

# **Appendix D** – Summary of laboratory results

**TABLE LR1:  
SUMMARY OF LABORATORY RESULTS FOR SOIL SAMPLES ASSESSING CONTAMINATION  
Heavy Metals, TRH, BTEX, PAH, cyanide, ammonia and asbestos**

(All results in mg/kg, unless otherwise stated)

Sample ID	THRESHOLD CONCENTRATIONS						BH05	BH08	BH09	BH11	BH11	BH11	BH11	PACM1	PACM2	GBH01	QC14	QC14A	GBH01	GBH01
	HIL-D (Commercial / Industrial) <sup>1</sup>	HSL-D (Commercial / Industrial) <sup>1</sup>	HSL-D <sup>2</sup> (Direct Contact)	Intrusive maintenance worker (Direct Contact) <sup>2</sup>	Intrusive maintenance worker (Vapour Intrusion) <sup>3</sup>	Management Limits for TPH Fractions <sup>1</sup>	614911	614912	614911	612790	612790	612790	614911	614911	614911	618151	618151	ES1827755	618151	618151
Batch							614911	614912	614911	612790	612790	612790	614911	614911	614911	618151	618151	ES1827755	618151	618151
Date of Sampling							23-Aug-18	28-Aug-18	23-Aug-18	13-Aug-18	13-Aug-18	14-Aug-18	15-Aug-18	21-Aug-18	21-Aug-18	07-Sep-18	07-Sep-18	07-Sep-18	07-Sep-18	07-Sep-18
Soil Layer Description (Texture)							Possible Alluvium	Possible Estuarine	Possible Alluvium	Fill	Fill	Alluvium	Residual	Material	Material	Fill	Fill	Fill	Possible Alluvium	Estaurine
Depth (m)		0-<1m <sup>a</sup>			0-<2m <sup>b</sup>		15.5-15.95	16.0-16.45	16.00	0.2-0.3	1.5-2.0	9.1-9.5	19.6-20.0	Surface	Surface	1.7-2.0	1.7-2.0	1.7-2.0	4.7-5.0	7.7-8.0
<b>HEAVY METALS (TOTAL)</b>																				
Arsenic	3,000	-	-	-	-	-	6.5	17	15	-	5.2	5.9	15	-	-	2.4	2.4	6.0	4.9	4.1
Cadmium	900	-	-	-	-	-	< 0.4	< 0.4	< 0.4	-	< 0.4	< 0.4	< 0.4	-	-	< 0.4	< 0.4	< 1	< 0.4	< 0.4
Chromium	3,600 <sup>c</sup>	-	-	-	-	-	8.2	15	18	-	5.7	< 5	25	-	-	< 5	< 5	4.0	< 5	< 5
Copper	240,000	-	-	-	-	-	9.0	22	17	-	9.4	< 5	29	-	-	< 5	< 5	< 5	< 5	< 5
Lead	1,500	-	-	-	-	-	< 5	12	9.8	-	9.0	< 5	10	-	-	< 5	< 5	< 5	< 5	< 5
Mercury	730	-	-	-	-	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	6,000	-	-	-	-	-	< 5	7.5	11	-	< 5	< 5	< 5	-	-	< 5	< 5	< 2	< 5	< 5
Zinc	400,000	-	-	-	-	-	12	24	29	-	35	30	11	-	-	8.6	5.2	< 5	7.0	< 5
<b>TOTAL PETROLEUM HYDROCARBONS</b>																				
F1 (C6-C10)	-	-	-	-	-	700	< 20	< 20	< 20	-	< 20	< 20	< 20	-	-	< 20	< 20	< 10	< 20	< 20
F1 (C6-C10 less BTEX)	-	260	26,000	82,000	NL	-	< 20	< 20	< 20	-	< 20	< 20	< 20	-	-	< 20	< 20	< 10	< 20	< 20
F2 (>C10-C16)	-	-	-	-	-	1,000	< 50	< 50	< 50	-	< 50	< 50	< 50	-	-	< 50	< 50	< 50	< 50	< 50
F2 (>C10-C16 less naphthalene)	-	NL	20,000	62,000	NL	-	< 50	< 50	< 50	-	< 50	< 50	< 50	-	-	< 50	< 50	< 50	< 50	< 50
F3 (>C16-C34)	-	-	27,000	85,000	NL	3,500	< 100	< 100	< 100	-	< 100	2,600	< 100	-	-	< 100	< 100	< 100	< 100	< 100
F4 (>C34-C40)	-	-	38,000	120,000	NL	10,000	< 100	< 100	< 100	-	< 100	1,100	< 100	-	-	< 100	< 100	< 100	< 100	< 100
<b>BTEX</b>																				
Benzene	-	3	430	1,100	NL	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1
Toluene	-	NL	99,000	120,000	NL	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1
Ethylbenzene	-	NL	27,000	85,000	NL	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	-	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1
Total Xylene	-	230	81,000	130,000	NL	-	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	-	-	< 0.3	< 0.3	< 0.5	< 0.3	< 0.3
<b>POLYCYCLIC AROMATIC HYDROCARBONS</b>																				
Naphthalene	-	NL	11,000	29,000	NL	-	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carcenogenic PAHs (as BaP TEQ)	40	-	-	-	-	-	0.6	0.6	0.6	-	1.8	0.6	0.6	-	-	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene	-	-	-	-	-	-	< 0.5	< 0.5	< 0.5	-	1.1	< 0.5	< 0.5	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	4,000	-	-	-	-	-	< 0.5	< 0.5	< 0.5	-	12.4	< 0.5	< 0.5	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
<b>OTHER</b>																				
Ammonia (as N)							< 5	-	5	-	-	< 5	16	-	-	-	-	-	-	-
Cyanide (total)	1,500						< 5	-	< 5	-	-	< 5	< 5							
<b>ASBESTOS</b>	ND	-	-	-	-	-	-	-	-	ND	-	-	-	Chrysotile, amosite, crocidolite	Chrysotile, amosite	-	-	-	-	-

NOTES:

**Bold** Concentration exceeds the Health Investigation Levels (HIL) or Health Screen Level (HSL)

**Bold** Concentration exceeds Management Limits

1 Based on NEPM (1999) (amendment 2013).

2 CRC Care Technical Report No. 10 (Soil HSLs for direct contact)

3 CRC Care Technical Report No. 10 (Soil HSLs for Vapour Intrusion)

a Soil HSLs for vapour intrusion (for depth range between 0m to <1m, soil type: SAND)

b Soil HSLs for vapour intrusion (for depth range between 0m to <2m, soil type: SAND)

c Based on Chromium 6

- No result or guideline

\* Insufficient sample to perform analysis

ND Not detected

NL Not limiting

LOR Limit of reporting

GBH02	GBH02	GBH03	GBH03	GBH04	QC13	QC13A	GBH05	QC11	QC11A	GBH05	QC12	GBH06	GBH06	GBH06	GBH07	GBH07	GBH08	GBH09	GBH09	GBH09	GBH10
614911	614911	614911	614911	618151	618151	ES1827755	616384	616384	ES1826527	616384	616384	615353	615353	615353	618151	618151	614911	614911	614911	614911	614912
23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18	07-Sep-18	07-Sep-18	07-Sep-18	31-Aug-18	31-Aug-18	31-Aug-18	31-Aug-18	31-Aug-18	30-Aug-18	30-Aug-18	30-Aug-18	10-Sep-18	10-Sep-18	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18	24-Aug-18
Fill	Fill	Fill	Fill	Fill	Fill	Fill	Possible Alluvium	Possible Alluvium	Possible Alluvium	Estaurine	Estaurine	Fill	Fill	Possible Alluvium	Possible Alluvium	Possible Alluvium	Fill	Fill	Fill	Fill	Fill
0.1-0.4	0.4-0.6	0.1-0.4	2.3-2.5	2.7-3.0	2.7-3.0	2.7-3.0	6.7-7.0	6.7-7.0	6.7-7.0	8.7-9.0	8.7-9.0	0.5-0.7	4.7-5.0	8.9-9.0	6.7-7.0	8.7-9.0	0.1-0.3	0.1-0.3	0.75-1.0	4.2-4.4	0.1-0.3
< 2	< 2	< 2	2.4	4.4	5.3	6.0	4.1	6.1	7.0	9.7	11	5.3	7.3	6.9	5.6	54	< 2	-	2.4	16	< 2
< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 1	< 0.4	< 0.4	< 1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	-	< 0.4	< 0.4	< 0.4
< 5	33	61	< 5	< 5	< 5	3.0	< 5	< 5	2.0	6.7	6.5	< 5	< 5	< 5	< 5	< 5	6.9	-	87	11	< 5
< 5	< 5	< 5	< 5	6.3	6.9	6.0	< 5	< 5	< 5	< 5	< 5	5	< 5	< 5	< 5	< 5	5.5	-	8.1	20	< 5
< 5	< 5	< 5	< 5	9.7	13	8.0	< 5	6	6.0	< 5	< 5	5.2	< 5	< 5	< 5	< 5	< 5	-	9.8	20	< 5
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
< 5	< 5	< 5	< 5	14	13	16	< 5	< 5	< 2	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	-	8.3	7.6	< 5
< 5	< 5	9.8	7.1	190	180	266	13	22	39	< 5	< 5	32	19	< 5	< 5	6.2	9.8	-	32	76	< 5
< 20	< 20	< 20	< 20	< 20	< 20	< 10	< 20	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20
< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	-	< 50	130	< 50
< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	-	< 50	130	< 50
< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	5,400	< 100
< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	500	< 100
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	-	< 0.1	< 0.1	< 0.1
< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.5	< 0.3	< 0.3	< 0.5	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3
< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	4.4	< 0.5
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-	0.6	150	0.6
< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	100	< 0.5
< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	1,552	< 0.5
-	< 5	-	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 5
-	< 5	-	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 5
ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	-	-	ND

QC8	QC8A	GBH11	GBH11	GBH12	GBH12	GBH13	GBH13	GBH13	GBH14	GBH15	GBH16	GBH16	GBH17	GBH17	GBH18	GBH18	GBH19	GBH20	GBH20	GBH21	GBH21
614912	EB1821425	614912	614912	614912	614912	614911	614911	616384	618151	614912	618151	618151	614912	614912	614912	614912	614912	618151	618151	614911	614911
24-Aug-18	24-Aug-18	24-Aug-18	24-Aug-18	24-Aug-18	27-Aug-18	22-Aug-18	22-Aug-18	31-Aug-18	10-Sep-18	27-Aug-18	12-Sep-18	12-Sep-18	27-Aug-18	27-Aug-18	27-Aug-18	27-Aug-18	27-Aug-18	10-Sep-18	10-Sep-18	22-Aug-18	22-Aug-18
Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Possible Alluvium	Fill	Fill	Possible Alluvium	Possible Alluvium	Fill	Possible Alluvium	Fill	Fill	Fill	Possible Alluvium	Possible Alluvium	Fill	Fill
0.1-0.3	0.1-0.3	0.05-0.3	1.4-1.6	0.5-0.7	1.7-1.2	1.0-1.1	2.7-3.0	5.7-6.0	1.7-2.0	2.7-3.0	5.7-6.0	9.7-10.0	1.5-1.7	3.7-4.0	0.5-0.7	4.7-5.0	0.5-0.7	6.7-7.0	8.7-9.0	0.5-0.7	1.5-1.8
< 2	< 5	< 2	< 2	-	3.9	< 2	5.8	7.2	3.3	5.6	4.8	2.2	4.4	5.9	3.8	6.0	< 2	4.4	6.0	6.2	6.1
< 0.4	< 1	< 0.4	< 0.4	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
8.1	3.0	< 5	8.3	-	9.3	6.8	< 5	< 5	< 5	< 5	< 5	< 5	6.3	< 5	9.7	< 5	8.3	< 5	< 5	21	16
< 5	< 5	200	25	-	11	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5.7	< 5	6.1	< 5	18	8.7	5.7	17	21
< 5	< 5	11	< 5	-	16	< 5	7.9	< 5	< 5	7.3	< 5	< 5	7.3	11	12	< 5	< 5	13	16	16	33
< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
< 5	< 2	< 5	< 5	-	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	9.7	6.7
< 5	< 5	61	17	-	75	< 5	29	< 5	13	50	< 5	< 5	57	68	93	21	21	83	83	81	170
< 40	< 10	< 20	< 20	-	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
< 40	< 10	< 20	< 20	-	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
< 50	< 50	< 50	< 50	-	< 50	< 50	< 50	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
< 50	< 50	< 50	< 50	-	< 50	< 50	< 50	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
< 100	< 100	< 100	< 100	-	< 100	< 100	170	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100
< 100	< 100	< 100	< 100	-	< 100	< 100	< 100	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
< 0.2	< 0.2	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
< 0.2	< 0.5	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
< 0.2	< 0.5	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
< 0.6	< 0.5	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
0.6	0.6	0.6	0.6	-	0.6	0.6	6.5	-	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	4.3	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	47	-	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	0.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
< 10	< 20	-	< 5	-	-	-	< 5	-	-	-	-	-	-	< 5	-	-	-	-	< 5	-	-
< 5	*	-	< 5	-	-	-	< 5	-	-	-	-	-	-	< 5	-	-	-	-	< 5	-	-
-	-	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	ND	-	ND	-	-	ND	-

GBH22	GBH22	GBH22	GBH23	GBH23	GBH23	QC18	QC18A	GBH24	GBH24	GBH25	GBH26	GBH26	GBH26	GBH27	GBH27	GBH27	GBH28	GBH28	QC4	GBH29	GBH29
614911	614911	616384	618151	618151	618151	618151	ES1827755	614911	614911	614912	614911	614911	614911	614912	614912	615353	614911	614911	614911	614911	614911
22-Aug-18	22-Aug-18	31-Aug-18	11-Sep-18	11-Sep-18	11-Sep-18	11-Sep-18	11-Sep-18	21-Aug-18	21-Aug-18	27-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	28-Aug-18	28-Aug-18	29-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18
Fill	Fill	Fill	Fill	Possible Alluvium	Possible Alluvium	Possible Alluvium	Possible Alluvium	Fill	Possible Alluvium	Fill	Fill	Fill	Possible Alluvium	Fill	Possible Alluvium	Possible Alluvium	Fill	Fill	Fill	Fill	Fill
0.4-0.5	3.2-3.5	5.2-5.5	0.5-0.7	8.7-9.0	9.7-10.0	9.7-10.0	9.7-10.0	0.0-0.3	3.7-3.9	2.5-2.7	0.05-0.4	0.4-0.6	4.75-4.9	1.7-2.0	5.7-6.0	8.7-9.0	1.4-1.6	3.8-4.0	3.8-4.0	0.03-0.2	2.4-2.5
5.2	4.9	9.0	3.9	9.2	2.8	6.4	8	2.3	5.1	5.0	2.3	3.2	7.5	-	6.0	3.1	2.9	5.8	5.4	< 2	5.7
< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
13	< 5	< 5	13	20	< 5	11	10	17	< 5	< 5	15	< 5	7.3	-	< 5	8.7	< 5	< 5	< 5	5.8	< 5
16	< 5	< 5	25	31	< 5	18	9	140	< 5	< 5	220	< 5	6.1	-	< 5	< 5	< 5	< 5	< 5	< 5	< 5
11	11	< 5	25	69	< 5	42	25	50	9.1	9.7	11	5.1	19	-	< 5	6.0	5.3	7.4	8.6	< 5	9.0
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
6.8	< 5	< 5	< 5	14	< 5	10	5	9.9	< 5	< 5	6.5	< 5	< 5	-	< 5	< 5	< 5	< 5	< 5	< 5	< 5
62	81	22	230	520	< 5	350	235	330	68	76	76	27	140	-	< 5	< 5	30	22	21	< 5	34
< 20	< 20	-	< 20	< 20	< 20	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
< 20	< 20	-	< 20	< 20	< 20	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
< 50	< 50	-	55	< 50	< 50	< 50	< 50	98	< 50	< 50	< 50	< 50	160	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50
< 50	< 50	-	55	< 50	< 50	< 50	< 50	98	< 50	< 50	< 50	< 50	160	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50
< 100	< 100	-	170	< 100	< 100	< 100	< 100	390	< 100	< 100	290	< 100	4,100	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100
< 100	< 100	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	290	< 100	350	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100
< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.5	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
< 0.5	< 0.5	-	< 0.5	1.4	< 0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	3.4	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1.8	0.6	-	0.6	0.6	0.6	0.6	1.8	0.7	0.6	0.6	0.6	0.6	110	-	0.6	0.6	0.6	1.1	1.3	0.6	3.1
1.1	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	1.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	72	-	< 0.5	< 0.5	< 0.5	0.6	0.8	< 0.5	2.1
20	< 0.5	-	2.2	2.0	< 0.5	0.6	15.8	9.4	< 0.5	< 0.5	1.5	< 0.5	1,111	-	< 0.5	< 0.5	< 0.5	6.4	9.0	< 0.5	19
-	< 5	-	-	-	< 5	< 5	-	-	< 5	-	-	< 5	-	-	< 5	-	-	-	-	-	< 5
-	< 5	-	-	-	< 5	< 5	-	-	< 5	-	-	< 5	-	-	< 5	-	-	-	-	-	< 5
ND	-	-	-	-	-	-	-	-	-	ND	ND	-	-	ND	-	-	ND	-	-	ND	-

GBH30	GBH30	GBH31	GBH32	GBH32	QC7	QC7A	GBH33	GBH33	QC2	QC2A	GBH34	QC1	GBH34	GBH35	GBH37	GBH37	GBH37	GBH38	GBH38	GBH39
614912	614912	618151	614911	614911	614911	ES1825865	614911	614911	614911	ES1825865	614911	614911	614911	614912	614911	614911	614911	614912	614912	614912
24-Aug-18	24-Aug-18	10-Sep-18	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	21-Aug-18	24-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	28-Aug-18	28-Aug-18	24-Aug-18
Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Possible Alluvium	Fill	Fill	Fill
0.3-0.5	1.2-1.4	4.7-5.0	1.0-1.2	4.1-4.2	4.1-4.2	4.1-4.2	0.05-0.2	0.2-0.4	0.2-0.4	0.2-0.4	0.1-0.4	0.1-0.4	2.8-3.0	2.5-2.7	0.6-0.8	1.9-2.1	4.8-5.0	0.5-0.7	3.7-4.0	2.2-2.4
< 2	4.5	4.9	2.0	6.0	4.9	<5	2.8	4.4	4.5	<5	4.1	4.0	5.4	2.5	-	3.8	5.6	2.3	4.9	2.4
< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	<1	< 0.4	< 0.4	< 0.4	<1	< 0.4	< 0.4	< 0.4	< 0.4	-	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
390	14	< 5	190	< 5	< 5	<2	15	< 5	7.7	3.0	15	14	< 5	< 5	-	9.1	< 5	90	< 5	44
12	54	< 5	9.2	< 5	< 5	<5	81	7.8	17	11	120	130	< 5	< 5	-	24	< 5	13	< 5	78
< 5	13	< 5	< 5	5.3	< 5	<5	15	7.3	8.9	11	38	26	8.8	< 5	-	6.2	< 5	< 5	5.1	380
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	< 0.1	< 0.1	< 0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
24	10	< 5	11	< 5	< 5	<2	9.8	< 5	< 5	2.0	9.9	9.5	< 5	< 5	-	5.7	< 5	< 5	< 5	8.4
58	54	< 5	46	20	16	14	140	28	36	31	130	130	32	5.4	-	27	< 5	40	18	96
< 20	< 20	< 20	< 20	< 20	< 20	<10	< 20	< 20	< 20	<10	< 20	< 20	< 20	< 20	-	< 20	< 20	34	< 20	< 20
< 20	< 20	< 20	< 20	< 20	< 20	<10	< 20	< 20	< 20	<10	< 20	< 20	< 20	< 20	-	< 20	< 20	30	< 20	< 20
< 50	< 50	< 50	< 50	< 50	< 50	<50	< 50	< 50	< 50	<50	< 50	< 50	< 50	< 50	-	< 50	< 50	89	< 50	300
< 50	< 50	< 50	< 50	< 50	< 50	<50	< 50	< 50	< 50	<50	< 50	< 50	< 50	< 50	-	< 50	< 50	88	< 50	300
< 100	< 100	< 100	150	< 100	< 100	<100	< 100	< 100	< 100	<100	220	250	110	< 100	-	< 100	< 100	190	< 100	560
< 100	< 100	< 100	< 100	< 100	< 100	<100	< 100	< 100	< 100	<100	150	160	< 100	< 100	-	< 100	< 100	< 100	< 100	100
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.2	< 0.1	< 0.1	< 0.1	<0.2	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.5	< 0.1	< 0.1	< 0.1	<0.5	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	0	< 0.1	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.5	< 0.1	< 0.1	< 0.1	<0.5	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	0.9	< 0.1	< 0.1
< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	<0.5	< 0.3	< 0.3	< 0.3	<0.5	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	2.7	< 0.3	< 0.3
< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	1.5	< 0.5	< 0.5
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	2.0	3.3	2.0	0.6	0.6	4.1	0.6	-	0.6	0.6	0.6	0.6	0.6
< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	< 0.5	1.2	2.2	1.2	< 0.5	< 0.5	2.8	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
< 0.5	< 0.5	< 0.5	1.1	< 0.5	< 0.5	<0.5	< 0.5	13	26	15.7	1.3	0.6	34	< 0.5	-	< 0.5	< 0.5	2.5	< 0.5	4.3
-	-	-	< 5	-	-	-	-	< 5	< 5	< 20	-	-	< 5	-	-	< 5	-	-	< 5	< 5
-	-	-	< 5	-	-	-	-	< 5	< 5	< 1	-	-	< 5	-	-	< 5	-	-	< 5	< 5
ND	-	-	ND	-	-	-	ND	-	-	-	-	-	-	-	ND	ND	-	ND	-	-

TABLE LR3

## SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES

Heavy Metal, TRH, BTEX, PAH, TDS, ammonia, cyanide and field measurements

(All results in ug/L, unless otherwise stated)

Sample ID	THRESHOLD CONCENTRATIONS		201	QC1 (Duplicate of 201)	204	MW2	MW3	MW6	205
Laboratory Batch	Ecosystem ANZECC 2000 <sup>1</sup>	HSL-D Vapour Intrusion NEPM (2013) <sup>2</sup>	619676	619676	619676	619676	619676	619676	619676
Date of Sampling			25-Sep-18	25-Sep-18	25-Sep-18	25-Sep-18	25-Sep-18	25-Sep-18	25-Sep-18
<b>HEAVY METALS (DISSOLVED)</b>									
Arsenic	2.3 <sup>a</sup>	-	3	3	5	3	7	3	5
Cadmium	36	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium	85 <sup>1g</sup>	-	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Copper	8	-	2	14	97	47	100	65	21
Lead	12	-	< 1	< 1	4	3	6	2	1
Mercury	0.10 <sup>1d</sup>	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	560	-	4	6	11	29	13	11	4
Zinc	43	-	< 5	27	190	63	180	160	86
<b>TOTAL RECOVERABLE HYDROCARBONS</b>									
F1 (C6-C10)	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20
F1 (C6-C10 less BTEX)	160 <sup>1i</sup>	6,000 <sup>2a</sup>	< 20	< 20	< 20	< 20	< 20	< 20	< 20
F2 (>C10-C16)	780 <sup>1i</sup>	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50
F2 (>C10-C16 less naphthalene)	-	NL <sup>2a</sup>	< 50	< 50	< 50	< 50	< 50	< 50	< 50
F3 (>C16-C34)	800 <sup>1i</sup>	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100
F4 (>C34-C40)	-	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100
<b>BTEX</b>									
Benzene	500	5,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	180 <sup>1a</sup>	NL	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Ethylbenzene	5 <sup>1a</sup>	NL	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Total Xylene (ortho, meta & para)	75 <sup>1b</sup>	NL	< 3	< 3	< 3	< 3	< 3	< 3	< 3
<b>POLYCYCLIC AROMATIC HYDROCARBONS</b>									
Naphthalene	50	NL	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	0.6 <sup>1a,d</sup>	-	< 0.01	< 0.01	< 0.01	0.02	0.01	< 0.01	< 0.01
Anthracene	0.01 <sup>1a,d</sup>	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	1 <sup>1a,d</sup>	-	0.02	0.01	< 0.01	0.04	0.02	< 0.01	< 0.01
Benzo(a)pyrene	0.1 <sup>1a,d</sup>	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH			0.03	0.02	< 0.01	0.09	0.04	< 0.01	< 0.01
<b>NON-METALLIC INORGANICS</b>									
Ammonia	1700		< 10	< 10	70	1800	1500	120	50
Cyanide	4		< 5	< 5	< 5	< 5	< 5	< 5	< 5
<b>TOTAL DISSOLVED SOLIDS (mg/L)</b>									
	-	-	-	-	-	-	-	-	-
<b>FIELD MEASUREMENTS</b>									
Standing water level (m BTOC)			4.65	-	4.5	4.62	4.81	4.5	5.08
Dissolved Oxygen (mg/L)	-	-	1.58	-	1.98	1.09	1.00	1.44	1.2
Electrical Conductivity (uS/cm)	125-2200 <sup>1c</sup>	-	1,139	-	1,588	1,538	929	3,128	1,184
pH (Units)	8.0-8.4 <sup>1c</sup>	-	7.75	-	7.62	7.47	8.48	7.66	7.77
Redox Potential (mv)	-	-	30.5	-	-33.4	-82.5	-2.8	-104.2	1214
Temperature (°C)	-	-	19.7	-	19.8	20.0	19.9	19.7	19.0

## NOTES:

**Bold**

Concentration exceeds the Threshold Criteria

<sup>1</sup> Based on ANZECC/ARMCANZ (2000), Australian and New Zealand Guidelines For

Fresh and Marine Water Quality - Protection of Aquatic Ecosystems (Fresh water, South Eastern Australia, slightly to moderately disturbed system. 80% of species protected

<sup>1a</sup> Low reliability trigger values<sup>1b</sup> Low reliability trigger value for meta xylene used<sup>1c</sup> Based on south-east Australia marine ecosystems (Table 3.3.2) and lowland rivers (Table 3.3.3)<sup>1d</sup> Recommended 99% protection level used<sup>1i</sup> Range of values for NSW lowland rivers<sup>1g</sup> Guideline for Cr VI<sup>1h</sup> Level of Reporting used as Screening Level<sup>1i</sup> Vergruggen (2004) SRCeco. Values recalculated to reflect analytical fractions.<sup>2</sup> National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (no.1). (SAND; 2-4 m)<sup>2a</sup> For TPHs value for HSL-D (Commercial/Industrial) 2m to <4m for Sand<sup>1d</sup> Insufficient data to derive a reliable trigger value

NL Not Limiting

- Not Analysed

LOR Limit of Reporting

See original laboratory reports for detection limits







GBH24	GBH25	GBH26	GBH26	GBH26	GBH27	GBH27	GBH27	GBH28	GBH28	QC4	GBH29	GBH29	GBH30	GBH30	GBH31	GBH32	GBH32	QC7	QC7A	GBH33	GBH33	QC2	QC2A	GBH34	QC1	GBH34	GBH35	GBH37	GBH37	GBH37	GBH38	GBH38	GBH38	GBH39	
614911	614912	614911	614911	614911 / 623417	614912	614912	615353	614911	614911	614911	614911 / 623417	614911	614912	614912	618151	614911	614911	614911	ES1825865	614911	614911 / 623417	614911	ES1825865	614911	614911	614911 / 623417	614912	614911	614911	614911	614912	614912	614912	614912	
21-Aug-18	27-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	28-Aug-18	28-Aug-18	29-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	24-Aug-18	24-Aug-18	10-Sep-18	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	21-Aug-18	24-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	28-Aug-18	28-Aug-18	24-Aug-18	
Possible Alluvium	Fill	Fill	Fill	Possible Alluvium	Fill	Possible Alluvium	Possible Alluvium	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Possible Alluvium	Fill	Fill	Fill	
3.7-3.9	2.5-2.7	0.05-0.4	0.4-0.6	4.75-4.9	1.7-2.0	5.7-6.0	8.7-9.0	1.4-1.6	3.8-4.0	3.8-4.0	0.03-0.2	2.4-2.5	0.3-0.5	1.2-1.4	4.7-5.0	1.0-1.2	4.1-4.2	4.1-4.2	4.1-4.2	0.05-0.2	0.2-0.4	0.2-0.4	0.2-0.4	0.1-0.4	0.1-0.4	2.8-3.0	2.5-2.7	0.6-0.8	1.9-2.1	4.8-5.0	0.5-0.7	3.7-4.0	2.2-2.4		
5.1	5.0	2.3	3.2	7.5	-	6.0	3.1	2.9	5.8	5.4	< 2	5.7	< 2	4.5	4.9	2.0	6.0	4.9	< 5	2.8	4.4	4.5	< 5	4.1	4.0	5.4	2.5	-	3.8	5.6	2.3	4.9	2.4		
< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 1	< 0.4	< 0.4	< 0.4	< 1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	
< 5	< 5	15	< 5	7.3	-	< 5	8.7	< 5	< 5	< 5	5.8	< 5	390	14	< 5	190	< 5	< 5	< 2	15	< 5	7.7	3.0	15	14	< 5	< 5	-	9.1	< 5	90	< 5	44	< 5	
< 5	< 5	220	< 5	6.1	-	< 5	< 5	< 5	< 5	< 5	< 5	< 5	12	54	< 5	9.2	< 5	< 5	< 5	81	7.8	17	11	120	130	< 5	< 5	-	24	< 5	13	< 5	78	< 5	
9.1	9.7	11	5.1	19	-	< 5	6.0	5.3	7.4	8.6	< 5	9.0	< 5	13	< 5	< 5	5.3	< 5	< 5	15	7.3	8.9	11	38	26	8.8	< 5	-	8.2	< 5	< 5	5.1	380	< 5	
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
< 5	< 5	6.5	< 5	< 5	-	< 5	< 5	< 5	< 5	< 5	< 5	< 5	24	10	< 5	11	< 5	< 5	< 2	9.8	< 5	< 5	2.0	9.9	9.5	< 5	< 5	-	5.7	< 5	< 5	< 5	8.4	< 5	
68	78	78	27	140	-	< 5	< 5	30	22	21	< 5	34	58	54	< 5	46	20	16	14	140	28	36	31	130	130	32	5.4	-	27	< 5	40	18	96	< 5	
-	-	-	-	-	-	-	-	-	-	-	< 0.01	-	-	-	< 0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 10	< 20	< 20	< 20	< 10	< 20	< 20	< 20	< 20	-	< 20	< 20	23	< 20	< 20	< 20	
< 20	< 20	31	< 20	45	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	23	< 20	< 20	< 50	< 20	< 20	< 50	< 20	< 20	< 20	< 20	< 20	-	< 20	< 20	62	< 20	220	< 20	
< 50	< 50	140	< 50	3000	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50	61	< 50	< 50	110	< 50	< 50	< 100	81	< 50	63	< 100	130	120	90	< 50	-	< 50	< 50	160	< 50	420	< 50	
< 50	< 50	240	< 50	1200	-	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	59	< 50	< 50	< 100	< 50	< 50	< 50	< 100	160	180	< 50	-	< 50	< 50	59	< 50	290	< 50		
< 50	< 50	411	< 50	4245	-	< 50	< 50	< 50	< 50	< 50	< 50	61	< 50	< 50	192	< 50	< 50	< 50	81	< 50	63	< 50	290	300	90	< 50	-	< 50	< 50	281	< 50	840	< 50		
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.9	< 0.1	< 0.1	< 0.1	
< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.5	< 0.3	< 0.3	< 0.3	< 0.5	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	2.7	< 0.3	< 0.3	< 0.3	
< 0.5	< 0.5	< 0.5	< 0.5	72 1.311	-	< 0.5	< 0.5	< 0.5	0.6	0.8	< 0.5	2.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.2	2.2	1.2	< 0.5	< 0.5	2.8	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
< 0.5	< 0.5	1.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	6.4	9.0	< 0.5	19	< 0.5	< 0.5	< 0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5	13	26	15.7	1.3	0.6	34	< 0.5	-	< 0.5	< 0.5	2.5	< 0.5	4.3	< 0.5	
-	-	-	-	< 0.001	-	-	-	-	-	-	< 0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.001	-	-	-	-	< 0.001	-	-	-	-	-
-	-	-	-	< 0.001	-	-	-	-	-	-	< 0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.001	-	-	-	-	< 0.001	-	-	-	-	-
< 5	-	-	< 5	-	-	< 5	-	-	-	-	< 5	-	-	-	-	< 5	-	-	-	-	-	-	< 5	< 5	< 20	-	-	< 5	-	< 5	-	< 5	-	< 5	< 5
< 5	-	-	< 5	-	-	< 5	-	-	-	-	< 5	-	-	-	-	< 5	-	-	-	-	-	-	< 5	< 5	< 1	-	-	< 5	-	< 5	-	< 5	-	< 5	< 5
-	ND	ND	-	-	ND	-	-	ND	-	-	ND	-	ND	-	ND	-	-	-	-	ND	-	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	-





GBH24	GBH25	GBH26	GBH26	GBH26	GBH27	GBH27	GBH27	GBH28	GBH28	QC4	GBH29	GBH29	GBH30	GBH30	GBH31	GBH32	GBH32	QC7	QC7A	GBH33	GBH33	QC2	QC2A	GBH34	QC1	GBH34	GBH35	GBH37	GBH37	GBH37	GBH38	GBH38	GBH38	GBH39	
614911	614912	614911	614911	614911 / 623417	614912	614912	615353	614911	614911	614911	614911 / 623417	614911	614912	614912	618151	614911	614911	614911	ES1825865	614911	614911 / 623417	614911	ES1825865	614911	614911	614911 / 623417	614912	614911	614911	614911	614912	614912	614912	614912	
21-Aug-18	27-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	28-Aug-18	28-Aug-18	29-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	24-Aug-18	24-Aug-18	10-Sep-18	23-Aug-18	23-Aug-18	23-Aug-18	23-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	20-Aug-18	21-Aug-18	24-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	21-Aug-18	28-Aug-18	28-Aug-18	24-Aug-18	
Possible Alluvium	Fill	Fill	Fill	Possible Alluvium	Fill	Possible Alluvium	Possible Alluvium	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Possible Alluvium	Fill	Fill	Fill	
3.7-3.9	2.5-2.7	0.05-0.4	0.4-0.6	4.75-4.9	1.7-2.0	5.7-6.0	8.7-9.0	1.4-1.6	3.8-4.0	3.8-4.0	0.03-0.2	2.4-2.5	0.3-0.5	1.2-1.4	4.7-5.0	1.0-1.2	4.1-4.2	4.1-4.2	4.1-4.2	0.05-0.2	0.2-0.4	0.2-0.4	0.2-0.4	0.1-0.4	0.1-0.4	2.8-3.0	2.5-2.7	0.6-0.8	1.9-2.1	4.8-5.0	0.5-0.7	3.7-4.0	2.2-2.4		
5.1	5.0	2.3	3.2	7.5	-	6.0	3.1	2.9	5.8	5.4	<2	5.7	<2	4.5	4.9	2.0	6.0	4.9	<5	2.8	4.4	4.5	<5	4.1	4.0	5.4	2.5	-	3.8	5.6	2.3	4.9	2.4		
<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4	<0.4	<0.4	<1	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	
<5	<5	15	<5	7.3	-	<5	8.7	<5	<5	<5	5.8	<5	390	14	<5	190	<5	<5	<2	15	<5	7.7	3.0	15	14	<5	<5	-	9.1	<5	90	<5	44	<5	
<5	<5	220	<5	6.1	-	<5	<5	<5	<5	<5	<5	<5	12	54	<5	9.2	<5	<5	<5	81	7.8	17	11	120	130	<5	<5	-	24	<5	13	<5	78		
9.1	9.7	11	5.1	19	-	<5	6.0	5.3	7.4	8.6	<5	9.0	<5	13	<5	<5	5.3	<5	<5	15	7.3	8.9	11	38	26	8.8	<5	-	8.2	<5	<5	5.1	380		
<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
<5	<5	6.5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	24	10	<5	11	<5	<5	<2	9.8	<5	<5	2.0	9.9	9.5	<5	<5	-	5.7	<5	<5	<5	8.4	<5	
68	78	78	27	140	-	<5	<5	30	22	21	<5	34	58	54	<5	46	20	16	14	140	28	36	31	130	130	32	5.4	-	27	<5	40	18	96		
-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<20	<20	<20	<20	<20	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10	<20	<20	<20	<10	<20	<20	<20	<20	-	<20	<20	23	<20	<20		
<20	<20	31	<20	45	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	23	<20	<20	<50	<20	<20	<50	<20	<20	<20	<20	<20	-	<20	<20	62	<20	220		
<50	<50	140	<50	3000	-	<50	<50	<50	<50	<50	<50	61	<50	<50	110	<50	<50	<100	81	<50	63	<100	130	120	90	<50	-	<50	<50	160	<50	420	<50		
<50	<50	240	<50	1200	-	<50	<50	<50	<50	<50	<50	61	<50	<50	99	<50	<50	<100	<50	<50	<50	<100	160	180	<50	<50	-	<50	<50	59	<50	290	<50		
<50	<50	411	<50	4245	-	<50	<50	<50	<50	<50	<50	61	<50	<50	192	<50	<50	<50	81	<50	63	<50	290	300	90	<50	-	<50	<50	281	<50	840	<50		
<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1		
<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	0.3	<0.1	<0.1		
<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	0.9	<0.1	<0.1		
<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.5	<0.3	<0.3	<0.3	<0.5	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	2.7	<0.3	<0.3		
<0.5	<0.5	<0.5	<0.5	72	-	<0.5	<0.5	<0.5	0.6	0.8	<0.5	2.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	2.2	1.2	<0.5	<0.5	2.8	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
<0.5	<0.5	1.5	<0.5	1.311	-	<0.5	<0.5	<0.5	6.4	9.0	<0.5	19	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	13	26	15.7	1.3	0.6	34	<0.5	-	<0.5	<0.5	2.5	<0.5	4.3	
-	-	-	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	-	-	-
-	-	-	-	<0.001	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	<0.001	-	-	-	-	-
<5	-	-	<5	-	-	<5	-	-	-	-	<5	-	-	-	<5	-	-	-	-	-	-	-	<5	<5	<20	-	-	<5	-	<5	-	<5	-	<5	
<5	-	-	<5	-	-	<5	-	-	-	-	<5	-	-	-	<5	-	-	-	-	-	-	<5	<5	<1	-	-	<5	-	<5	-	<5	-	<5	<5	
-	ND	ND	-	-	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	ND	ND	-	ND	-	-	-	





Table QAQC2: Relative Percentage Difference for Groundwater

Batch			619676		
Sample ID	Units	LOR (Eurofins)	Primary Sample Conc.	Duplicate Sample Conc.	RPD (%)
			201	QC1 (Duplicate of 201)	
<b>HEAVY METALS (DISSOLVED)</b>					
Arsenic	µg/L	1	3	3	0
Cadmium	µg/L	0.2	< 0.2	< 0.2	ND
Chromium	µg/L	1	< 1	< 1	ND
Copper	µg/L	1	2	14	150
Lead	µg/L	1	< 1	< 1	ND
Mercury	µg/L	0.1	< 0.1	< 0.1	ND
Nickel	µg/L	1	4	6	40
Zinc	µg/L	5	< 5	27	NC
<b>TOTAL RECOVERABLE HYDROCARBONS</b>					
F1 (C6-C10)	µg/L	20	< 20	< 20	ND
F1 (C6-C10 less BTEX)	µg/L	20	< 20	< 20	ND
F2 (>C10-C16)	µg/L	50	< 50	< 50	ND
F2 (>C10-C16 less naphthalene)	µg/L	50	< 50	< 50	ND
F3 (>C16-C34)	µg/L	100	< 100	< 100	ND
F4 (>C34-C40)	µg/L	100	< 100	< 100	ND
<b>BTEX</b>					
Benzene	µg/L	0.1	< 1	< 1	ND
Toluene	µg/L	0.1	< 1	< 1	ND
Ethylbenzene	µg/L	0.1	< 1	< 1	ND
Total Xylene (ortho, meta & para)	µg/L	0.3	< 3	< 3	ND
<b>POLYCYCLIC AROMATIC HYDROCARBONS</b>					
Naphthalene	µg/L	0.01	< 0.01	< 0.01	NC
Phenanthrene	µg/L	0.01	< 0.01	< 0.01	ND
Anthracene	µg/L	0.01	< 0.01	< 0.01	ND
Fluoranthene	µg/L	0.01	0.02	0.01	67
Benzo(a)pyrene	µg/L	0.01	< 0.01	< 0.01	ND
Total PAH	µg/L		0.03	0.02	40
<b>NON-METALLIC INORGANICS</b>					
Ammonia	µg/L	10	< 10	< 10	ND
Cyanide	µg/L	5	< 5	< 5	ND
TDS (mg/L)	mg/L	5	-	-	-



**TABLE QAQC3  
SUMMARY OF FIELD CONTROL SAMPLES LABORATORY RESULTS**

Sample ID	TRIP SPIKE	TRIP BLANK	TRIP SPIKE	TRIP BLANK	TRIP SPIKE	TRIP BLANK
Date of Sampling	14-Aug-18	14-Aug-18	21-Aug-18	21-Aug-18	04-Sep-18	04-Sep-18
QAQC Type	TRIP SPIKE	TRIP BLANK	TRIP SPIKE	TRIP BLANK	TRIP SPIKE	TRIP BLANK
Batch	612790	612790	614911	614911	616384	616384
Unit	%	mg/kg	%	mg/kg	%	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
<b>TOTAL PETROLEUM HYDROCARBONS</b>						
F1 (C6-C10)	-	< 20	-	< 20	-	< 20
F1 (C6-C10 less BTEX)	-	< 20	-	< 20	-	< 20
F2 (>C10-C16)	-	-	-	-	-	-
F2 (>C10-C16 less naphthalene)	-	-	-	-	-	-
F3 (>C16-C34)	-	-	-	-	-	-
F4 (>C34-C40)	-	-	-	-	-	-
<b>BTEX</b>						
Benzene	100%	< 0.1	110%	< 0.1	97%	< 0.1
Toluene	100%	< 0.1	110%	< 0.1	92%	< 0.1
Ethylbenzene	100%	< 0.1	110%	< 0.1	98%	< 0.1
Total Xylene	100%	< 0.3	110%	< 0.3	97%	< 0.3
<b>POLYCYCLIC AROMATIC HYDROCARBONS</b>						
	-	-	-	-	-	-

Notes:

**Bold**

Concentration exceeds control limit

- Not Analysed

ND Not Detected

**QAQC Control Ordinates**

Trip Spike Recovery concentrations to between 60% and 110%

Trip Blank Recovery concentrations to be ND