name 76-100 CHURCH STREET PARAMATTA
Project ID EV2349
Received Date Mar 29, 2018

Client Sample ID			EV2349-1	EV2349-2	EV2349-3	EV2349-4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			S18-Ma34112	S18-Ma34113	S18-Ma34114	S18-Ma34115
Date Sampled			Mar 28, 2018	Mar 28, 2018	Mar 28, 2018	Mar 28, 2018
Test/Reference	LOR	Unit				
SPOCAS Suite						
pH-KCL	0.1	pH Units	8.9	8.9	9.0	9.1
pH-OX	0.1	pH Units	8.6	8.6	8.6	8.6
Acid trail - Titratable Actual Acidity	2	mol H+/t	< 2	< 2	< 2	< 2
Acid trail - Titratable Peroxide Acidity	2	mol H+/t	< 2	< 2	< 2	< 2
Acid trail - Titratable Sulfidic Acidity	2	mol H+/t	< 2	< 2	< 2	< 2
sulfidic - TAA equiv. S% pyrite	0.02	% pyrite S	< 0.02	< 0.02	< 0.02	< 0.02
sulfidic - TPA equiv. S% pyrite	0.02	% pyrite S	< 0.02	< 0.02	< 0.02	< 0.02
sulfidic - TSA equiv. S% pyrite	0.02	% pyrite S	< 0.02	< 0.02	< 0.02	< 0.02
Sulfur - KCl Extractable	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
Sulfur - Peroxide	0.02	% S	0.04	0.05	0.05	0.05
Sulfur - Peroxide Oxidisable Sulfur	0.02	% S	0.04	0.05	0.05	0.05
acidity - Peroxide Oxidisable Sulfur	10	mol H+/t	24	28	29	30
HCl Extractable Sulfur	0.02	% S	n/a	n/a	n/a	n/a
Net Acid soluble sulfur	0.02	% S	n/a	n/a	n/a	n/a
Net Acid soluble sulfur - acidity units	10	mol H+/t	n/a	n/a	n/a	n/a
Net Acid soluble sulfur - equivalent S% pyrite ^{S02}	0.02	% S	n/a	n/a	n/a	n/a
Calcium - KCl Extractable	0.02	% Ca	0.12	0.12	0.12	0.13
Calcium - Peroxide	0.02	% Ca	0.20	0.20	0.21	0.19
Acid Reacted Calcium	0.02	% Ca	0.08	0.09	0.09	0.06
acidity - Acid Reacted Calcium	10	mol H+/t	42	44	45	32
sulfidic - Acid Reacted Ca equiv. S% pyrite	0.02	% S	0.07	0.07	0.07	0.05
Magnesium - KCl Extractable	0.02	% Mg	0.05	0.05	0.05	0.05
Magnesium - Peroxide	0.02	% Mg	0.14	0.13	0.14	0.13
Acid Reacted Magnesium	0.02	% Mg	0.09	0.09	0.09	0.09
acidity - Acid Reacted Magnesium	10	mol H+/t	78	73	74	71
sulfidic - Acid Reacted Mg equiv. S% pyrite	0.02	% S	0.12	0.12	0.12	0.11
Acid Neutralising Capacity (ANCE)	0.02	%CaCO3	0.49	0.48	0.48	0.48
Acid Neutralising Capacity - Acidity units (a-ANCE)	10	mol H+/t	98	95	96	96
Acid Neutralising Capacity - equivalent S% pyrite(s-ANCE)	0.02	% S	0.16	0.15	0.15	0.15
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
SPOCAS - Net Acidity (Sulfur Units)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
SPOCAS - Net Acidity (Acidity Units)	10	mol H+/t	< 10	< 10	< 10	< 10
SPOCAS - Liming rate	1	kg CaCO3/t	< 1	< 1	< 1	< 1

Client Sample ID			EV2349-1	EV2349-2	EV2349-3	EV2349-4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			S18-Ma34112	S18-Ma34113	S18-Ma34114	S18-Ma34115
Date Sampled			Mar 28, 2018	Mar 28, 2018	Mar 28, 2018	Mar 28, 2018
Test/Reference	LOR	Unit				
Extraneous Material						
<2mm Fraction	0.005	g	90	72	67	89
>2mm Fraction	0.005	g	68	130	130	71
Analysed Material	0.1	%	57	35	35	56
Extraneous Material	0.1	%	43	65	65	44
% Moisture	1	%	4.7	3.9	4.2	5.0

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
SPOCAS Suite			
SPOCAS Suite	Brisbane	Apr 04, 2018	6 Week
- Method: LTM-GEN-7050			
Extraneous Material	Brisbane	Apr 04, 2018	6 Week
- Method: LTM-GEN-7050/7070			
% Moisture	Brisbane	Mar 29, 2018	14 Day
- Method: LTM-GEN-7080 Moisture			

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA. If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
SPOCAS Suite				Result 1	Result 2	RPD			
pH-KCL	S18-Ma34112	CP	pH Units	8.9	8.8	<1	30%	Pass	
pH-OX	S18-Ma34112	CP	pH Units	8.6	8.6	<1	30%	Pass	
Acid trail - Titratable Actual Acidity	S18-Ma34112	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Acid trail - Titratable Peroxide Acidity	S18-Ma34112	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Acid trail - Titratable Sulfidic Acidity	S18-Ma34112	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
sulfidic - TAA equiv. S% pyrite	S18-Ma34112	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
sulfidic - TPA equiv. S% pyrite	S18-Ma34112	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
sulfidic - TSA equiv. S% pyrite	S18-Ma34112	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Sulfur - KCl Extractable	S18-Ma34112	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
Sulfur - Peroxide	S18-Ma34112	CP	% S	0.04	0.05	19	30%	Pass	
Sulfur - Peroxide Oxidisable Sulfur	S18-Ma34112	CP	% S	0.04	0.05	19	30%	Pass	
acidity - Peroxide Oxidisable Sulfur	S18-Ma34112	CP	mol H+/t	24	29	19	30%	Pass	
HCl Extractable Sulfur	S18-Ma34112	CP	% S	n/a	n/a	n/a	30%	Pass	
Net Acid soluble sulfur	S18-Ma34112	CP	% S	n/a	n/a	n/a	30%	Pass	
Net Acid soluble sulfur - acidity units	S18-Ma34112	CP	mol H+/t	n/a	n/a	n/a	30%	Pass	
Net Acid soluble sulfur - equivalent S% pyrite	S18-Ma34112	CP	% S	n/a	n/a	n/a	30%	Pass	
Calcium - KCl Extractable	S18-Ma34112	CP	% Ca	0.12	0.12	5.0	30%	Pass	
Calcium - Peroxide	S18-Ma34112	CP	% Ca	0.20	0.20	2.0	30%	Pass	
Acid Reacted Calcium	S18-Ma34112	CP	% Ca	0.08	0.07	13	30%	Pass	
acidity - Acid Reacted Calcium	S18-Ma34112	CP	mol H+/t	42	37	13	30%	Pass	
sulfidic - Acid Reacted Ca equiv. S% pyrite	S18-Ma34112	CP	% S	0.07	0.06	13	30%	Pass	
Magnesium - KCl Extractable	S18-Ma34112	CP	% Mg	0.05	0.05	4.0	30%	Pass	
Magnesium - Peroxide	S18-Ma34112	CP	% Mg	0.14	0.14	3.0	30%	Pass	
Acid Reacted Magnesium	S18-Ma34112	CP	% Mg	0.09	0.09	6.0	30%	Pass	
acidity - Acid Reacted Magnesium	S18-Ma34112	CP	mol H+/t	78	73	6.0	30%	Pass	
sulfidic - Acid Reacted Mg equiv. S% pyrite	S18-Ma34112	CP	% S	0.12	0.12	6.0	30%	Pass	
Acid Neutralising Capacity (ANCE)	S18-Ma34112	CP	%CaCO3	0.49	0.49	<1	30%	Pass	
Acid Neutralising Capacity - Acidity units (a-ANCE)	S18-Ma34112	CP	mol H+/t	98	98	<1	30%	Pass	
ANC Fineness Factor	S18-Ma34112	CP	factor	1.5	1.5	<1	30%	Pass	
SPOCAS - Liming rate	S18-Ma34112	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S18-Ma34114	CP	%	4.2	4.2	1.0	30%	Pass	

Comments

V2 - report updated to display 4 sample results

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5

Authorised By

Natalie Krasselt	Analytical Services Manager
Myles Clark	Senior Analyst-Metal (QLD)



Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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CHAIN OF CUSTODY

EnviroProtect (Vic) Pty Ltd

Ref: 2027 591733

Date: 28/03/18	Job No: EV 2262	PO: V3422
Client: Moits	Site Address: 76-100 Church St. Parramatta	Lab: Eurofins/MGT
Location: 76-100 Church St. Parramatta		

SAMPLE NO.	SAMPLE TYPE	NO. OF CONTAINERS	ANALYSIS REQUIRED										ADDITIONAL				
			SPOCAS	PAH	NEPM R21	M12 (Metals)	VOC	SUITE R1	SUITE R2	IWRG SUITE R1	Suite B6	NEPM R20					
EV 2262-1	Soil	01	X														
EV 2262-2		01	X														
EV 2262-3		01	X														
EV 2262-4		01	X														
TOTAL NUMBER			04														
Relinquished By: Danny Michelle Matos			Date: 28/03/18			Results Turnaround			24 Hours			48 Hours			STANDARD		
Received By: Rosalind Ranaivosoa			Date Received: 28/3/18												3 days		

*Please note: EV2262-SP1, EV2262-SP2, EV2262-SP3 to be sent to a secondary lab (QA/QC samples)

14th February 2019

Sydney Excavation Group Pty Ltd
131 Stahls Road,
Oakville NSW

Dear Elias,

**Re: Virgin Excavated Natural Material (VENM) Soil Classification @
6A, 8, 8B & 8C Monash Road, Gladesville NSW 2111**

1.0 Introduction

Geologic Solutions Group Pty Ltd was appointed by Sydney Excavation Group Pty Ltd to conduct an assessment of natural soil to be excavated as Virgin Excavated Natural Material (VENM) from the property located at 6A, 8, 8B & 8C Monash Road, Gladesville NSW 2111 (the "site").

2.0 Objectives

The objectives of this waste classification were to:

- Assess the size and composition of the material to be disposed of;
- Assess the nature and extent of contamination in the material to be disposed of; and
- Determine the suitability of the material for offsite disposal in accordance with the *Waste Classification Guidelines – Part 1: Classifying Waste* (DECC NSW 2014) and the NEPM 2013 Criteria.

3.0 VENM Definition

The Protection of the Environment Operations Act 1997 defines VENM as:

“Virgin excavated natural material means natural material (such as clay, gravel, sand, soil or rock fines):

- that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities
- that does not contain sulfidic ores or soils, or any other waste,

and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a notice published in the NSW Government Gazette.”

4.0 Field Work

Geologic Solutions Group Pty Ltd visited the site on the 8th February 2019, all structures on the property had been removed and topsoils had already been excavated and removed over the majority of the site, and the natural material was evident. Site area was approximately 1900m² of vacant land. Approximately 9000m³ of natural material is estimated to be transported off-site. This soil classification refers to the natural underlying material from the site only. Stockpiles of fill and/ or topsoil and/ or fill material do not form a part of this classification and are to be disposed of appropriately.

To achieve the above objectives, Geologic Solutions Group completed the following scope of work:

- Collection of 5 discrete in-situ soil samples from the materials to be disposed of within the Site; (test pit and locations can be seen in the site plan attached)
- Submission of samples to the NATA accredited analytical laboratory for analysis; and
- Production of this waste classification report.

Sampling densities, methods and full suite of analytes are undertaken as per reference guidance outlined in Section 11.

Samples were collected using a gloved hand, which the glove was replaced after each sampling event. No cross contamination was expected from the sampling procedure. Samples were collected and placed in a chilled esky and provided to Envirolab a NATA Accredited laboratory. Laboratory QA/QC was within acceptable limits.

Following a visual assessment of the soil material, the materials were found to be:

Test Pit 1, 2, 3, 4, 5

1. 0.0m-1.0m- Shaley Clay, medium plasticity, red & brown with grey mottle
2. 1.0-3m- WEATHERED SHALE, extremely weathered, clay band inclusions, brown & grey
3. 3.0m-5m WEATHERED SHALE, grey & brown, some clay band inclusions

Soils that are outside the above descriptions do not form a part of this classification and are to be disposed of appropriately and in accordance with relevant guideline criteria.

As part of this VENM report, Geologic Solutions Group undertook a walkover and desktop study of the site and took into consideration the following points where applicable:

- Description and quality of the building structure & materials
 - No structures remain on property
- Current operations
 - Vacant Residential and industrial Land
- Waste Management Practices & trade waste
 - N/A
- Above & underground storage tanks

- No USTs and ASTs were identified within the work area and are unlikely to be present on site.
- Odours
 - At the time of the visit no odours were evident
- Site vegetation & sealed surfaces
 - Healthy and free from stress
- Historical operations (if known)
 - Historical maps show residential and industrial from 1943 until present (Six Maps)
- Former raw materials & transportation (if known)
 - N/A
- Surface water
 - No surface water was observed on the day of the visit
- Groundwater (if known)
 - Groundwater was not observed in the test pits on the day of the visit
- Site Surrounding and their operations
 - Residential to the north east,
 - Monash road then Commercial to the south east
 - Commercial to the south west
- Asbestos
 - NO Asbestos was detected within the natural soils that have been analysed by a NATA accredited laboratory. During the site visit no visible asbestos was present on site.

5.0 Geological Profile

The Geological Map of Sydney (Geological Series Sheet 9130, Scale 1:100,000, Edition 1, 1983) published by the Department of Minerals and Energy indicates the residual soils within the site to be underlain by black to dark-grey shale & laminate.

- The soil profile at the site was consistent with the Geological Survey. Following a visual assessment of the soil profile, the materials to be excavated were found to be CLAY/ WEATHERED SHALE brown & grey in

colour. The site is proposed for a high density residential development with 2 basement garage. Given the geological profile, it is expected that natural material will extend throughout the profile to the maximum depth of excavations.

6.0 Acid Sulphate Soils

To determine whether there is a potential for acid sulphate soils to be present within a site, reference was made to the NSW Department of Land & Water Conservation (DLWC) Acid Sulphate Soil Risk Maps (Edition Two, December 1997, Scale 1:250,000), the site is of **No Known Occurrence** and over 500m from any identified acid sulphate soil prone areas. Laboratory and field testing returned results over 4 units for pH levels. During the site visit acid sulphate soil characteristics were not evident in the areas inspected.

7.0 Laboratory Testing

The sample collected was representative of the natural material found within the proposed works area. The samples were analysed for a selection of heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn), Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Polycyclic Aromatic Hydrocarbons (PAH, Polychlorinated Biphenyls (PCB), Organochlorine Pesticides (OCP), Organophosphurs Pesticides (OPP), Asbestos, pH and Electrical Conductivity (EC).

A summery of the laboratory results can be seen in TABLE 1, 2 & 3 below.

TABLE 1- Summary of Results

			Heavy Metals (mg/kg)							
			ARSENIC	CADMIUM	CHROMIUM	COPPER	LEAD	MERCURY	NICKEL	ZINC
Australian Background Soil Levels										
NEPM Schedule B(1) (2013)			100	20	100	6000	300	40	400	7400
NEPC (1999) Range			1–50	1	5–1000	2–1000	2–200	0.03	5–5000	10–300
ANZECC (1992)			0.2–30	0.04–2	0.5–110	1–190	<2–200	0.001–0.1	2–400	2–180
PLDC VENM Criteria (2014)			20	3	100	100	50	1	60	200
NSW EPA Waste Criteria (No Leachates)										
CT1			100	20	100	-	100	4	40	-
CT2			400	80	400	-	400	16	160	-
NSW EPA Waste Criteria (With Leachates)										
SCC1			500	100	1900	-	1500	50	1050	-
SCC2			2000	400	7600	-	6000	200	4200	-
Limit of Resolution (LOR)			4	0.4	5	5	5	0.10	5	5
Sample ID	Date Sampled	Depth								
S1	8/02/2019	4.5m	<4	<0.4	2	11	11	<0.1	<1	2
S2	8/02/2019	2.2m	<4	<0.4	4	15	15	<0.1	<1	6
S3	8/02/2019	3.1m	<4	<0.4	5	17	14	<0.1	3	12
S4	8/02/2019	1.5m	6	<0.4	31	6	18	<0.1	4	17
S5	8/02/2019	0.6m	8	<0.4	33	5	19	<0.1	3	16

TABEL 2- Summary of Results

			TRH (mg/kg)					BTEX (mg/kg)			
			C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 ^a	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
Australian Background Soil Levels											
NEPM Schedule B(1) (2013)			65	-	-	-	1000	-	1.4	3.1	14
NEPC (1999) Range			-	-	-	-	-	-	-	-	-
ANZECC (1992)			-	-	-	-	-	-	-	-	-
PLDC VENM Criteria (2014)			10	-	-	-	100	0.2	0.5	0.5	1.5
NSW EPA Waste Criteria (No Leachates)											
CT1			NA	-	-	-	NA	10	288	600	1000
CT2			NA	-	-	-	NA	40	1152	2400	4000
NSW EPA Waste Criteria (With Leachates)											
SCC1			650	-	-	-	10000	18	518	1080	1800
Sample ID	Date Sampled	Depth									
S1	8/02/2019	4.5m	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2
S2	8/02/2019	2.2m	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2
S3	8/02/2019	3.1m	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2
S4	8/02/2019	1.5m	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2
S5	8/02/2019	0.6m	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2

TABLE 3- Summary of Results

 Geo-Logic Solutions Geotechnical & Environmental Testing			PAH (mg/kg)							
			BENZO(a)PYRENE	TOTAL PAH	HEPTACHLOR	ALDRIN + DIELDRIN	DDD + DDE + DDT	CHLORDANE (trans)	TOTAL PCB	Asbestos ID
Australian Background Soil Levels										
NEPM Schedule B(1) (2013)			1	20	10	10	200	50	9	-
NEPC (1999) Range			-	-	-	-	-	-	-	-
ANZECC (1992)			-	-	-	-	-	-	-	-
PLDC VENM Criteria (2014)			0.5	1	Total = 0.2				-	-
NSW EPA Waste Criteria (No Leachates)										
CT1			0.8	NA	NA				NA	NA
CT2			3.2	NA	NA				NA	NA
NSW EPA Waste Criteria (With Leachates)										
SCC1			10	200	Total = <50**				<50**	-
SCC2			23	800	Total = <50**				<50**	-
Limit of Resolution (LOR)			0.1	NA	0.1	0.1	0.1	0.1	0.1	0.1
Sample ID	Date Sampled	Depth								
S1	8/02/2019	4.5m	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
S2	8/02/2019	2.2m	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
S3	8/02/2019	3.1m	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
S4	8/02/2019	1.5m	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
S5	8/02/2019	0.6m	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected

8.0 Discussion

The soil concentrations of the tested analytes, as shown in the attached results and summary tables above, are below the guidelines adopted. They include;

- NEPM Health Investigation Level

Visual inspection during sampling confirmed that the soils were generally free of any unsuitable materials identified, however confirmation upon receipt of material should be undertaken to confirm that any undesirable material has not entered the fill materials during excavation as full time supervision has not/will not be undertaken during excavation works.

Laboratory test results indicated that no asbestos was detected in any of the samples submitted.

9.0 Classification

The soil concentrations of all tested analytes, as shown in the attached results and summary tables above, are below the CT1 of the NSW DECC 2014 (EPA) Waste Classification guidelines nor are they expected to contain acid sulphate soils.

With reference to a site walkover, the attached site plan, following the laboratory analysis and with reference to NSW EPA guidelines, the soil materials found within the site have been classified as ***VENM (Virgin Excavated Natural Material)***

It is recommended that excavation undertaken carefully and should the discovery of any contamination be identified, works should cease immediately for further assessment. An unexpected finds protocol should be developed as prudent planning in case of such an event.

We would be pleased to provide further information on any aspects of this report.

For and behalf of
Geo-Logic Solutions



Samer Ghanem
Environmental Consultant
B.EnvPlan, Dip.LabOp, CPCBC5014A

ATTACHMENTS:

Site Photos
Site Plan
Laboratory CoC & Results

10.0 Limitations of Assessment

Whilst to the best of our knowledge, information contained in this report is accurate at the date of issue, although subsurface conditions, including groundwater levels and contaminant concentrations, can change in a limited time. This should be borne in mind if the report is used after a protracted delay.

There is always some disparity in subsurface conditions across a site that cannot be fully defined by investigation. Hence it is unlikely that measurements and values obtained from sampling and testing during environmental works carried out at a site will characterise the extremes of conditions that exist within the site.

There is no investigation that is thorough enough to preclude the presence of material that presently or in the future, may be considered hazardous at the site. Since regulatory criteria are constantly changing, concentrations of contaminants presently considered low may, in the future, fall under different regulatory standards that require remediation.

Opinions are judgements, which are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions.

Where relevant soils that are to be excavated below the identified investigation levels (5.5m) have not being visually assessed and while it is not likely contamination will be discovered based on the site history, excavations should proceed with care below this depth and further assessment should be undertaken immediately if indicators of contamination are identified.

Soils classified as Virgin Excavated Natural Material (VENM) are not classed as a scheduled activity, and can be applied to land as per accordance with schedule 1, section 39(2)(e) of the POEO Act 1997; assuming compliance with all other legislation that may require a Development Application or the permission of the land owner.

11.0 References

- Australian Standards (1999) - AS 1141.0–1999: Methods for Sampling and Testing Aggregates.
- Australian Standards (2003) - AS 1199.0–2003: Sampling Procedures for Inspection by Attributes – Introduction to the ISO2859 Attribute Sampling System
- Australian Standards (2005) - *AS 4482.1-2005 Guide to the sampling and investigation of potentially contaminated soil, non-volatile and semi-volatile compounds.*
- NSW DECC “Waste Classification Guidelines, Part 1: Classifying Waste” (2014). Department of Environment and Climate Change NSW, Sydney
- NSW EPA (1995) “*Sampling Design Guidelines*”.
- Department of Land and Water Conservation (DLWC 2002) - *Site investigations for Urban Salinity.*

SITE PHOTOS





APPENDIX A- LABORATORY TEST RESULTS



Laboratory Test Request Form

Laboratory Details:
Geo-Logic Solutions
Unit 3/ 112 Fairfield Street, Fairfield East
email: samer@geo-logic.com.au
ph: +61402 597 457

Client Details:
Name: EnviroLab
Address: Chatswood NSW

Phone: Simon Song

Requested By: S. Chanem
Sampled By: S. Chanem
Checked By: S. Chanem
Page #: 1 OF 1

Project #: E71
Project Name: Soil class
Project Address: Gladesville

2 Day JAS- 12/2/19 - AM

Testing to be Performed

#	Sample ID (Test pit or borehole No.)	Date Sampled	Matrix	Testing to be Performed										Sample Observation/ Comments
				Combo 6a	Combo 5	Ec, Ph								
1	51	8/2/19	Soil	X		X								EnviroLab Services 12 Ashley St Chatswood NSW 2067 Ph: (02) 9910 6200 Job No: 211171 Date Received: 8/2/19 Time Received: 17:40 Received by: JN Temp: Cool/Ambient Cooling: Ice/Backpack Security: Intact/Broken/None
2	52				X	X								
3	53				X	X								
4	54				X	X								
5	55			X		X								
6														
7														
8														
9														
10														
11														
12														

Special Directions and Comments:

Refiniquished by	S. Chanem	Received By	ELS	Method of shipment	Courier
Signature		Signature			
Date	8/2/19	Date	8/2/19		

CERTIFICATE OF ANALYSIS 211171

Client Details

Client	Geo-Logic Solutions Group Pty Ltd
Attention	Samer Ghanem
Address	Unit 3 / 112 Fairfield St, FAIRFIELD EAST, NSW, 2165

Sample Details

Your Reference	<u>E71, Gladesville</u>
Number of Samples	5 Soil
Date samples received	08/02/2019
Date completed instructions received	08/02/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	12/02/2019
Date of Issue	12/02/2019
NATA Accreditation Number 2901. This document shall not be reproduced except in full. Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Giovanni Agosti, Group Technical Manager
Lucy Zhu, Asbestos Analyst
Priya Samarawickrama, Senior Chemist
Steven Luong, Senior Chemist

Authorised By



Jacinta Hurst, Laboratory Manager

Client Reference: E71, Gladesville

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		211171-1	211171-2	211171-3	211171-4	211171-5
Your Reference	UNITS	S1	S2	S3	S4	S5
Date Sampled		08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	12/02/2019	12/02/2019	12/02/2019	12/02/2019	12/02/2019
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	109	111	107	103	108

Client Reference: E71, Gladesville

svTRH (C10-C40) in Soil						
Our Reference		211171-1	211171-2	211171-3	211171-4	211171-5
Your Reference	UNITS	S1	S2	S3	S4	S5
Date Sampled		08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	12/02/2019	12/02/2019	12/02/2019	12/02/2019	12/02/2019
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH >C ₁₀ - C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C ₁₆ - C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH >C ₃₄ - C ₄₀	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	89	82	77	88	91

Client Reference: E71, Gladesville

PAHs in Soil						
Our Reference		211171-1	211171-2	211171-3	211171-4	211171-5
Your Reference	UNITS	S1	S2	S3	S4	S5
Date Sampled		08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	12/02/2019	12/02/2019	12/02/2019	12/02/2019	12/02/2019
Naphthalene	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+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	92	92	89	93	98

Client Reference: E71, Gladesville

Organochlorine Pesticides in soil						
Our Reference		211171-1	211171-2	211171-3	211171-4	211171-5
Your Reference	UNITS	S1	S2	S3	S4	S5
Date Sampled		08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
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
gamma-BHC	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
Heptachlor	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
Aldrin	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
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
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	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
Endosulfan Sulphate	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
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	77	78	78	78	79

Organophosphorus Pesticides			
Our Reference		211171-1	211171-5
Your Reference	UNITS	S1	S5
Date Sampled		08/02/2019	08/02/2019
Type of sample		Soil	Soil
Date extracted	-	11/02/2019	11/02/2019
Date analysed	-	11/02/2019	11/02/2019
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Surrogate TCMX	%	77	79

Client Reference: E71, Gladesville

PCBs in Soil						
Our Reference		211171-1	211171-2	211171-3	211171-4	211171-5
Your Reference	UNITS	S1	S2	S3	S4	S5
Date Sampled		08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	77	78	78	78	79

Client Reference: E71, Gladesville

Acid Extractable metals in soil						
Our Reference		211171-1	211171-2	211171-3	211171-4	211171-5
Your Reference	UNITS	S1	S2	S3	S4	S5
Date Sampled		08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Arsenic	mg/kg	<4	<4	<4	6	8
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	2	4	5	31	33
Copper	mg/kg	11	15	17	6	5
Lead	mg/kg	11	15	14	18	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	<1	3	4	3
Zinc	mg/kg	2	6	12	17	16

Client Reference: E71, Gladesville

Moisture						
Our Reference		211171-1	211171-2	211171-3	211171-4	211171-5
Your Reference	UNITS	S1	S2	S3	S4	S5
Date Sampled		08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	12/02/2019	12/02/2019	12/02/2019	12/02/2019	12/02/2019
Moisture	%	9.8	11	11	24	29

Client Reference: E71, Gladesville

Asbestos ID - soils			
Our Reference		211171-1	211171-5
Your Reference	UNITS	S1	S5
Date Sampled		08/02/2019	08/02/2019
Type of sample		Soil	Soil
Date analysed	-	11/02/2019	11/02/2019
Sample mass tested	g	Approx. 25g	Approx. 20g
Sample Description	-	Brown coarse-grained soil & rocks	Red coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	Organic fibres detected No asbestos detected	Organic fibres detected No asbestos detected

Client Reference: E71, Gladesville

Misc Inorg - Soil				
Our Reference		211171-1	211171-3	211171-5
Your Reference	UNITS	S1	S3	S5
Date Sampled		08/02/2019	08/02/2019	08/02/2019
Type of sample		Soil	Soil	Soil
Date prepared	-	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	11/02/2019	11/02/2019	11/02/2019
pH 1:5 soil:water	pH Units	5.5	5.4	4.7
Electrical Conductivity 1:5 soil:water	µS/cm	52	53	81

Client Reference: E71, Gladesville

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.

Method ID	Methodology Summary
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Client Reference: E71, Gladesville

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date extracted	-			11/02/2019					11/02/2019	
Date analysed	-			12/02/2019					12/02/2019	
TRH C ₆ - C ₉	mg/kg	25	Org-016	<25					104	
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25					104	
Benzene	mg/kg	0.2	Org-016	<0.2					111	
Toluene	mg/kg	0.5	Org-016	<0.5					106	
Ethylbenzene	mg/kg	1	Org-016	<1					99	
m+p-xylene	mg/kg	2	Org-016	<2					102	
o-Xylene	mg/kg	1	Org-016	<1					97	
naphthalene	mg/kg	1	Org-014	<1						
Surrogate aaa-Trifluorotoluene	%		Org-016	113					113	

Client Reference: E71, Gladesville

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date extracted	-			11/02/2019					11/02/2019	
Date analysed	-			12/02/2019					12/02/2019	
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50					122	
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100					114	
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100					129	
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50					122	
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100					114	
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100					129	
Surrogate o-Terphenyl	%		Org-003	83					118	

Client Reference: E71, Gladesville

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date extracted	-			11/02/2019					11/02/2019	
Date analysed	-			12/02/2019					12/02/2019	
Naphthalene	mg/kg	0.1	Org-012	<0.1					112	
Acenaphthylene	mg/kg	0.1	Org-012	<0.1						
Acenaphthene	mg/kg	0.1	Org-012	<0.1						
Fluorene	mg/kg	0.1	Org-012	<0.1					124	
Phenanthrene	mg/kg	0.1	Org-012	<0.1					114	
Anthracene	mg/kg	0.1	Org-012	<0.1						
Fluoranthene	mg/kg	0.1	Org-012	<0.1					128	
Pyrene	mg/kg	0.1	Org-012	<0.1					120	
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1						
Chrysene	mg/kg	0.1	Org-012	<0.1					111	
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2						
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05					124	
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1						
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1						
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1						
Surrogate p-Terphenyl-d14	%		Org-012	93					117	

Client Reference: E71, Gladesville

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date extracted	-			11/02/2019					11/02/2019	
Date analysed	-			11/02/2019					11/02/2019	
HCB	mg/kg	0.1	Org-005	<0.1						
alpha-BHC	mg/kg	0.1	Org-005	<0.1					120	
gamma-BHC	mg/kg	0.1	Org-005	<0.1						
beta-BHC	mg/kg	0.1	Org-005	<0.1					100	
Heptachlor	mg/kg	0.1	Org-005	<0.1					89	
delta-BHC	mg/kg	0.1	Org-005	<0.1						
Aldrin	mg/kg	0.1	Org-005	<0.1					90	
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1					97	
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1						
alpha-chlordane	mg/kg	0.1	Org-005	<0.1						
Endosulfan I	mg/kg	0.1	Org-005	<0.1						
pp-DDE	mg/kg	0.1	Org-005	<0.1					99	
Dieldrin	mg/kg	0.1	Org-005	<0.1					110	
Endrin	mg/kg	0.1	Org-005	<0.1					98	
pp-DDD	mg/kg	0.1	Org-005	<0.1					99	
Endosulfan II	mg/kg	0.1	Org-005	<0.1						
pp-DDT	mg/kg	0.1	Org-005	<0.1						
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1						
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1					102	
Methoxychlor	mg/kg	0.1	Org-005	<0.1						
Surrogate TCMX	%		Org-005	84					109	

Client Reference: E71, Gladesville

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date extracted	-			11/02/2019					11/02/2019	
Date analysed	-			11/02/2019					11/02/2019	
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1						
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1						
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1					94	
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1						
Diazinon	mg/kg	0.1	Org-008	<0.1						
Dichlorvos	mg/kg	0.1	Org-008	<0.1					97	
Dimethoate	mg/kg	0.1	Org-008	<0.1						
Ethion	mg/kg	0.1	Org-008	<0.1					120	
Fenitrothion	mg/kg	0.1	Org-008	<0.1					103	
Malathion	mg/kg	0.1	Org-008	<0.1					78	
Parathion	mg/kg	0.1	Org-008	<0.1					84	
Ronnel	mg/kg	0.1	Org-008	<0.1					102	
Surrogate TCMX	%		Org-008	84					87	

Client Reference: E71, Gladesville

QUALITY CONTROL: PCBs in Soil										
Test Description	Units	PQL	Method	Blank	#	Duplicate		RPD	Spike Recovery %	
						Base	Dup.		LCS-10	[NT]
Date extracted	-			11/02/2019					11/02/2019	
Date analysed	-			11/02/2019					11/02/2019	
Aroclor 1016	mg/kg	0.1	Org-006	<0.1						
Aroclor 1221	mg/kg	0.1	Org-006	<0.1						
Aroclor 1232	mg/kg	0.1	Org-006	<0.1						
Aroclor 1242	mg/kg	0.1	Org-006	<0.1						
Aroclor 1248	mg/kg	0.1	Org-006	<0.1						
Aroclor 1254	mg/kg	0.1	Org-006	<0.1					106	
Aroclor 1260	mg/kg	0.1	Org-006	<0.1						
Surrogate TCLMX	%		Org-006	84					87	

Client Reference: E71, Gladesville

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date prepared	-			11/02/2019					11/02/2019	
Date analysed	-			11/02/2019					11/02/2019	
Arsenic	mg/kg	4	Metals-020	<4					106	
Cadmium	mg/kg	0.4	Metals-020	<0.4					102	
Chromium	mg/kg	1	Metals-020	<1					103	
Copper	mg/kg	1	Metals-020	<1					109	
Lead	mg/kg	1	Metals-020	<1					101	
Mercury	mg/kg	0.1	Metals-021	<0.1					87	
Nickel	mg/kg	1	Metals-020	<1					100	
Zinc	mg/kg	1	Metals-020	<1					101	

Client Reference: E71, Gladesville

QUALITY CONTROL: Misc Inorg - Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	[NT]
Date prepared	-			11/02/2019					11/02/2019	
Date analysed	-			11/02/2019					11/02/2019	
pH 1:5 soil:water	pH Units		Inorg-001						103	
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1					101	

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

Asbestos: Excessive sample volume was provided for asbestos analysis. A portion of the supplied sample was sub-sampled according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.

Note: Samples 211171-1 & 5 were sub-sampled from bags provided by the client.



ENVIRONMENTAL - REMEDIATION - GEOTECHNICAL ENGINEERING - WORK HEALTH & SAFETY - LABORATORIES - DRILLING

20th December 2018

Our Ref: ES7280-VENM

C&M Consulting Engineers Pty Ltd

Suite 26

11-13 Brookhollow Avenue

Baulkham Hills 2153

By Email: Anthony@cmce.com.au

Dear Anthony,

Re: VENM Report

Site: 37-39 Punchbowl Road, Belfield NSW

Aargus Pty Ltd was appointed by C&M Consulting Engineers Pty Ltd to conduct a visual and analytical assessment of natural soil to be excavated as Virgin Excavated Natural Material (VENM) from within the property located at 37-39 Punchbowl Road, Belfield NSW (the site). The location of the site is shown in Figures 1 & 2 attached. It is noted that the most southern portion of the current site area will be dedicated to Council for the proposed road widening, therefore, does not form part of this VENM classification.

To assess the waste classification of materials to be disposed off-site, the NSW Environmental Protection Authority (EPA) refers to the "*Waste Classification Guidelines, Part 1: Classifying Waste*" NSW EPA (2014).

Aargus staff inspected the site on the 26th June, 6th July and 28th August 2018. The inspection and sampling was conducted on the insitu soils at the above mentioned address. GeoEnviro Pty Ltd previously prepared a *“Phase 1 Contamination Assessment and Geotechnical Investigation, Proposed Mixed Commercial/Residential Building, Lot 5 and 6 DP7675 and Lot 11 DP253882, No 37-39 Punchbowl Road and 90 Water Street, Belfield NSW”* & *“Phase 2 Contamination Assessment, Proposed Mixed Commercial/Residential Building, Lot 5 and 6 DP7675 and Lot 11 DP253882, No 37-39 Punchbowl Road and 90 Water Street, Belfield NSW”* for the site. The data provided within the GeoEnviro reports were also included as part of the VENM assessment.

Fill or topsoil material were observed on the site during the initial inspection, however, these materials are no longer located within the site.

This VENM report refers to the natural underlying material from within the future site boundary only. Aargus has been informed that approximately 8,000m³ of natural material will be transported off-site.

The Protection of the Environment Operations Act 1997 defines VENM as: *‘natural material (such as clay, gravel, sand, soil or rock fines):*

- that has been excavated or quarried from areas that are not contaminated with manufactured chemicals or process residues, as a result of industrial, commercial, mining or agricultural activities, and
- that does not contain any sulphidic ores or soils or any other waste.’

No other criteria for VENM have been approved. By definition, VENM cannot be ‘made’ from processed soils. Excavated material that has been stored or processed in any way cannot be classified as VENM.

Site Information

As part of this VENM report, Aargus undertook a walkover of the site and took into consideration the following where applicable:

- Description and quality of the building structure & materials;
- Current operations;
- Waste Management Practices & trade waste;
- Above ground storage tanks;
- Underground Storage Tanks;
- Odours;
- Site vegetation & sealed surfaces;
- Historical operations (if known);
- Former raw materials & transportation (if known);
- Surface water;
- Groundwater (if known); and
- Site Surrounding and their operations.

From inspection of the above details, information was gathered with regards to the property.

The 1:100,000 Geological Map of Sydney indicates the underlying bedrock consisting of Ashfield Shale of the Wianamatta Group comprising of dark grey black shale and laminite.

The following observations were made during the Aargus investigation in July 2018:

- Natural Silty / Shalely Clay from surface to 3.2-5.0m BGL; underlain by
- Shale bedrock

One tank pit previously containing two USTs was present within the site area. The location of the tank pit is shown in Figures 3 and 4 attached. The USTs have been decommissioned and disposed of off-site. Remediation and validation works have

been completed with a *Remediation Validation Report* been prepared by Aargus (Report Reference ES7280/2, dated 29th November 2018). After the remediation works, no staining or odours were visible within the tank pit or on any other exposed surfaces within the site area.

An asbestos service pipe was identified within the north-eastern portion of the site, therefore asbestos removal works by licenced contractors and an Asbestos Clearance Certificate was undertaken, *refer to Aargus report ES7280/2-Asbestos Clearance, dated 7th December 2018*. Currently no fibro pieces were observed within natural materials throughout the site and this issue does not warrant any particular concern. It should be noted that foreign materials may also be present buried within the soil materials that could not be accessed as part of the inspection.

The site was previously a commercial property (restaurant) and is to be redeveloped into a high density residential property including three-level basement car parking. The site is boarded with Water Street then a vacant property to the west, low density residential to the north, commercial properties to the east, and Punchbowl Road then commercial properties to the south.

A review of the NSW Department of Land & Water Conservation (DLWC) Acid Sulphate Soil Risk Maps (Edition Two, December 1997, Scale 1:250,000), in particular “93 - Botany Bay” indicated that site is not located in an area that has potential for acid sulphate soils.

Laboratory Analysis

Aargus has collected ten (10) samples plus QAQC samples from five boreholes drilled during the additional investigation in June 2018. Aargus then collected ten (10) samples plus QAQC samples from the tank pit excavated in July 2018. Four additional samples were collected in August 2018 where further excavation was required for the tank pit TP1.

GeoEnviro previously collected six (6) samples from the natural soil materials within the boreholes drilled during the *Phase 1 and Phase 2 Environmental Site Investigation*. The sampling location plans can be found in Figures 3 and 4 attached.

The samples were analysed for heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn), Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Polycyclic Aromatic Hydrocarbons (PAH), Organochlorine Pesticides (OCP), Polychlorinated Biphenyl's (PCB), Phenols and Asbestos.

The full laboratory certificates are attached with a summary of the chemical analyses provided in the tables below.

TABLE A
HEAVY METALS TEST RESULTS

Analyte		HEAVY METALS (mg/kg)							
		ARSENIC	CADMIUM	CHROMIUM	COPPER	NICKEL	LEAD	ZINC	MERCURY
Sample Location	Depth (m)								
Aargus Additional Investigation									
BH120	0.0-0.1	10	<1	31	<5	<2	13	13	<0.1
D1	-	11	<1	37	<5	<2	15	26	<0.1
SS1	-	10	<1	31	<5	2	12	20	<0.1
BH120	0.4-0.5	12	<1	36	<5	<2	16	10	<0.1
BH121	0.1-0.1	10	<1	33	<5	<2	13	7	<0.1
BH121	0.4-0.5	10	<1	30	<5	<2	15	8	<0.1
BH122	0.0-0.1	7	<1	22	<5	<2	10	<5	<0.1
BH122	0.4-0.5	11	<1	32	<5	<2	14	<5	<0.1
BH126	0.0-0.1	<5	<1	19	6	<2	10	<5	<0.1
BH126	0.9-1.0	<5	<1	7	<5	<2	<5	<5	<0.1
BH127	0.0-0.2	<5	<1	10	<5	<2	6	<5	<0.1
BH127	0.9-1.0	<5	<1	3	<5	<2	<5	<5	<0.1
Aargus Remediation & Validation									
TP1-W1	1-1.1	9	<1	17	7	<2	16	<5	<0.1
TP1-W2	1-1.1	<5	<1	5	<5	<2	13	<5	<0.1
TP1-W3	1-1.1	<5	<1	2	<5	<2	10	<5	<0.1
TP1-W4	1-1.1	5	<1	10	6	<2	15	17	<0.1
TP1-W5	1-1.1	8	<1	13	7	<2	14	81	<0.1
TP1-W6	1-1.1	<5	<1	4	6	<2	10	<5	<0.1
TP1-W7	1-1.1	5	<1	12	<5	<2	14	7	<0.1
TP1-W8	1-1.1	6	<1	11	<5	<2	15	<5	<0.1
TP1-B1	0-0.1	<5	<1	4	6	<2	10	<5	<0.1
TP1-D1	-	5	<1	5	6	<2	11	<5	<0.1
TP1-SS1	-	<5	<1	<2	<5	<2	7	<5	<0.1
TP1-B2	0-0.1	<5	<1	3	5	<2	10	<5	<0.1
GeoEnviro Phase 2 Investigation									
BH109	1.7-1.8	10	<0.4	28	2	1	13	2	<0.1
BH111	0.9-1.0	7	<0.4	24	4	3	16	8	<0.1
BH114	1.5-1.6	<4	<0.4	20	<1	1	9	1	<0.1
BH116	0.9-1.0	10	<0.4	38	2	3	15	19	<0.1
GeoEnviro Phase 1 Investigation									
BH1	0.4-0.5	9	<0.4	35	8	7	60	17	<0.1
BH4	0.5-0.6	6	<0.4	23	<1	1	11	2	<0.1
Practical Quantitation Limits (PQL)		5	1	2	5	2	5	5	0.1
Waste Criteria - Total Concentration (w/o TCLP)									
CT1 - General Solid Waste		100	20	100	-	40	100	-	4
CT2 - Restricted Solid Waste		400	80	400	-	160	400	-	16
Waste Criteria - Total Concentration (with TCLP)									
SCC1 - General Solid Waste		500	100	1900	-	1050	1500	-	50
SCC2 - Restricted Solid Waste		2000	400	7600	-	4200	6000	-	200

- Notes
- 1 CT1, CT2 : Total concentrations used for defining General Solid Waste and Restricted Solid Waste respectively (w ithout TCLP)
 - 2 SCC1, SCC2 : Total Concentration used for defining General Solid Waste and Restricted Solid Waste respectively (in conjunction w ith TCLP)
 - 3 Concentrations in **bold** exceed the CT1 criteria
 - 4 Concentrations in **bold and underlined** exceed the CT2 criteria

As shown in Table A, the heavy metals concentrations were below their respective CT1 criteria.

TABLE B
TOTAL PETROLEUM HYDROCARBONS (TPH) AND BTEX TEST RESULTS

Analyte		TPH (mg/kg)					BTEX (mg/kg)			
		C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 ^a	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
Sample Location	Depth (m)									
Aargus Additional Investigation										
BH120	0.0-0.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
D1	-	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
SS1	-	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
BH120	0.4-0.5	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
BH121	0.1-0.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
BH121	0.4-0.5	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
BH122	0.0-0.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
BH122	0.4-0.5	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
BH126	0.0-0.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
BH126	0.9-1.0	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
BH127	0.0-0.2	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
BH127	0.9-1.0	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
Aargus Remediation & Validation										
TP1-W1a	1-1.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-W2	1-1.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-W3	1-1.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-W4	1-1.1	<10	60	<100	<100	60	<0.2	<0.5	<0.5	<0.5
TP1-W5a	1-1.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-W6	1-1.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-W7a	1-1.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-W8a	1-1.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-B1	0-0.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-D1		<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-SS1		<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
TP1-B2	0-0.1	<10	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
GeoEnviro Phase 2 Investigation										
BH109	1.7-1.8	<25	<50	<100	<100	<250	<0.5	<0.5	<1.0	<3.0
BH111	0.9-1.0	<25	<50	<100	<100	<250	<0.5	<0.5	<1.0	<3.0
BH114	1.5-1.6	<25	<50	<100	<100	<250	<0.5	<0.5	<1.0	<3.0
BH116	0.9-1.0	<25	<50	<100	<100	<250	<0.5	<0.5	<1.0	<3.0
GeoEnviro Phase 1 Investigation										
BH1	0.4-0.5	<25	<50	<100	<100	ND	<0.5	<0.5	<1.0	<3.0
BH4	0.5-0.6	<25	<50	<100	<100	ND	<0.5	<0.5	<1.0	<3.0
Practical Quantitation Limits (PQL)		10	50	100	100	NA	0.2	0.5	0.5	0.5
Waste Criteria - Total Concentration (w/o TCLP)										
CT1 - General Solid Waste		650	-	-	-	10000	10	288	600	1000
CT2 - Restricted Solid Waste		2600	-	-	-	40000	40	1152	2400	4000
Waste Criteria - Total Concentration (with TCLP)										
SCC1 - General Solid Waste		650	-	-	-	10000	18	518	1080	1800
SCC2 - Restricted Solid Waste		2600	-	-	-	40000	72	2073	4320	7200

- Notes
- 1 CT1, CT2 : Total concentrations used for defining General Solid Waste and Restricted Solid Waste respectively (w/ithout TCLP).
 - 2 SCC1, SCC2 : Total Concentration used for defining General Solid Waste and Restricted Solid Waste respectively (in conjunction with TCLP)
 - 3 Concentrations in **bold** exceed the SCC1 criteria
 - 4 Concentrations in **bold and underlined** exceed the SCC2 criteria
- NA: Not Applicable

As shown in Table B, the TPH and/or BTEX concentrations were below their respective CT1 and/or SCC1 criteria.

TABLE C
BENZO(a)PYRENE, POLYCYCLIC AROMATIC HYDROCARBONS (PAH), ORGANOCHLORINE PESTICIDES (OCP), POLYCHLORINATED BIPHENYLS (PCB) AND PHENOL TEST RESULTS

Analyte		PAH (mg/kg)		TOTAL ENDOSULFAN ⁵ (mg/kg)	Other OCPs (mg/kg)	TOTAL PCB (mg/kg)	PHENOL (NON-HALOGENATED) (mg/kg)
		BENZO(a)PYRENE (mg/kg)	TOTAL PAH (mg/kg)				
Sample Location	Depth (m)						
Aargus Additional Investigation							
BH120	0.0-0.1	<0.5	<0.5	<0.05	<PQL	<0.1	----
D1		<0.5	<0.5	<0.05	<PQL	<0.1	----
SS1	-	<0.5	<0.5	<0.05	<PQL	<0.1	----
BH120	0.4-0.5	<0.5	<0.5	----	<PQL	----	----
BH121	0.1-0.1	<0.5	<0.5	<0.05	<PQL	<0.1	----
BH121	0.4-0.5	<0.5	<0.5	----	<PQL	----	----
BH122	0.0-0.1	<0.5	<0.5	<0.05	<PQL	<0.1	----
BH122	0.4-0.5	<0.5	<0.5	----	<PQL	----	----
BH126	0.0-0.1	<0.5	<0.5	<0.05	<PQL	<0.1	----
BH126	0.9-1.0	<0.5	<0.5	----	<PQL	----	----
BH127	0.0-0.2	<0.5	<0.5	<0.05	<PQL	<0.1	----
BH127	0.9-1.0	<0.5	<0.5	----	<PQL	----	----
Aargus Remediation & Validation							
TP1-W1	1-1.1	<0.5	<0.5	----	<PQL	----	<0.5
TP1-W2	1-1.1	<0.5	<0.5	----	<PQL	----	<0.5
TP1-W3	1-1.1	<0.5	<0.5	----	<PQL	----	<0.5
TP1-W4	1-1.1	<0.5	<0.5	----	<PQL	----	<0.5
TP1-W5	1-1.1	<0.5	<0.5	----	<PQL	----	<0.5
TP1-W6	1-1.1	<0.5	<0.5	----	<PQL	----	<0.5
TP1-W7	1-1.1	<0.5	<0.5	----	<PQL	----	<0.5
TP1-W8	1-1.1	<0.5	0.6	----	<PQL	----	<0.5
TP1-B1	0-0.1	<0.5	<0.5	----	<PQL	----	<0.5
TP1-D1	-	<0.5	<0.5	----	<PQL	----	<0.5
TP1-SS1	-	<0.5	<0.5	----	<PQL	----	<0.5
TP1-B2	0-0.1	<0.5	<0.5	----	<PQL	----	<0.5
GeoEnviro Phase 2 Investigation							
BH109	1.7-1.8	<0.05	ND	<0.1	<PQL	<0.1	----
BH111	0.9-1.0	<0.05	ND	<0.1	<PQL	<0.1	----
BH114	1.5-1.6	<0.05	ND	<0.1	<PQL	<0.1	----
BH116	0.9-1.0	<0.05	ND	<0.1	<PQL	<0.1	----
GeoEnviro Phase 1 Investigation							
BH1	0.4-0.5	<0.05	0.1	<0.1	<PQL	<0.1	----
BH4	0.5-0.6	<0.05	0	<0.1	<PQL	<0.1	----
Practical Quantitation Limits (PQL)		0.5	0.5	0.1	PQL	0.1	0.5
Waste Criteria - Total Concentration (w/o TCLP)							
CT1 - General Solid Waste		0.8	200	60	<50	<50	288
CT2 - Restricted Solid Waste		3.2	800	240	<50	<50	1152
Waste Criteria - Total Concentration (with TCLP)							
SCC1 - General Solid Waste		10	200	108	<50**	<50	518
SCC2 - Restricted Solid Waste		23	800	432	<50**	<50	2073

- Notes
- 1 CT1, CT2 : Total concentrations used for defining General Solid Waste and Restricted Solid Waste respectively (without TCLP)
 - 2 SCC1, SCC2 : Total Concentration used for defining General Solid Waste and Restricted Solid Waste respectively (in conjunction with TCLP)
 - 3 Concentrations in **bold** exceed the CT1 criteria
 - 4 Concentrations in **bold and underlined** exceed the CT2 criteria
 - 5 Total Endosulfan = Endosulfan I, Endosulfan II and Endosulfan Sulphate
 - ** Scheduled Waste - classified against SCC criteria without TCLP
 - NA Not Applicable

As shown in Table C, the b(a)P, Total PAH, Total Endosulfan, other OCPs, PCB, Cyanide & Phenol concentrations were below their respective CT1 / SCC1 criteria.

TABLE D
ASBESTOS TEST RESULTS

Analyte		Field Observations*	Laboratory Results Asbestos Type Present / Absent	Laboratory Results Asbestos %w/w
Sample Location	Depth (m)			
BH120	0-0.1	No fibro cement fragments observed	No asbestos detected	<0.01
D1	-	No fibro cement fragments observed	No asbestos detected	<0.01
SS1	-	No fibro cement fragments observed	No asbestos detected	<0.01
BH121	0-0.1	No fibro cement fragments observed	No asbestos detected	<0.01
BH122	0-0.1	No fibro cement fragments observed	No asbestos detected	<0.01
BH126	0-0.2	No fibro cement fragments observed	No asbestos detected	<0.01
BH127	0-0.2	No fibro cement fragments observed	No asbestos detected	<0.01
BH1	0.4-0.5	No fibro cement fragments observed	No asbestos detected	-
BH4	0.5-0.6	No fibro cement fragments observed	No asbestos detected	-
WA Guidelines for the Assessment, Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 National Environment Protection (Assessment of Site Contamination) Measure 2013 Schedule B1				
%w/w asbestos for FA and AF				0.001%
%w/w asbestos for ACM - Residential use, childcare centres, preschools etc.				0.01%
%w/w asbestos for ACM - Residential, minimal soil access (fully sealed surfaces)				0.04%
%w/w asbestos for ACM - Parks, public open spaces, playing fields etc.				0.02%
%w/w asbestos for ACM - Commercial / Industrial				0.05%

Note:

ACM = Asbestos Containing Materials >7mm x 7mm (visible by eye)

FA = Friable and Fibrous Asbestos Materials >7mm x 7mm (visible by eye)

AF = Asbestos Fines <7mm x 7mm ACM including free fibres (visible by microscope only)

* Field Observations: All fibro-cement fragments observed are assumed to contain Asbestos until otherwise tested and recorded as such.

NT = Not Tested

As shown in Table D, asbestos was not detected in the recovered samples analysed.

With respect to the *NSW EPA "Waste Classification Guidelines, Part 1: Classifying Waste"* (2014), concentrations are below the CT1 and/or SCC1 criteria as indicated in the Tables above. Furthermore asbestos fibres were not detected within any of the soil samples recovered.

Conclusions

With reference to a site walkover, following the laboratory analysis and with reference to NSW EPA guidelines, the natural materials have concentrations that were below the threshold values for *"Waste Classification Guidelines, Part 1: Classifying Waste"* NSW EPA (2014). The natural soil in question can be classified as **VENM** (Virgin Excavated Natural Material) with reference to the above NSW EPA guidelines. As a result of this classification the material can be reused on site or to be disposed of as per Schedule 1 Part 3 of the *Protection of the Environment Operations Act 1997*.

For the natural materials located within the future site boundary that are to be retained on site or re-used on another site, the criteria stated with the *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013* guidelines must be met. Reference may be made to the attached tables for a comparison of the analytical data against these guidelines. Should the natural materials be required to be used in areas designated for plant growth and/or landscaping then further sampling and analysis may be required to determine the suitability of the material for these uses.

If any areas of environmental concern are uncovered during the excavation process, this office should be notified immediately for further assessment. We would be pleased to provide further information on any aspects of this report.

For and on behalf of

Aargus Pty Ltd



Ningye Zhang

Environmental Engineer

Reviewed By



Mark Kelly

Environmental Manager

Attachments

Site Plans

NEPM Summary Tables

LIMITATIONS OF ASSESSMENT

The Aargus assessment is based on the result of limited site investigations and sample testing. Neither Aargus, nor any other reputable consultant, can provide unqualified warranties nor does Aargus assume any liability for site conditions not observed or accessible during the time of the investigations.

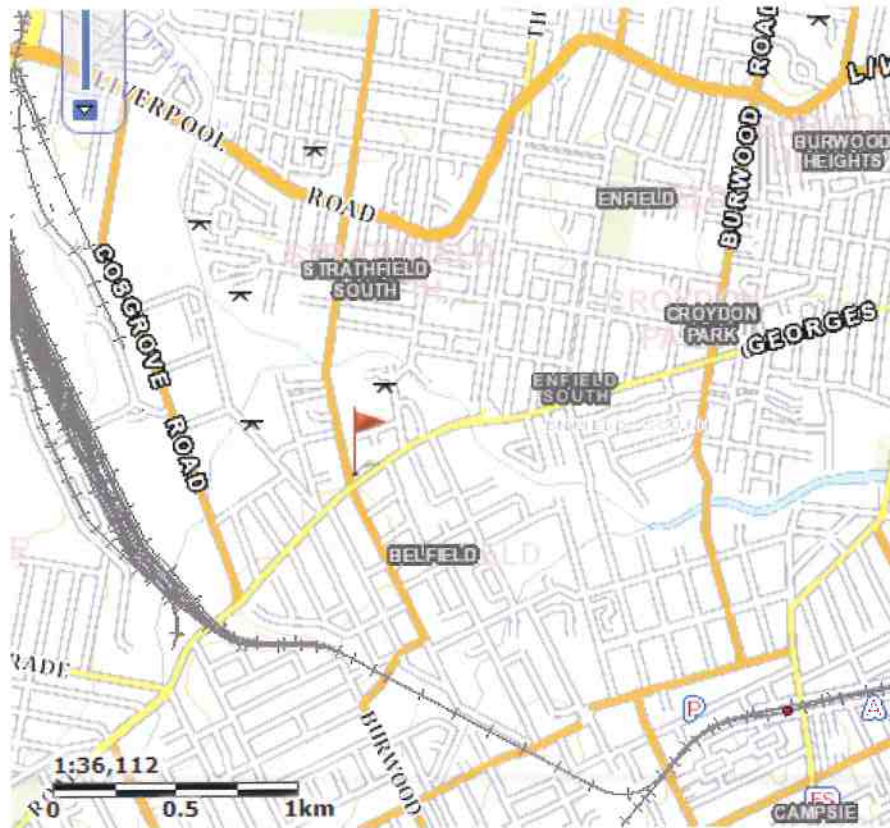
Despite all reasonable care and diligence, the materials encountered and concentrations of contaminants measured may not be representative of conditions between the locations sampled and investigated. In addition, site characteristics may change at any time in response to variations in natural conditions, chemical reactions and other events, e.g. groundwater movement and or spillages of contaminating substances. These changes may occur subsequent to Aargus investigations and assessment.

This report and associated documentation and the information herein have been prepared solely for the use of the client at the time and is valid (for the purposes of transport of material) for a period of one month only from the date of issue. Any other reliance assumed by third parties on this report shall be at such parties' own risk. Any ensuing liability resulting from use of the report by third parties cannot be transferred to Aargus.

Please note that Part 5.6, Section 143 of the Protection of the Environment Operations (POEO) Act 1997 states that it is an offence for waste to be transported to a place that cannot lawfully be used as a facility to accept that waste. It is the duty of the owner and transporter of the waste to ensure that the waste is disposed of appropriately. Aargus accepts no liability for the unlawful disposal of waste materials from any site. Aargus does not accept any responsibility for the material tracking, loading, management, transport or disposal of waste from the site. Before disposal of the material to a licensed landfill is undertaken, the waste producer will need to obtain prior consent from the landfill. The receiving site should check to ensure that the material received matches the description provided in the report.

Opinions are judgements, which are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions.

SITE LOCALITY MAP



Source: Six Maps (2018)

PROJECT DETAILS

Project Title	VENM
Project No.	ES7280-VENM
Client	Australian Aizela Pty Ltd
Site Address	37-39 Punchbowl Road & 90 Water Street, Belfield NSW



DRAWING DETAILS

Figure No.	1	Rev No.	0
Scale	As above	Size	A4
Drawn by	MK	Date	20.12.18
Approved by	MK	Date	20.12.18

SITE LOT & DP LAYOUT



Source: Six Maps (2018)

PROJECT DETAILS

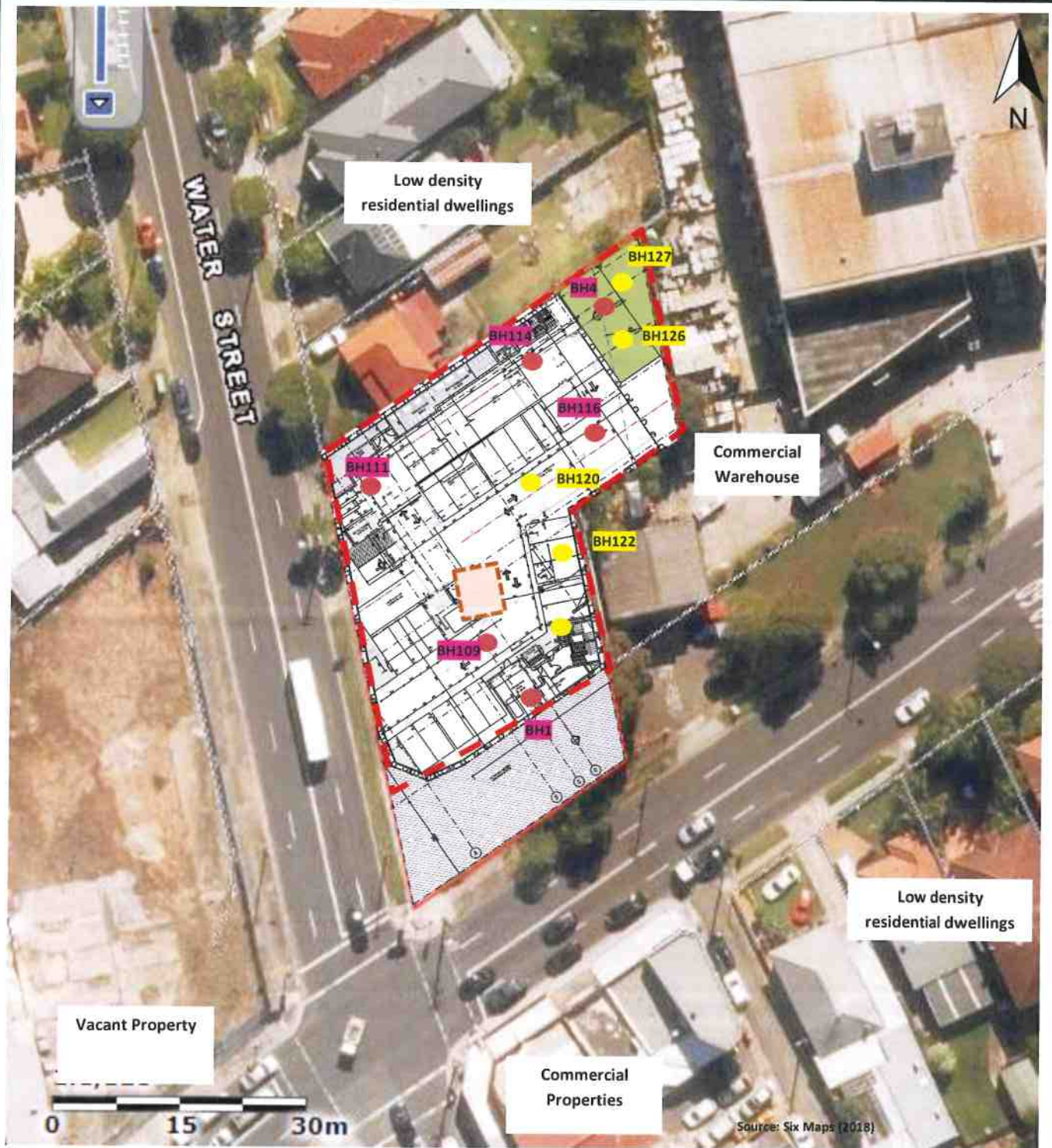
Project Title	VENM
Project No.	ES7280-VENM
Client	Australian Aizela Pty Ltd
Site Address	37-39 Punchbowl Road & 90 Water Street, Belfield NSW



DRAWING DETAILS

Figure No.	2	Rev No.	0
Scale	As above	Size	A4
Drawn by	MK	Date	20.12.18
Approved by	MK	Date	20.12.18

SAMPLING LOCATION PLAN



Legend



Excavated tank pit area



Future Site Boundary



Aargus Sampling Location



GeoEnviro Sampling Location

PROJECT DETAILS

Project Title	VENM
Project No.	ES7280-VENM
Client	Australian Aizela Pty Ltd
Site Address	37-39 Punchbowl Road & 90 Water Street, Belfield NSW



Aargus

DRAWING DETAILS

Figure No.	3	Rev No.	0
Scale	As above	Size	A4
Drawn by	NZ	Date	20.12.18
Approved by	MK	Date	20.12.18

TANKPIT VALIDATION SAMPLING LOCATION PLAN



Area 1 - TP1

LEGEND

- Future Site Boundary
- Sampling Locations

ABN 75 050 212 710 Aargus Pty Limited

Environment - Remediation - Geotechnical Engineering

PROJECT DETAILS

Project Title	VENM
Project No.	ES7280-VENM
Client	Australian Aizela Pty Ltd
Site Address	37-39 Punchbowl Road & 90 Water Street, Belfield NSW



DRAWING DETAILS

Figure No.	4	Rev No.	0
Scale	As above	Size	A3
Drawn by	NZ	Date	20.12.2018
Approved by	MK	Date	20.12.2018

TABLE A
HEAVY METALS TEST RESULTS FOR HILs & EILs

Analyte		HEAVY METALS (mg/kg)							
		ARSENIC	CADMIUM	CHROMIUM	COPPER	MERCURY	NICKEL	LEAD ^a	ZINC
Sample Location	Depth (m)								
Aargus Additional Investigation									
BH120	0.0-0.1	10	<1	31	<5	<0.1	<2	13	13
D1	-	11	<1	37	<5	<0.1	<2	15	26
SS1	-	10	<1	31	<5	<0.1	2	12	20
BH120	0.4-0.5	12	<1	36	<5	<0.1	<2	16	10
BH121	0.1-0.1	10	<1	33	<5	<0.1	<2	13	7
BH121	0.4-0.5	10	<1	30	<5	<0.1	<2	15	8
BH122	0.0-0.1	7	<1	22	<5	<0.1	<2	10	<5
BH122	0.4-0.5	11	<1	32	<5	<0.1	<2	14	<5
BH126	0.0-0.1	<5	<1	19	6	<0.1	<2	10	<5
BH126	0.9-1.0	<5	<1	7	<5	<0.1	<2	<5	<5
BH127	0.0-0.2	<5	<1	10	<5	<0.1	<2	6	<5
BH127	0.9-1.0	<5	<1	3	<5	<0.1	<2	<5	<5
Aargus Remediation & Validation									
TP1-W1	1-1.1	9	<1	17	7	<0.1	<2	16	<5
TP1-W2	1-1.1	<5	<1	5	<5	<0.1	<2	13	<5
TP1-W3	1-1.1	<5	<1	2	<5	<0.1	<2	10	<5
TP1-W4	1-1.1	5	<1	10	6	<0.1	<2	15	17
TP1-W5	1-1.1	8	<1	13	7	<0.1	<2	14	81
TP1-W6	1-1.1	<5	<1	4	6	<0.1	<2	10	<5
TP1-W7	1-1.1	5	<1	12	<5	<0.1	<2	14	7
TP1-W8	1-1.1	6	<1	11	<5	<0.1	<2	15	<5
TP1-B1	0-0.1	<5	<1	4	6	<0.1	<2	10	<5
TP1-D1	-	5	<1	5	6	<0.1	<2	11	<5
TP1-SS1	-	<5	<1	<2	<5	<0.1	<2	7	<5
TP1-B2	0-0.1	<5	<1	3	5	<0.1	<2	10	<5
GeoEnviro Phase 2 Investigation									
BH109	1.7-1.8	10	<0.4	28	2	<0.1	1	13	2
BH111	0.9-1.0	7	<0.4	24	4	<0.1	3	16	8
BH114	1.5-1.6	<4	<0.4	20	<1	<0.1	1	9	1
BH116	0.9-1.0	10	<0.4	38	2	<0.1	3	15	19
GeoEnviro Phase 1 Investigation									
BH1	0.4-0.5	9	<0.4	35	8	<0.1	7	60	17
BH4	0.5-0.6	6	<0.4	23	<1	<0.1	1	11	2
Practical Quantitation Limits (PQL)		5	1	2	5	0.1	2	5	5.0
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)									
Health Investigation Levels (HIL) - Table 1A (1)									
HIL A ^a		100	20	100	6000	40 ^g / 10 ^f	400	300	7400
HIL B ^b		500	150	500	30,000	120 ^g / 30 ^f	1200	1200	60,000
HIL C ^c		300	90	300	17,000	80 ^g / 13 ^f	1200	600	30,000
HIL D ^d		3000	900	3600	240,000	730 ^g / 180 ^f	6000	1500	400,000
Ecological Investigation Levels (EIL) - Table 1B (5)									
Areas of ecological significance		40 ^h							
Urban residential and public open space ⁱ		100 ^h		190 ^j	60 ^j		30 ^j	1100 ^j	70 ^j
Commercial and industrial		160 ^h							

- Notes
- a: Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools.
 - b: Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high rise buildings and apartments.
 - c: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. This does not include undeveloped public open space where the potential for exposure is lower and where a site-specific assessment may be more appropriate
 - d: Commercial/industrial, includes premises such as shops, offices, factories and industrial sites
 - e: Elemental mercury: HIL does not address elemental mercury. A site-specific assessment should be considered if elemental mercury is present, or suspected to be present,
 - f: Methyl mercury: assessment of methyl mercury should only occur where there is evidence of its potential source. It may be associated with inorganic mercury and anaerobic microorganism activity in aquatic environments. In addition the reliability and quality of sampling/analysis should be considered.
 - g: Lead: HIL is based on blood lead models (IEUBK for HILs A, B and C and adult lead model for HIL D where 50% oral bioavailability has been considered. Site-specific bioavailability may be important and should be considered where appropriate.
 - h: Aged values are applicable to arsenic contamination present in soil for at least two years. For fresh contamination refer to Schedule B5c.
 - i: Urban residential / public open space is broadly equivalent to the HIL-A, HIL-B and HIL-C land use scenarios in Table 1A(1) Footnote 1 and as described in Schedule B7.
 - j: Most stringent concentration for soil-specific added contaminant limit for aged soil was chosen.

TABLE B1
TOTAL RECOVERABLE HYDROCARBONS (TRH), BTEX AND NAPHTHALENE TEST RESULTS
FOR HSLs IN CLAY

Analyte		TRH (mg/kg)		BTEX (mg/kg)				
		F1 ^a	F2 ^b	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	NAPHTHALENE
Sample Location	Depth (m)							
Aargus Additional Investigation								
BH120	0.0-0.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
D1	-	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
SS1	-	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
BH120	0.4-0.5	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
BH121	0.1-0.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
BH121	0.4-0.5	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
BH122	0.0-0.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
BH122	0.4-0.5	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
BH126	0.0-0.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
BH126	0.9-1.0	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
BH127	0.0-0.2	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
BH127	0.9-1.0	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
Aargus Remediation & Validation								
TP1-W1a	1-1.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-W2	1-1.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-W3	1-1.1	12	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-W4	1-1.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-W5a	1-1.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-W6	1-1.1	11	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-W7a	1-1.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-W8a	1-1.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-B1	0-0.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-D1		<10	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-SS1		<10	<50	<0.2	<0.5	<0.5	<0.5	<1
TP1-B2	0-0.1	<10	<50	<0.2	<0.5	<0.5	<0.5	<1
GeoEnviro Phase 2 Investigation								
BH109	1.7-1.8	<25	<50	<0.5	<0.5	<1.0	<3.0	<1
BH111	0.9-1.0	<25	<50	<0.5	<0.5	<1.0	<3.0	<1
BH114	1.5-1.6	<25	<50	<0.5	<0.5	<1.0	<3.0	<1
BH116	0.9-1.0	<25	<50	<0.5	<0.5	<1.0	<3.0	<1
GeoEnviro Phase 1 Investigation								
BH1	0.4-0.5	<25	<50	<0.5	<0.5	<1.0	<3.0	<1
BH4	0.5-0.6	<25	<50	<0.5	<0.5	<1.0	<3.0	<1
Practical Quantitation Limits (PQL)		10	50	0.2	0.5	0.5	0.5	1
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)								
Health Screening Levels (HSL) - Table 1A (3)								
<i>HSL A & HSL B: Low-high density residential</i>								
Source depth - 0m to <1m		50	280	0.7	480	NL	110	5
Source depth - 1m to <2m		90	NL	1	NL	NL	310	NL
Source depth - 2m to <4m		150	NL	2	NL	NL	NL	NL
Source depth - 4m +		290	NL	3	NL	NL	NL	NL
<i>HSL C: recreational / open space</i>								
Source depth - 0m to <1m		NL	NL	NL	NL	NL	NL	NL
Source depth - 1m to <2m		NL	NL	NL	NL	NL	NL	NL
Source depth - 2m to <4m		NL	NL	NL	NL	NL	NL	NL
Source depth - 4m +		NL	NL	NL	NL	NL	NL	NL
<i>HSL D: Commercial / Industrial</i>								
Source depth - 0m to <1m		310	NL	4	NL	NL	NL	NL
Source depth - 1m to <2m		480	NL	6	NL	NL	NL	NL
Source depth - 2m to <4m		NL	NL	9	NL	NL	NL	NL
Source depth - 4m +		NL	NL	20	NL	NL	NL	NL

Notes

a: To obtain F1 subtract the sum of BTEX concentrations from the C₆-C₁₀ fraction.

b: To obtain F2 subtract naphthalene from the >C₁₀-C₁₆ fraction.

NL: Not Limiting

TABLE B2
TOTAL RECOVERABLE HYDROCARBONS (TRH), BTEX AND BENZO(a)PYRENE TEST RESULTS
ESLs FOR FINE GRAINED SOIL TEXTURE

Analyte		TRH (mg/kg)				BTEX (mg/kg)				PAH (mg/kg)
		F1 (C ₆ -C ₁₀) ^a	F2 (>C ₁₀ -C ₁₆) ^b	F3 (C ₁₆ -C ₃₄)	F4 (C ₃₄ -C ₄₀)	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	BENZO(a)PYRENE
Sample Location	Depth (m)									
Aargus Additional Investigation										
BH120	0.0-0.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
D1	-	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
SS1	-	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
BH120	0.4-0.5	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
BH121	0.1-0.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
BH121	0.4-0.5	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
BH122	0.0-0.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
BH122	0.4-0.5	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
BH126	0.0-0.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
BH126	0.9-1.0	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
BH127	0.0-0.2	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
BH127	0.9-1.0	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
Aargus Remediation & Validation										
TP1-W1a	1-1.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	-
TP1-W2	1-1.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
TP1-W3	1-1.1	12	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
TP1-W4	1-1.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
TP1-W5a	1-1.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	-
TP1-W6	1-1.1	11	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
TP1-W7a	1-1.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	-
TP1-W8a	1-1.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	-
TP1-B1	0-0.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
TP1-D1		<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
TP1-SS1		<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
TP1-B2	0-0.1	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5
GeoEnviro Phase 2 Investigation										
BH109	1.7-1.8	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0	<0.05
BH111	0.9-1.0	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0	<0.05
BH114	1.5-1.6	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0	<0.05
BH116	0.9-1.0	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0	<0.05
GeoEnviro Phase 1 Investigation										
BH1	0.4-0.5	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0	<0.05
BH4	0.5-0.6	<25	<50	<100	<100	<0.5	<0.5	<1.0	<3.0	<0.05
Practical Quantitation Limits (PQL)		10	50	100	100	0.2	0.5	0.5	0.5	0.5
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)										
Ecological Screening Levels (ESL) - Table 1B (6)										
Areas of ecological significance		125*	25*	-	-	10	65	40	1.6	0.7
Urban residential and public open space		180*	120*	1300	5600	65	105	125	45	0.7
Commercial and industrial		215*	170*	2500	6600	95	135	185	95	1.4

Notes

a: To obtain F1 subtract the sum of BTEX concentrations from the C₆-C₁₀ fraction.

b: To obtain F2 subtract naphthalene from the >C₁₀-C₁₆ fraction.

*: ESLs are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability.

": " indicates that insufficient data was available to derive a value.

TABLE B3
TOTAL RECOVERABLE HYDROCARBONS (TRH) TEST RESULTS
MANAGEMENT LIMITS FOR FINE GRAINED SOIL TEXTURE

Analyte		TRH (mg/kg)			
		F1 (C ₆ -C ₁₀) ^a	F2 (>C ₁₀ -C ₁₆) ^a	F3 (C ₁₆ -C ₃₄)	F4 (C ₃₄ -C ₄₀)
Sample Location	Depth (m)				
Aargus Additional Investigation					
BH120	0.0-0.1	<10	<50	<100	<100
D1	-	<10	<50	<100	<100
SS1	-	<10	<50	<100	<100
BH120	0.4-0.5	<10	<50	<100	<100
BH121	0.1-0.1	<10	<50	<100	<100
BH121	0.4-0.5	<10	<50	<100	<100
BH122	0.0-0.1	<10	<50	<100	<100
BH122	0.4-0.5	<10	<50	<100	<100
BH126	0.0-0.1	<10	<50	<100	<100
BH126	0.9-1.0	<10	<50	<100	<100
BH127	0.0-0.2	<10	<50	<100	<100
BH127	0.9-1.0	<10	<50	<100	<100
Aargus Remediation & Validation					
TP1-W1a	1-1.1	<10	<50	<100	<100
TP1-W2	1-1.1	<10	<50	<100	<100
TP1-W3	1-1.1	12	<50	<100	<100
TP1-W4	1-1.1	<10	<50	<100	<100
TP1-W5a	1-1.1	<10	<50	<100	<100
TP1-W6	1-1.1	11	<50	<100	<100
TP1-W7a	1-1.1	<10	<50	<100	<100
TP1-W8a	1-1.1	<10	<50	<100	<100
TP1-B1	0-0.1	<10	<50	<100	<100
TP1-D1	-	<10	<50	<100	<100
TP1-SS1	-	<10	<50	<100	<100
TP1-B2	0-0.1	<10	<50	<100	<100
GeoEnviro Phase 2 Investigation					
BH109	1.7-1.8	<25	<50	<100	<100
BH111	0.9-1.0	<25	<50	<100	<100
BH114	1.5-1.6	<25	<50	<100	<100
BH116	0.9-1.0	<25	<50	<100	<100
GeoEnviro Phase 1 Investigation					
BH1	0.4-0.5	<25	<50	<100	<100
BH4	0.5-0.6	<25	<50	<100	<100
Practical Quantitation Limits (PQL)		10	50	100	100
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)					
Management Limits - Table 1B (7)					
Residential parkland and public open space		800	1000	3500	10,000
Commercial and industrial		800	1000	5000	10,000

Notes

a: Separate management limits for BTEX and naphthalene are not available hence these should not be subtracted from the relevant fractions to obtain F1 and F2.

b: Management limits are applied after consideration of relevant ESLs and HSLs.

TABLE C
POLYCYCLIC AROMATIC HYDROCARBONS (PAH), ORGANOCHLORINE PESTICIDES (OCP), POLYCHLORINATED BIPHENYLS (PCB) AND PHENOLS TEST RESULTS
FOR HILs, EILs & ESLs

		Analyte	PAH (mg/kg)				Organochlorine Pesticides (mg/kg)								PCB ¹	Phenols (mg/kg)		
			Carcinogenic PAHs (as B(a)P TEQ) ^a	TOTAL PAHs ¹	BENZO(a)PYRENE	NAPHTHALENE	DDT + DDE + DDD	ALDRIN & DIELDRIN	CHLORDANE	ENDOSULFAN	ENDRIN	HEPTACHLOR	HCB	METHOXYCHLOR		PHENOL	PENTACHLOROPHENOL	CRESOLS
Sample Location	Depth (m)																	
Aargus Additional Investigation																		
BH120	0.0-0.1	0.6	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	----	----	----
D1		0.6	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	----	----	----
SS1	-	0.6	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	----	----	----
BH120	0.4-0.5	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	----	----	----
BH121	0.1-0.1	0.6	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	----	----	----
BH121	0.4-0.5	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	----	----	----
BH122	0.0-0.1	0.6	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	----	----	----
BH122	0.4-0.5	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	----	----	----
BH126	0.0-0.1	0.6	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	----	----	----
BH126	0.9-1.0	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	----	----	----
BH127	0.0-0.2	0.6	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	----	----	----
BH127	0.9-1.0	0.6	<0.5	<0.5	<0.5	----	----	----	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	----	----	----
Aargus Remediation & Validation																		
TP1-W1	1-1.1	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-W2	1-1.1	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-W3	1-1.1	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-W4	1-1.1	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-W5	1-1.1	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-W6	1-1.1	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-W7	1-1.1	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-W8	1-1.1	0.6	0.6	<0.5	0.6	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-B1	0-0.1	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-D1	-	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-SS1	-	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
TP1-B2	0-0.1	0.6	<0.5	<0.5	<0.5	----	----	----	----	----	----	----	----	----	----	<0.5	<2	<1.5
GeoEnviro Phase 2 Investigation																		
BH109	1.7-1.8	<0.5	ND	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	----	----	----
BH111	0.9-1.0	<0.5	ND	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	----	----	----
BH114	1.5-1.6	<0.5	ND	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	----	----	----
BH116	0.9-1.0	<0.5	ND	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	----	----	----
GeoEnviro Phase 1 Investigation																		
BH1	0.4-0.5	<0.5	0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	----	----	----
BH4	0.5-0.6	<0.5	0	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	----	----	----
Practical Quantitation Limits (PQL)			0.6	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.1	0.5	2	1.5
NATIONAL ENVIRONMENT PROTECTION MEASURE (2013)																		
Health Investigation Levels (HIL) - Table 1A (1)																		
HIL A ^a		3	300			240	6	50	270	10	6	10	300	1		3000	100	400
HIL B ^b		4	400			600	10	90	400	20	10	15	500	1		45,000	130	4700
HIL C ^c		3	300			400	10	70	340	20	10	10	400	1		40,000	120	4000
HIL D ^d		40	4000			3600	45	530	2000	100	50	80	2500	7		240,000	660	25,000
Ecological Investigation Levels (EIL) - Table 1B (5)																		
Areas of ecological significance					10 ^g	3 ^{g,k}												
Urban residential and public open space ^h					170 ^g	180 ^{g,k}												
Commercial and industrial					370 ^g	640 ^{g,k}												
Ecological Screening Levels (ESL) - Table 1B (6)																		
Areas of ecological significance					0.7 ⁱ													
Urban residential and public open space					0.7 ⁱ													
Commercial and industrial					0.7 ⁱ													

- Notes
- a: Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry), also includes childcare centres, preschools and primary schools.
 - b: Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high rise buildings and apartments.
 - c: Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. This does not include undeveloped public open space where the potential for exposure is lower and where a site-specific assessment may be more appropriate.
 - d: Commercial/industrial, includes premises such as shops, offices, factories and industrial sites.
 - e: Carcinogenic PAHs: HIL is based on the 8 carcinogenic PAHs and their TEFs (potency relative to B(a)P) adopted by CCME 2008 (refer Schedule B7). The B(a)P TEQ is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its B(a)P TEF, given below, and summing these products.
- | PAH species | TEF | PAH species | TEF |
|----------------------|-----|-------------------------|------|
| Benzo(a)anthracene | 0.1 | Benzo(g,h,i)perylene | 0.01 |
| Benzo(a)pyrene | 1 | Chrysene | 0.01 |
| Benzo(b)fluoranthene | 0.1 | Dibenz(a,h)anthracene | 1 |
| Benzo(k)fluoranthene | 0.1 | Indeno(1,2,3-c,d)pyrene | 0.1 |
- Where the B(a)P occurs in bitumen fragments it is relatively immobile and does not represent a significant health risk.
- f: Total PAHs: HIL is based on the sum of the 16 PAHs most commonly reported for contaminated sites (WHO 1998). The application of the total PAH HIL should consider the presence of carcinogenic PAHs and naphthalene (the most volatile PAH). Carcinogenic PAHs reported in the total PAHs should meet the B(a)P TEQ HIL. Naphthalene reported in the total PAHs should meet the relevant HSL.
 - g: Insufficient data was available to calculate aged values for DDT and naphthalene, consequently the values for fresh contamination should be used.
 - h: Urban residential / public open space is broadly equivalent to the HIL-A, HIL-B and HIL-C land use scenarios in Table 1A(1) Footnote 1 and as described in Schedule B7.
 - i: For coarse and fine grained texture soils.
 - j: PCBs: HIL relates to non-dioxin-like PCBs only. Where a PCB source is known, or suspected, to be present at a site, a site-specific assessment of exposure to all PCBs (including dioxin-like PCBs) should be undertaken.
 - k: For DDT only.

TABLE D
ASBESTOS TEST RESULTS

Analyte		Field Observations*	Laboratory Results Asbestos Type Present / Absent	Laboratory Results Asbestos %w/w
Sample Location	Depth (m)			
BH120	0-0.1	No fibro cement fragments observed	No asbestos detected	<0.01
D1	-	No fibro cement fragments observed	No asbestos detected	<0.01
SS1	-	No fibro cement fragments observed	No asbestos detected	<0.01
BH121	0-0.1	No fibro cement fragments observed	No asbestos detected	<0.01
BH122	0-0.1	No fibro cement fragments observed	No asbestos detected	<0.01
BH126	0-0.2	No fibro cement fragments observed	No asbestos detected	<0.01
BH127	0-0.2	No fibro cement fragments observed	No asbestos detected	<0.01
BH1	0.4-0.5	No fibro cement fragments observed	No asbestos detected	<0.01
BH4	0.5-0.6	No fibro cement fragments observed	No asbestos detected	-
WA Guidelines for the Assessment, Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009 National Environment Protection (Assessment of Site Contamination) Measure 2013 Schedule B1 %w/w asbestos for FA and AF %w/w asbestos for ACM - Residential use, childcare centres, preschools etc. %w/w asbestos for ACM - Residential, minimal soil access (fully sealed surfaces) %w/w asbestos for ACM - Parks, public open spaces, playing fields etc. %w/w asbestos for ACM - Commercial / Industrial				
Note: ACM = Asbestos Containing Materials >7mm x 7mm (visible by eye) FA = Friable and Fibrous Asbestos Materials >7mm x 7mm (visible by eye) AF = Asbestos Fines <7mm x 7mm ACM including free fibres (visible by microscope only) * Field Observations: All fibro-cement fragments observed are assumed to contain Asbestos until otherwise tested and recorded as such. NT = Not Tested				

0.001%
0.01%
0.04%
0.02%
0.05%



AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET65510/ 68690 / 1 - 9
Your ref : ES7280/2 – Remediation Validation - Belfield
NATA Accreditation No: 14484

3 July 2018

Aargus Pty Ltd.
6 Carter Street
Lidcombe NSW 2141



Accredited for compliance with ISO/IEC 17025.

Attn: Mr Con Kariotoglou

Dear Con

Asbestos Identification

This report presents the results of nine samples, forwarded by Aargus Pty Ltd. on 29 June 2018, for analysis for asbestos.

1.Introduction:Nine samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method (**Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction**) (**Qualitative Analysis only**).

The report also provides approximate weights and percentages, categories of asbestos forms appearing in the sample, such as **AF**(Asbestos Fines), **FA**(Friable Asbestos and **ACM** (Asbestos Containing Material), also satisfying the requirements of the WA/ NEPM Guidelines)

3. Results : **Sample No. 1. ASET65510 / 68690 / 1. BH120 - 0.0-0.1.**
Approx dimensions 10.0 cm x 10.0 cm x 5.7 cm
Approx. total dry weight of soil = 581.0g
The sample consisted of a mixture of clayish soil, stones, fragments of shale and plant matter.
No asbestos detected.

Sample No. 2. ASET65510 / 68690 / 2. BH121 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 5.5 cm
Approx. total dry weight of soil = 577.0g
The sample consisted of a mixture of clayish soil, stones, fragments of shale and plant matter.
No asbestos detected.

Sample No. 3. ASET65510 / 68690 / 3. BH122 - 0.0-0.1.
Approx dimensions 10.0 cm x 10.0 cm x 6.2 cm
Approx. total dry weight of soil = 648.0g
The sample consisted of a mixture of clayish soil, stones fragments of shale.
No asbestos detected.

Sample No. 4. ASET65510 / 68690 / 4. BH123 - 0.0-0.2.
Approx dimensions 10.0 cm x 10.0 cm x 6.6 cm
Approx. total dry weight of soil = 675.0g
The sample consisted of a mixture of clayish soil, stones and fragments of shale.
No asbestos detected.

SUITE 710 / 90 GEORGE STREET, HORNSBY NSW 2077 – P.O. BOX 1644 HORNSBY WESTFIELD NSW 1635
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OCCUPATIONAL HEALTH & SAFETY STUDIES • INDOOR AIR QUALITY SURVEYS • HAZARDOUS MATERIAL SURVEYS • RADIATION SURVEYS • ASBESTOS SURVEYS
ASBESTOS DETECTION & IDENTIFICATION • REPAIR & CALIBRATION OF SCIENTIFIC EQUIPMENT • AIRBORNE FIBRE & SILICA MONITORING

The logo for ASET (Asbestos Sampling and Testing) features the word "ASET" in a bold, black, sans-serif font. The letters are slightly shadowed, giving it a three-dimensional appearance. The logo is set against a yellow background that has a faint, stylized map of Western Australia.

Sample No. 5. ASET65510 / 68690 / 5. BH124 - 0.0-0.2.

Approx dimensions 10.0 cm x 10.0 cm x 5.4 cm

Approx. total dry weight of soil = 575.0g

The sample consisted of a mixture of clayish soil, stones, fragments of shale and plant matter.

No asbestos detected.

Sample No. 6. ASET65510 / 68690 / 6. BH126 - 0.0-0.2.

Approx dimensions 10.0 cm x 10.0 cm x 6.1 cm

Approx. total dry weight of soil = 620.0g

The sample consisted of a mixture of clayish soil, stones, fragments of shale and plant matter.

No asbestos detected.

Sample No. 7. ASET65510 / 68690 / 7. BH127 - 0.0-0.2

Approx dimensions 10.0 cm x 10.0 cm x 5.5 cm

Approx. total dry weight of soil = 567.0g

The sample consisted of a mixture of clayish soil, stones, fragments of shale and plant matter.

No asbestos detected.

Sample No. 8. ASET65510 / 68690 / 8. D1.

Approx dimensions 10.0 cm x 10.0 cm x 5.5 cm

Approx. total dry weight of soil = 563.0g

The sample consisted of a mixture of clayish soil, stones, fragments of shale and plant matter.

No asbestos detected.

Sample No. 9. ASET65510 / 68690 / 9. D2.

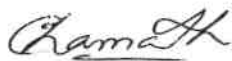
Approx dimensions 10.0 cm x 10.0 cm x 6.2 cm

Approx. total dry weight of soil = 648.0g

The sample consisted of a mixture of clayish soil, stones, fragments of shale and plant matter.

No asbestos detected.

Analysed and reported by,

A handwritten signature in black ink, appearing to read "Chamath".

Chamath Annakkage. BSc
Analyst / Approved Identifier

A handwritten signature in black ink, appearing to read "Mahen".

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Signatory



Accredited for compliance with ISO/IEC 17025.

This report is consistent with the analytical procedures and reporting recommendations in the Western Australia Guidelines for the Assessment Remediation and Management of Asbestos contaminated sites in Western Australia and it also satisfies the requirements of the current NEPM Guidelines. NATA Accreditation does not cover the performance of this service (NATA ISO/IEC17025 AUG 2014).

Disclaimers;



The approx; weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages given.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by AS4964-2004. Trace / respirable level asbestos will be reported only when detected.

*Estimation of asbestos weights involves the use of following assumptions;
Volume of each kind of Asbestos present in broken edges have been visually estimated and its been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.*

ACM - Asbestos Containing Material - Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and not fitting through a 7mm X 7 mm sieve.

AF -Includes asbestos free fibres, small fibre bundles and also ACM fragments that pass through a 7mm X 7 mm sieve.

FA -Friable asbestos material such as severely weathered ACM, and asbestos in the form of loose fibrous material such as insulation products.

^ denotes loose fibres of relevant asbestos types detected in soil/dust

*** denotes asbestos detected in ACM in bonded form (< 7 mm or > 7 mm)**

#denotes friable asbestos as soft fibro plaster and/or highly weathered ACM that will easily crumble

All samples indicating "No asbestos detected" are assumed to be less than 0.001 % unless the actual approximate weight is given.

ASET65510/68690/1-9

AARGUS PTY LTD

6 Carter Street
Lidcombe, NSW 2141
P.O. Box 398 Tel: 1300 137 038
DRUMMOYNE NSW 1470 Fax: 1300 136 038

Laboratory Test Request / Chain of Custody Record

Email to: cynthia@aargus.net, albert@aargus.net, mark.kelly@aargus.net, ningye@aargus.net
setarah@aargus.net

TO: ASET - Australian Safer Environment & Technology Pty Ltd, Sydney Suite 710 / 80 George Street HORNSBY, NSW 2077		Sampling Date: 26&27/06/2018		Job No: ES7280/2		1 of 1	
PH: 02 9987 2183 ATTN: Samples Receipt		Sampled By: AA		Project: Remediation Validation			
FAX: 02 9987 2151 EMAIL: ased@hazard.net.au		Project Manager: MK		Location: Belfield			

Sampling details			Results required by: (Standard Turnaround)				
Location	Depth (m)	Date	Sample type	Asbestos presence/absence	Asbestos %w/w	Asbestos	KEEP SAMPLE?
BH120	0.0-0.1	26/06/18	DSP		✓		YES
BH121	0.0-0.1	26/06/18	DSP		✓		YES
BH122	0.0-0.1	26/06/18	DSP		✓		YES
BH123	0.0-0.2	27/06/18	DSP		✓		YES
BH124	0.0-0.2	27/06/18	DSP		✓		YES
BH125	0.0-0.2	26/06/18	DSP		✓		YES
BH127	0.0-0.2	26/06/18	DSP		✓		YES
D1		26/06/18	DSP		✓		YES
D2		27/06/18	DSP		✓		YES

Name: Albert		Signature: AA		Date: 28.06.2018	
Relinquished by:		Received by:		Date: 29/6	

Legend:	Water sample, glass bottle	USG	Undisturbed soil sample (glass jar)	DSP	Disturbed soil sample (small plastic bag)
WG	Water sample, plastic bottle	DSG	Disturbed soil sample (glass jar)	✓	Test required
WP	Glass vial	OTH	Other	ACAN	© mole H' / nome

29 JUN 2018

BY: Sw

CERTIFICATE OF ANALYSIS

Work Order	: EM1810441	Page	: 1 of 8
Client	: AARGUS PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MR MARK KELLY	Contact	: Customer Services EM
Address	: PO BOX 398 DRUMMOYNE NSW, AUSTRALIA 2047	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: 1300137038	Telephone	: +61-3-8549 9600
Project	: ES7280/2	Date Samples Received	: 29-Jun-2018 09:20
Order number	: ---	Date Analysis Commenced	: 29-Jun-2018
C-O-C number	: ALBERT	Issue Date	: 03-Jul-2018 14:35
Sampler	: Belfield		
Site	: EN/222/17		
Quote number	: 2		
No. of samples received	: 2		
No. of samples analysed	: 2		



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report **supersedes** any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Emily Daos	Team Leader - Asbestos	Melbourne Asbestos, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM, in house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting

▲ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.

Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)

The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos

Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.

All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.

- EA200 'Am' Amosite (brown asbestos)

- EA200 'Cr' Crocidolite (blue asbestos)

- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres

- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.

- EA200 Legend

- EA200 'Ch' Chrysotile (white asbestos)

- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.

- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.

- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1,2,3-cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/kg and 1.2mg/kg respectively for samples with non-detects for all of the eight TEQ PAHs.

- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2.2

- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.

- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.

- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Client sample ID			
Compound	Client sampling date / time		SS1	SS2	
	CAS Number	LOR	Unit		
			Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)					
Moisture Content		1.0	%	20.3	22.8
EA200: AS 4964 - 2004 Identification of Asbestos in Soils					
Asbestos Detected	1332-21-4	0.1	g/kg	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	No
Asbestos Type	1332-21-4	-	-	-	-
Sample weight (dry)		0.01	g	546	576
APPROVED IDENTIFIER:		-	-	E.DAOS	E.DAOS
EA200N: Asbestos Quantification (non-NATA)					
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)		0.001	% (w/w)	<0.001	<0.001
ø Asbestos Containing Material	1332-21-4	0.1	g	<0.1	<0.1
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)	<0.01	<0.01
ø Weight Used for % Calculation		0.0001	kg	0.546	0.576
ø Fibrous Asbestos >7mm		0.0004	g	<0.0004	<0.0004
EG005T: Total Metals by ICP-AES					
Arsenic	7440-38-2	5	mg/kg	10	8
Cadmium	7440-43-9	1	mg/kg	<1	<1
Chromium	7440-47-3	2	mg/kg	31	24
Copper	7440-50-8	5	mg/kg	<5	<5
Lead	7439-92-1	5	mg/kg	12	15
Nickel	7440-02-0	2	mg/kg	2	<2
Zinc	7440-66-6	5	mg/kg	20	<5
EG035T: Total Recoverable Mercury by FIMS					
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)					
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	
EP068A: Organochlorine Pesticides (OC)					
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Client sample ID				SS1		SS2			
		Client sampling date / time				26-Jun-2018 00:00		27-Jun-2018 00:00			
		CAS Number				EM1810441-001		EM1810441-002			
Compound		Unit				Result		Result			
EP068A: Organochlorine Pesticides (OC) - Continued											
Heptachlor		76-44-8	0.05	mg/kg			<0.05				
Aldrin		309-00-2	0.05	mg/kg			<0.05				
Heptachlor epoxide		1024-57-3	0.05	mg/kg			<0.05				
^ Total Chlordane (sum)			0.05	mg/kg			<0.05				
trans-Chlordane		5103-74-2	0.05	mg/kg			<0.05				
alpha-Endosulfan		959-98-8	0.05	mg/kg			<0.05				
cis-Chlordane		5103-71-9	0.05	mg/kg			<0.05				
Dieldrin		60-57-1	0.05	mg/kg			<0.05				
4,4'-DDE		72-55-9	0.05	mg/kg			<0.05				
Endrin		72-20-8	0.05	mg/kg			<0.05				
beta-Endosulfan		33213-65-9	0.05	mg/kg			<0.05				
^ Endosulfan (sum)		115-29-7	0.05	mg/kg			<0.05				
4,4'-DDD		72-54-8	0.05	mg/kg			<0.05				
Endrin aldehyde		7421-93-4	0.05	mg/kg			<0.05				
Endosulfan sulfate		1031-07-8	0.05	mg/kg			<0.05				
4,4'-DDT		50-29-3	0.2	mg/kg			<0.2				
Endrin ketone		53494-70-5	0.05	mg/kg			<0.05				
Methoxychlor		72-43-5	0.2	mg/kg			<0.2				
^ Sum of Aldrin + Dieldrin		309-00-2/60-57-1	0.05	mg/kg			<0.05				
^ Sum of DDD + DDE + DDT		72-54-8/72-55-9/50-2	0.05	mg/kg			<0.05				
EP075(SIM)A: Phenolic Compounds											
Phenol		108-95-2	0.5	mg/kg			<0.5			<0.5	
2-Chlorophenol		95-57-8	0.5	mg/kg			<0.5			<0.5	
2-Methylphenol		95-48-7	0.5	mg/kg			<0.5			<0.5	
3- & 4-Methylphenol		1319-77-3	1	mg/kg			<1			<1	
2-Nitrophenol		88-75-5	0.5	mg/kg			<0.5			<0.5	
2,4-Dimethylphenol		105-67-9	0.5	mg/kg			<0.5			<0.5	
2,4-Dichlorophenol		120-83-2	0.5	mg/kg			<0.5			<0.5	
2,6-Dichlorophenol		87-65-0	0.5	mg/kg			<0.5			<0.5	
4-Chloro-3-methylphenol		59-50-7	0.5	mg/kg			<0.5			<0.5	
2,4,6-Trichlorophenol		88-06-2	0.5	mg/kg			<0.5			<0.5	
2,4,5-Trichlorophenol		95-95-4	0.5	mg/kg			<0.5			<0.5	
Pentachlorophenol		87-86-5	2	mg/kg			<2			<2	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Client sample ID			
		Client sampling date / time		SS1	SS2
Compound	CAS Number	LOR	Unit	26-Jun-2018 00:00 EM1810441-001	27-Jun-2018 00:00 EM1810441-002
Result					
Result					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued					
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5
Benzo(b+g)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5
Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons			0.5	mg/kg	<0.5
^ Benzo(a)pyrene TEQ (zero)			0.5	mg/kg	<0.5
^ Benzo(a)pyrene TEQ (half LOR)			0.5	mg/kg	<0.5
^ Benzo(a)pyrene TEQ (LOR)			0.5	mg/kg	0.6
			0.5	mg/kg	1.2
EP080/071: Total Petroleum Hydrocarbons					
C6 - C9 Fraction		10	mg/kg	<10	<10
C10 - C14 Fraction		50	mg/kg	<50	<50
C15 - C28 Fraction		100	mg/kg	<100	<100
C29 - C36 Fraction		100	mg/kg	<100	<100
^ C10 - C36 Fraction (sum)			50	mg/kg	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions					
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)			10	mg/kg	<10
>C10 - C16 Fraction			50	mg/kg	<50
>C16 - C34 Fraction			100	mg/kg	<100
>C34 - C40 Fraction			100	mg/kg	<100
^ >C10 - C40 Fraction (sum)			50	mg/kg	<50



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Client sample ID				SS1	SS2		
		Client sampling date / time		26-Jun-2018 00:00	27-Jun-2018 00:00				
Compound	CAS Number	LOR	Unit	EM1810441-001	EM1810441-002	Result		Result	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)		50	mg/kg	<50	<50				
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2				
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5				
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5				
meta- & para-Xylene	108-38-3	106-42-3	0.5	mg/kg	<0.5				
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5				
^ Sum of BTEX		0.2	mg/kg	<0.2	<0.2				
^ Total Xylenes		0.5	mg/kg	<0.5	<0.5				
Naphthalene	91-20-3	1	mg/kg	<1	<1				
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	84.4					
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	96.8					
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	80.5					
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	95.7	95.4				
2-Chlorophenol-D4	93951-73-6	0.5	%	100	100				
2,4,6-Tribromophenol	118-79-6	0.5	%	79.4	76.7				
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	97.8	96.6				
Anthracene-d10	1719-06-8	0.5	%	103	101				
4-Terphenyl-d14	1718-51-0	0.5	%	104	102				
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	72.4	73.9				
Toluene-D8	2037-26-5	0.2	%	75.2	79.0				
4-Bromofluorobenzene	460-00-4	0.2	%	107	113				



Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	SS1 - 26-Jun-2018 00:00	Red orange clay like soil.
EA200: Description	SS2 - 27-Jun-2018 00:00	Red orange clay like soil.



Surrogate Control Limits

Sub-Matrix: SOIL			
Compound	CAS Number	Recovery Limits (%)	
		Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	38	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	33	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2,4,6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-08-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124



Environmental

QUALITY CONTROL REPORT

Work Order

: EM1810441

Page

: 1 of 10

Client

: AARGUS PTY LTD

Contact

: MR MARK KELLY

Address

: PO BOX 398

: DRUMMOYNE NSW, AUSTRALIA 2047

Telephone

: 1300137038

Project

: ES7280/2

Order number

:

C-O-C number

:

Sampler

: ALBERT

Site

: Belfield

Quote number

: EN/222/17

No. of samples received

: 2

No. of samples analysed

: 2

Laboratory

: Environmental Division Melbourne

Contact

: Customer Services EM

Address

: 4 Westall Rd Springvale VIC Australia 3171

Telephone

: +61-3-8549 9600

Date Samples Received

: 29-Jun-2018

Date Analysis Commenced

: 29-Jun-2018

Issue Date

: 03-Jul-2018



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories

Position

Accreditation Category

Dilani Fernando

Emily Daos

Xing Lin

Senior Inorganic Chemist

Team Leader - Asbestos

Senior Organic Chemist

Melbourne Inorganics, Springvale, VIC

Melbourne Asbestos, Springvale, VIC

Melbourne Organics, Springvale, VIC

General Comments

Where moisture determination has been performed, results are reported on a dry weight basis.

Key:

CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

RPD = Relative Percentage Difference

Laboratory Duplicate (DUP) Report

Laboratory Duplicate (DUP) Report

Sub-Matrix: SOIL

Sub-Matrix: SOIL									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1765828)									
EM1810441-001	SS1	EA055: Moisture Content	----	0.1	%	20.3	19.0	6.56	0% - 20%
EM1810442-009	Anonymous	EA055: Moisture Content	----	0.1	%	12.3	12.3	0.00	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1765778)									
EM1810383-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	13	12.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	8	7	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	12	17.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	10	9	0.00	No Limit
EM1810442-007	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	9	9	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	17	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	28	14.5	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	61	67	8.92	0% - 50%
		EG005T: Copper	7440-50-8	5	mg/kg	385	351	9.18	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	2780	2850	2.27	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	2510	2440	2.77	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1765785)									
EM1810383-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EM1810442-007	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.7	0.7	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1768191)									
EM1810441-001	SS1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EM1810442-010	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1768190)									



Sub-Matrix: SOIL

Laboratory sample ID	Client sample ID	Method/Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report			
						Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EM1810441-001	SS1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EM1810442-010	Anonymous	EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL									
Laboratory sample ID	Client sample ID	Method/Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1768190) - continued									
EM1810442-010	Anonymous	EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1768189)									
EM1810441-001	SS1	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EM1810442-010	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1768189)									
EM1810441-001	SS1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+g)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3		mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: SOIL											
Laboratory sample ID		Client sample ID		Method: Compound	Laboratory Duplicate (DUP) Report						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1768189) - continued					CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EM1810441-001	SS1	EP075(SIM): Benzo(k)fluoranthene			207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene			50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1,2,3.cd)pyrene			193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a,h)anthracene			53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g,h,i)perylene			191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene			91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene			208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene			83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene			86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene			85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM1810442-010	Anonymous	EP075(SIM): Anthracene			120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene			206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene			129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene			56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene			218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+)fluoranthene			205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
					205-82-3						
		EP075(SIM): Benzo(k)fluoranthene			207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene			50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1,2,3.cd)pyrene			193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM1810441-001	SS1	EP075(SIM): Dibenz(a,h)anthracene			53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g,h,i)perylene			191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: C6 - C9 Fraction			----	10	mg/kg	<10	<10	0.00	No Limit
		EP080: C6 - C9 Fraction			----	10	mg/kg	<10	<10	0.00	No Limit
		EP071: C15 - C28 Fraction			----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction			----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction			----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: C10 - C36 Fraction (sum)			----	50	mg/kg	<50	<50	0.00	No Limit
EM1810442-010	Anonymous	EP071: C15 - C28 Fraction			----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction			----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction			----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: C10 - C36 Fraction (sum)			----	50	mg/kg	<50	<50	0.00	No Limit
		EP080: C6 - C10 Fraction			C6_C10	10	mg/kg	<10	<10	0.00	No Limit
		EP080: C6 - C10 Fraction			C6_C10	10	mg/kg	<10	<10	0.00	No Limit
		EP071: >C16 - C34 Fraction			----	100	mg/kg	<100	<100	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1765209)											
EM1810441-001	SS1	EP080: C6 - C10 Fraction			C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EM1810442-009	Anonymous	EP080: C6 - C10 Fraction			C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1768188)											
EM1810441-001	SS1	EP071: >C16 - C34 Fraction			----	100	mg/kg	<100	<100	0.00	No Limit



Sub-Matrix: SOIL									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/074: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1768188) - continued									
EM1810441-001	SS1	EP071: >C4 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
	Anonymous	EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 1766209)									
EM1810441-001	SS1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM1810442-009	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Sub-Matrix: SOIL			Method Blank (MB) Report		Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
EG005T: Total Metals by ICP-AES (QCLot: 1765778)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	94.1	79 113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	89.8	85 109	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	98.6	83 109	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	94.1	78 108	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	91.8	78 106	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	99.0	82 111	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	98.5	82 111	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1765785)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	97.5	77 104	
EP068: Polychlorinated Biphenyls (PCB) (QCLot: 1768191)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	79.4	63 115	
EP068A: Organochlorine Pesticides (OC) (QCLot: 1768190)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	65 120	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	68 121	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	88.0	70 121	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	64 119	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.3	56 121	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	63 114	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	64 121	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	87.3	68 120	
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	72 124	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	84.9	69 125	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	71 123	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	87.7	59 123	
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.5	70 123	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.3	64 119	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	69 124	
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	66 128	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	88.8	62 121	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	70.7	57 124	
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	84.3	60 124	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	73 120	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	84.9	61 121	
EP075(SIM)A: Phenolic Compounds (QCLot: 1768189)								



Sub-Matrix: Soil

Sub-Matrix: SOIL									
Method: Compound		CAS Number	LOR	Unit	Method Blank (MB) Report	Spike Concentration		Laboratory Control Spike (LCS) Report	
					Result			Spike Recovery (%)	Recovery Limits (%)
								Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 1768189) - continued									
EP075(SIM): Phenol	108-95-2		0.5	mg/kg	<0.5	3 mg/kg	92.4	70	125
EP075(SIM): 2-Chlorophenol	95-57-8		0.5	mg/kg	<0.5	3 mg/kg	92.2	74	128
EP075(SIM): 2-Methylphenol	95-48-7		0.5	mg/kg	<0.5	3 mg/kg	92.9	76	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3		1	mg/kg	<1	6 mg/kg	95.0	70	128
EP075(SIM): 2-Nitrophenol	88-75-5		0.5	mg/kg	<0.5	3 mg/kg	78.8	56	114
EP075(SIM): 2,4-Dimethylphenol	105-67-9		0.5	mg/kg	<0.5	3 mg/kg	92.5	70	122
EP075(SIM): 2,4-Dichlorophenol	120-83-2		0.5	mg/kg	<0.5	3 mg/kg	92.1	70	121
EP075(SIM): 2,6-Dichlorophenol	87-65-0		0.5	mg/kg	<0.5	3 mg/kg	92.4	70	126
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7		0.5	mg/kg	<0.5	3 mg/kg	90.6	67	120
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2		0.5	mg/kg	<0.5	3 mg/kg	87.8	63	121
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4		0.5	mg/kg	<0.5	3 mg/kg	92.2	71	133
EP075(SIM): Pentachlorophenol	87-86-5		2	mg/kg	<2	6 mg/kg	67.2	20	110
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1768189)									
EP075(SIM): Naphthalene	91-20-3		0.5	mg/kg	<0.5	3 mg/kg	90.5	75	131
EP075(SIM): Acenaphthylene	208-96-8		0.5	mg/kg	<0.5	3 mg/kg	95.2	70	132
EP075(SIM): Acenaphthene	83-32-9		0.5	mg/kg	<0.5	3 mg/kg	94.0	80	128
EP075(SIM): Fluorene	86-73-7		0.5	mg/kg	<0.5	3 mg/kg	93.9	70	128
EP075(SIM): Phenanthrene	85-01-8		0.5	mg/kg	<0.5	3 mg/kg	96.5	80	128
EP075(SIM): Anthracene	120-12-7		0.5	mg/kg	<0.5	1.6 mg/kg	98.1	72	126
EP075(SIM): Fluoranthene	206-44-0		0.5	mg/kg	<0.5	3 mg/kg	92.5	70	128
EP075(SIM): Pyrene	129-00-0		0.5	mg/kg	<0.5	3 mg/kg	96.0	80	125
EP075(SIM): Benz(a)anthracene	56-55-3		0.5	mg/kg	<0.5	3 mg/kg	86.0	70	130
EP075(SIM): Chrysene	218-01-9		0.5	mg/kg	<0.5	3 mg/kg	90.1	80	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2		0.5	mg/kg	<0.5	3 mg/kg	83.7	71	124
	205-82-3								
EP075(SIM): Benzo(k)fluoranthene	207-08-9		0.5	mg/kg	<0.5	3 mg/kg	93.1	75	125
EP075(SIM): Benzo(a)pyrene	50-32-8		0.5	mg/kg	<0.5	3 mg/kg	80.0	70	125
EP075(SIM): Indeno(1,2,3-cd)pyrene	193-39-5		0.5	mg/kg	<0.5	3 mg/kg	85.2	71	128
EP075(SIM): Dibenz(a,h)anthracene	53-70-3		0.5	mg/kg	<0.5	3 mg/kg	86.4	72	126
EP075(SIM): Benzo(g,h,i)perylene	191-24-2		0.5	mg/kg	<0.5	3 mg/kg	85.8	68	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1765209)									
EP080: C6 - C9 Fraction	----		10	mg/kg	<10	36 mg/kg	93.7	70	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1768188)									
EP071: C10 - C14 Fraction	----		50	mg/kg	<50	806 mg/kg	93.9	80	120
EP071: C15 - C28 Fraction	----		100	mg/kg	<100	3006 mg/kg	94.2	84	115
EP071: C29 - C36 Fraction	----		100	mg/kg	<100	1584 mg/kg	93.4	80	112
EP071: C10 - C36 Fraction (sum)	----		50	mg/kg	<50	-----	-----	-----	-----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1765208)									



Sub-Matrix: **SOIL**

Method: Compound				Method Blank (MB) Report		Laboratory Control Spike (LCS) Report			
CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	LCS	Low	High	Recovery Limits (%)
EP080/074: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1765209) - continued									
C6_C10	10	mg/kg	<10	45 mg/kg		91.0	68		125
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1768188)									
EP071: >C10 - C16 Fraction	50	mg/kg	<50	1160 mg/kg		93.8	83		117
EP071: >C16 - C34 Fraction	100	mg/kg	<100	3978 mg/kg		94.7	82		114
EP071: >C34 - C40 Fraction	100	mg/kg	<100	313 mg/kg		102	73		115
EP071: >C10 - C40 Fraction (sum)	50	mg/kg	<50						
EP080: BTEXN (QCLot: 1765209)									
EP080: Benzene	71-43-2	mg/kg	<0.2	2 mg/kg		82.0	74		124
EP080: Toluene	108-88-3	mg/kg	<0.5	2 mg/kg		96.8	77		125
EP080: Ethylbenzene	100-41-4	mg/kg	<0.5	2 mg/kg		93.0	73		125
EP080: meta- & para-Xylene	108-38-3	mg/kg	<0.5	4 mg/kg		102	77		128
	106-42-3								
EP080: ortho-Xylene	95-47-6	mg/kg	<0.5	2 mg/kg		104	81		128
EP080: Naphthalene	91-20-3	mg/kg	<1	0.5 mg/kg		84.3	66		130

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery(%)	Recovery Limits (%)			
EG005T: Total Metals by ICP-AES (QCLot: 1765778)									
EM1810441-001	SS1	EG005T: Arsenic	7440-38-2	50 mg/kg	98.7	78	124		
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.7	84	116		
		EG005T: Chromium	7440-47-3	50 mg/kg	105	79	121		
		EG005T: Copper	7440-50-8	50 mg/kg	98.4	82	124		
		EG005T: Lead	7439-92-1	50 mg/kg	99.0	76	124		
		EG005T: Nickel	7440-02-0	50 mg/kg	93.9	78	120		
		EG005T: Zinc	7440-66-6	50 mg/kg	102	74	128		
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1765785)									
EM1810441-001	SS1	EG035T: Mercury	7439-97-6	5 mg/kg	108	76	116		
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1768191)									
EM1810442-002	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	74.6	44	144		
EP068A: Organochlorine Pesticides (OC) (QCLot: 1768190)									
EM1810442-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	84.4	22	139		
		EP068: Heptachlor	76-44-8	0.5 mg/kg	72.9	18	130		



Sub-Matrix: SOIL

Sub-Matrix: SOIL

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	SpikeRecovery(%)		Recovery Limits (%)	
						MS	Low	High	
EP068A: Organochlorine Pesticides (OC) (QCLot: 1768190) - continued									
EM1810442-001	Anonymous		EP068: Aldrin	309-00-2	0.5 mg/kg	73.7	23		136
			EP068: Dieldrin	60-57-1	0.5 mg/kg	82.6	42		136
			EP068: Endrin	72-20-8	0.5 mg/kg	65.8	23		146
			EP068: 4,4'-DDT	50-29-3	0.5 mg/kg	74.2	20		133
EP075(SIM)A: Phenolic Compounds (QCLot: 1768189)									
EM1810441-002	SS2		EP075(SIM): Phenol	108-95-2	3 mg/kg	91.9	63		117
			EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	90.2	65		123
			EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	66.1	40		134
			EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	87.7	56		122
			EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	73.4	15		139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1768189)									
EM1810441-002	SS2		EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	90.5	67		117
			EP075(SIM): Pyrene	129-00-0	3 mg/kg	91.2	52		148
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1765209)									
EM1810442-001	Anonymous		EP080: C6 - C9 Fraction	----	28 mg/kg	77.1	42		131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1768188)									
EM1810441-002	SS2		EP071: C10 - C14 Fraction	----	806 mg/kg	99.6	53		123
			EP071: C15 - C28 Fraction	----	3006 mg/kg	99.2	70		124
			EP071: C29 - C36 Fraction	----	1584 mg/kg	97.6	64		118
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1765209)									
EM1810442-001	Anonymous		EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	76.2	39		129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1768188)									
EM1810441-002	SS2		EP071: >C10 - C16 Fraction	----	1160 mg/kg	99.3	65		123
			EP071: >C16 - C34 Fraction	----	3978 mg/kg	99.6	67		121
			EP071: >C34 - C40 Fraction	----	313 mg/kg	96.5	44		126
EP080: BTEXN (QCLot: 1765209)									
EM1810442-001	Anonymous		EP080: Benzene	71-43-2	2 mg/kg	81.2	50		136
			EP080: Toluene	108-88-3	2 mg/kg	87.9	56		139



Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order : **EM1810441**

Page : 1 of 6

Client : **AARGUS PTY LTD**
Contact : **MR MARK KELLY**
Project : **ES7280/2**
Site : **Belfield**
Sampler : **ALBERT**
Order number :

Laboratory : **Environmental Division Melbourne**
Telephone : **+61-3-8549 9600**
Date Samples Received : **29-Jun-2018**
Issue Date : **03-Jul-2018**
No. of samples received : **2**
No. of samples analysed : **2**

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- NO Method Blank value outliers occur.
- NO Duplicate outliers occur.
- NO Laboratory Control outliers occur.
- NO Matrix Spike outliers occur.
- For all regular sample matrices, NO surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- NO Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- NO Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results. This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein. Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time

Method	Sample Date	Extraction / Preparation		Analysis	
		Date extracted	Due for extraction	Date analysed	Due for analysis
EA055: Moisture Content (Dried @ 105-110°C)					
Soil Glass Jar - Unpreserved (EA055)					
SS1	26-Jun-2018	-----	-----	29-Jun-2018	10-Jul-2018
SS2	27-Jun-2018	-----	-----	29-Jun-2018	11-Jul-2018
EA200: AS 4964 - 2004 Identification of Asbestos in Soils					
Snap Lock Bag: Separate bag received (EA200)					
SS1	26-Jun-2018	-----	-----	03-Jul-2018	23-Dec-2018
SS2	27-Jun-2018	-----	-----	03-Jul-2018	24-Dec-2018
EA200N: Asbestos Quantification (non-NATA)					
Snap Lock Bag: Separate bag received (EA200N)					
SS1	26-Jun-2018	-----	-----	03-Jul-2018	23-Dec-2018
SS2	27-Jun-2018	-----	-----	03-Jul-2018	24-Dec-2018
EG005T: Total Metals by ICP-AES					
Soil Glass Jar - Unpreserved (EG005T)					
SS1	26-Jun-2018	29-Jun-2018	23-Dec-2018	29-Jun-2018	23-Dec-2018
Soil Glass Jar - Unpreserved (EG005T)					
SS2	27-Jun-2018	29-Jun-2018	24-Dec-2018	29-Jun-2018	24-Dec-2018
EG035T: Total Recoverable Mercury by FIMS					
Soil Glass Jar - Unpreserved (EG035T)					
SS1	26-Jun-2018	29-Jun-2018	24-Jul-2018	02-Jul-2018	24-Jul-2018
Soil Glass Jar - Unpreserved (EG035T)					
SS2	27-Jun-2018	29-Jun-2018	25-Jul-2018	02-Jul-2018	25-Jul-2018
EP066: Polychlorinated Biphenyls (PCB)					
Soil Glass Jar - Unpreserved (EP066)					
SS1	26-Jun-2018	02-Jul-2018	10-Jul-2018	02-Jul-2018	11-Aug-2018
EP068A: Organochlorine Pesticides (OC)					
Soil Glass Jar - Unpreserved (EP068)					
SS1	26-Jun-2018	02-Jul-2018	10-Jul-2018	02-Jul-2018	11-Aug-2018

Evaluation: * = Holding time breach ; ✓ = Within holding time.



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation		Analysis	
Container / Client Sample ID(s)		Date extracted	Due for extraction	Date analysed	Due for analysis
EP075(SIM)A: Phenolic Compounds					
Soil Glass Jar - Unpreserved (EP075(SIM))					
SS1	26-Jun-2018	02-Jul-2018	10-Jul-2018	02-Jul-2018	11-Aug-2018
					✓
Soil Glass Jar - Unpreserved (EP075(SIM))					
SS2	27-Jun-2018	02-Jul-2018	11-Jul-2018	02-Jul-2018	11-Aug-2018
					✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons					
Soil Glass Jar - Unpreserved (EP075(SIM))					
SS1	26-Jun-2018	02-Jul-2018	10-Jul-2018	02-Jul-2018	11-Aug-2018
					✓
Soil Glass Jar - Unpreserved (EP075(SIM))					
SS2	27-Jun-2018	02-Jul-2018	11-Jul-2018	02-Jul-2018	11-Aug-2018
					✓
EP080/071: Total Petroleum Hydrocarbons					
Soil Glass Jar - Unpreserved (EP071)					
SS1	26-Jun-2018	02-Jul-2018	10-Jul-2018	02-Jul-2018	11-Aug-2018
					✓
Soil Glass Jar - Unpreserved (EP080)					
SS1	26-Jun-2018	29-Jun-2018	10-Jul-2018	29-Jun-2018	10-Jul-2018
					✓
Soil Glass Jar - Unpreserved (EP071)					
SS2	27-Jun-2018	02-Jul-2018	11-Jul-2018	02-Jul-2018	11-Aug-2018
					✓
Soil Glass Jar - Unpreserved (EP080)					
SS2	27-Jun-2018	29-Jun-2018	11-Jul-2018	29-Jun-2018	11-Jul-2018
					✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions					
Soil Glass Jar - Unpreserved (EP071)					
SS1	26-Jun-2018	02-Jul-2018	10-Jul-2018	02-Jul-2018	11-Aug-2018
					✓
Soil Glass Jar - Unpreserved (EP080)					
SS1	26-Jun-2018	29-Jun-2018	10-Jul-2018	29-Jun-2018	10-Jul-2018
					✓
Soil Glass Jar - Unpreserved (EP071)					
SS2	27-Jun-2018	02-Jul-2018	11-Jul-2018	02-Jul-2018	11-Aug-2018
					✓
Soil Glass Jar - Unpreserved (EP080)					
SS2	27-Jun-2018	29-Jun-2018	11-Jul-2018	29-Jun-2018	11-Jul-2018
					✓
EP080: BTEXN					
Soil Glass Jar - Unpreserved (EP080)					
SS1	26-Jun-2018	29-Jun-2018	10-Jul-2018	29-Jun-2018	10-Jul-2018
					✓
Soil Glass Jar - Unpreserved (EP080)					
SS2	27-Jun-2018	29-Jun-2018	11-Jul-2018	29-Jun-2018	11-Jul-2018
					✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: SOIL

Evaluation: * = Quality Control frequency not within specification, ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification	
Analytical Methods		QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard