

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area		Units		LOR		GASWORKS CH2M HILL BH12	GASWORKS CH2M HILL BH12	GASWORKS CH2M HILL BH13	GASWORKS CH2M HILL BH13	GASWORKS CH2M HILL BH14	GASWORKS CH2M HILL BH14	GASWORKS CH2M HILL BH15
						0.90-1.00 Fill	2.00-2.10 Fill	0.00-0.10 Fill	0.20-0.30 Fill	0.00-0.10 Fill	0.20-0.30 Fill	0.00-0.10 Fill
Oxychlorthane		mg/kg	0.1			na	na	na	na	na	na	na
Heptachlor epoxide		mg/kg	0.1			na	na	na	na	na	na	na
Endosulphan I		mg/kg	0.1			na	na	na	na	na	na	na
Chlordane-trans		mg/kg	0.1			na	na	na	na	na	na	na
Chlordane-cis		mg/kg	0.1			na	na	na	na	na	na	na
trans-Nonachlor		mg/kg	0.1			na	na	na	na	na	na	na
4,4'-DDE		mg/kg	0.1			na	na	na	na	na	na	na
Endrin		mg/kg	0.1			na	na	na	na	na	na	na
4,4'-DDD		mg/kg	0.1			na	na	na	na	na	na	na
Endosulphan II		mg/kg	0.1			na	na	na	na	na	na	na
4,4'-DDT		mg/kg	0.1			na	na	na	na	na	na	na
Endosulphan sulphate		mg/kg	0.1			na	na	na	na	na	na	na
Methoxychlor		mg/kg	0.1			na	na	na	na	na	na	na
Total OCPs						0	0	0	0	0	0	0
PCBs												
Arochlor 1016		mg/kg	1			na	na	na	na	0.5	na	na
Arochlor 1221		mg/kg	1			na	na	na	na	0.5	na	na
Arochlor 1232		mg/kg	1			na	na	na	na	0.5	na	na
Arochlor 1242		mg/kg	1			na	na	na	na	0.5	na	na
Arochlor 1248		mg/kg	1			na	na	na	na	0.5	na	na
Arochlor 1254		mg/kg	1			na	na	na	na	0.5	na	na
Arochlor 1260		mg/kg	1			na	na	na	na	0.5	na	na
Total PCBs						na	na	na	na	0	na	na

n/a = not applicable
 LOR = Laboratory Limits of Reporting
 na = not selected for analysis
 nd = not detected above laboratory LOR
 Note: Results reported as non detect have been replaced with half the LOR for s

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Area		Units	LOR	GASWORKS				GASWORKS				GASWORKS				GASWORKS			
				CH2M HILL				CH2M HILL				CH2M HILL				CH2M HILL			
				BH15				BH15				BH16				BH16			
				0.20-0.30 Fill				0.90-1.00 Fill				0.00-0.10 Fill				0.90-1.00 Fill			
1.3-Dichloropropane		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2.2-Dichloropropane		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.1-Dichloropropylene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
cis-1.3-Dichloropropylene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
trans-1.3-Dichloropropylene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Ethylbenzene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Hexachlorobutadiene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Isopropylene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
p-Isopropyltoluene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Methylene chloride		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Naphthalene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
n-Propylbenzene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Styrene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.1.1.2-Tetrachloroethane		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.1.2.2-Tetrachloroethane		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Tetrachloroethene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Toluene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.2.3-Trichlorobenzene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.2.4-Trichlorobenzene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.1.1-Trichloroethane		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.1.2-Trichloroethane		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Trichloroethene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Trichlorofluoromethane		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.2.3-Trichloropropane		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.2.4-Trimethylbenzene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
1.3.5-Trimethylbenzene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Vinyl chloride		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
ortho-Xylene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
meta- & para-Xylene		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
TPH																			
C6-C9		mg/kg	10	5	na	na	na	na	na	na	na	na	na	na	na	100	na	na	na
C10-C14		mg/kg	10	90	na	na	na	na	na	na	na	na	na	na	na	1600	na	na	na
C15-C28		mg/kg	50	2800	na	na	na	na	na	na	na	na	na	na	na	1400	na	na	na
C29-C36		mg/kg	50	1500	na	na	na	na	na	na	na	na	na	na	na	200	na	na	na
Total C10-C36		mg/kg		4390	na	na	na	na	na	na	na	na	na	na	38400	3200	na	na	na
BTEX																			
Benzene		mg/kg	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	na	0.25	0.25	0.25	1.6	0.25	0.25	0.25	0.25
Toluene		mg/kg	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	na	0.5	0.5	0.5	15	5	5	5	5
Ethylbenzene		mg/kg	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	na	0.5	0.5	0.5	7	9	9	9	9
Total Xylenes		mg/kg	3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	na	1.5	1.5	1.5	65	48	48	48	48
PAHs																			
Naphthalene		mg/kg	0.5	1.6	0.25	0.25	0.7	0.25	0.25	0.25	0.25	0.25	0.25	0.25	320	520	520	520	520

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Area		Units	LOR	GASWORKS				GASWORKS				GASWORKS				GASWORKS			
				CH2M HILL				CH2M HILL				CH2M HILL				CH2M HILL			
				BH15				BH15				BH16				BH16			
				0.20-0.30 Fill				0.90-1.00 Fill				0.00-0.10 Fill				0.90-1.00 Fill			
Oxychlorane		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Heptachlor epoxide		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Endosulphan I		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Chlordane-trans		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Chlordane-cis		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
trans-Nonachlor		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
4,4'-DDE		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Endrin		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
4,4'-DDD		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Endosulphan II		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
4,4'-DDT		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Endosulphan sulphate		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Methoxychlor		mg/kg	0.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Total OCPs				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PCBs																			
Arochlor 1016		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Arochlor 1221		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Arochlor 1232		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Arochlor 1242		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Arochlor 1248		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Arochlor 1254		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Arochlor 1260		mg/kg	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Total PCBs				na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

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Area				GASWORKS				GASWORKS				Count	Maximum	Minimum
Consultant				CH2M HILL	GASWORKS	CH2M HILL	GASWORKS	CH2M HILL	GASWORKS	CH2M HILL	GASWORKS			
Sample Location				TPD	TPD	BH10	BH99	BH99	BH99	0.20-0.30	Fill			
Sample Depth				0.20	0.60	0.30	0.00-0.10	0.20-0.30	0.20-0.30	0.20-0.30	Fill			
Analyte		Units	LOR											
HEAVY METALS														
Arsenic		mg/kg	5	2.5	2.5	7	2.5	2.5	2.5	2.5	31	200	2.5	
Cadmium		mg/kg	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	31	1.4	0.25	
Chromium		mg/kg	5	2.5	6	11	17	17	17	2.5	31	74	2.5	
Copper		mg/kg	5	32	2.5	65	46	46	46	88	31	390	2.5	
Nickel		mg/kg	2	6	1	17	110	110	110	12	31	110	1	
Lead		mg/kg	5	18	8	49	8	8	8	110	31	1200	8	
Zinc		mg/kg	5	73	68	290	58	58	58	120	31	1100	2.5	
Mercury		mg/kg	0.05	0.07	0.06	0.16	0.025	0.025	0.025	0.025	31	0.57	0.025	
Total Cyanide		mg/kg	0.5	na	0.25	na	na	na	na	na	6	34	0.25	
VOCs														
Benzene		mg/kg	0.5	na	na	na	na	na	na	0.25	3	0.25	0.25	
Bromobenzene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Bromochloromethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Bromodichloromethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Bromoform		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Bromomethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
n-Butylbenzene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
sec-Butylbenzene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
tert-Butylbenzene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Carbon Tetrachloride		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
cis-1,2-Dichloroethene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Chlorobenzene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Chloroethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Chloroform		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Chloromethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
2-Chlorotoluene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
4-Chlorotoluene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Dibromochloromethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
1,2-Dibromo-3-Chloropropane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
1,2-Dibromomethane (EDB)		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Dibromomethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
1,2-Dichlorobenzene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
1,3-Dichlorobenzene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
1,4-Dichlorobenzene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
Dichlorodifluoromethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
1,1-Dichloroethene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
1,2-Dichloroethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
1,1,1-Dichloroethane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
cis-1,2-Dichloroethene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
trans-1,2-Dichloroethene		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	
1,2-Dichloropropane		mg/kg	1	na	na	na	na	na	na	0.5	3	0.5	0.5	

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Area				GASWORKS	GASWORKS	GASWORKS	GASWORKS	GASWORKS	Count	Maximum	Minimum
Consultant				CH2M HILL	CH2M HILL	CH2M HILL	CH2M HILL	CH2M HILL			
Sample Location				TPD	TPD	BH10	BH99	BH99			
Sample Depth				0.20	0.60	0.30	0.00-0.10	0.20-0.30			
Analyte		Units	LOR	Fill	Fill	Fill	Fill	Fill			
1.3-Dichloropropane		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
2.2-Dichloropropane		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.1-Dichloropropylene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
cis-1.3-Dichloropropylene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
trans-1.3-Dichloropropylene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Ethylbenzene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Hexachlorobutadiene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Isopropylene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
p-Isopropyltoluene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Methylene chloride		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Naphthalene		mg/kg	1	na	na	na	na	0.5	3	2	0.5
n-Propylbenzene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Styrene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.1.1.2-Tetrachloroethane		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.1.2.2-Tetrachloroethane		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Tetrachloroethene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Toluene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.2.3-Trichlorobenzene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.2.4-Trichlorobenzene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.1.1-Trichloroethane		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.1.2-Trichloroethane		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Trichloroethene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Trichlorofluoromethane		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.2.3-Trichloropropane		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.2.4-Trimethylbenzene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
1.3.5-Trimethylbenzene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
Vinyl chloride		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
ortho-Xylene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
meta- & para-Xylene		mg/kg	1	na	na	na	na	0.5	3	0.5	0.5
TPH									3	0.5	0.5
C6-C9		mg/kg	10	na	na	5	na	na	12	100	5
C10-C14		mg/kg	10	na	na	30	na	na	12	3400	5
C15-C28		mg/kg	50	na	na	300	na	na	12	26000	25
C29-C36		mg/kg	50	na	na	140	na	na	12	9000	25
Total C10-C36		mg/kg		na	na	470	na	na	15	38400	0
BTEX											
Benzene		mg/kg	0.5	0.25	0.25	0.25	0.25	0.25	20	1.6	0.25
Toluene		mg/kg	1	0.5	0.5	0.5	0.5	0.5	20	15	0.5
Ethylbenzene		mg/kg	1	0.5	0.5	0.5	0.5	0.5	20	9	0.5
Total Xylenes		mg/kg	3	1.5	1.5	1.5	1.5	1.5	20	65	1.5
PAHs											
Naphthalene		mg/kg	0.5	0.6	0.25	0.25	0.25	0.25	32	520	0.25

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Area		Units	LOR	GASWORKS				GASWORKS				Count	Maximum	Minimum
				CH2M HILL	CH2M HILL	CH2M HILL	TPD	CH2M HILL	CH2M HILL	CH2M HILL	GASWORKS			
				TPD	TPD	TPD	TPD	TPD	TPD	TPD	TPD			
				Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill			
Consultant														
Sample Location														
Sample Depth														
Analyte														
Acenaphthylene		mg/kg	0.5	1.2	0.25	0.25	0.25	0.25	0.25	0.25	0.25	32	160	0.25
Acenaphthene		mg/kg	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	32	33	0.25
Fluorene		mg/kg	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	32	120	0.25
Phenanthrene		mg/kg	0.5	5.6	0.25	0.25	0.25	2.2	0.25	0.25	1.4	32	740	0.25
Anthracene		mg/kg	0.5	1.4	0.25	0.25	0.25	0.25	0.25	0.25	0.25	32	190	0.25
Fluoranthene		mg/kg	0.5	9	0.25	0.25	0.25	4	0.25	0.25	1.6	32	580	0.25
Pyrene		mg/kg	0.5	13	0.25	0.25	0.25	4.6	0.25	0.25	1.8	32	600	0.25
Benzo(a)anthracene		mg/kg	0.5	6.6	0.25	0.25	0.25	3	0.25	0.25	1.2	32	320	0.25
Chrysene		mg/kg	0.5	6.2	0.25	0.25	0.25	2.6	0.25	0.25	1.2	32	200	0.25
Benzo(b)&(k)fluoranthene		mg/kg	1	11	0.5	0.5	0.5	5	0.5	0.5	2	32	310	0.5
Benzo(a)pyrene		mg/kg	0.5	6.2	0.25	0.25	0.25	2.8	0.25	0.25	1.2	32	220	0.25
Indeno(1,2,3-cd)pyrene		mg/kg	0.5	3.8	0.25	0.25	0.25	2	0.25	0.25	0.8	32	110	0.25
Dibenz(a,h)anthracene		mg/kg	0.5	0.9	0.25	0.25	0.25	0.25	0.25	0.25	0.25	32	19	0.25
Benzo(g,h,i)perylene		mg/kg	0.5	3.2	0.25	0.25	0.25	1.8	0.25	0.25	0.6	32	71	0.25
Total PAHs		mg/kg		69	0.25	0.25	0.25	28	0.25	0.25	11	32	4000	0.25
Phenols														
Phenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	41	5
2-Chlorophenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	5	5
2-Methylphenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	58	5
3-Methylphenol & 4-Methylphenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	180	5
2-Nitrophenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	5	5
2,4-Dimethylphenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	140	5
2,4-Dichlorophenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	5	5
2,6-Dichlorophenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	5	5
4-Chloro-3-methylphenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	5	5
2,4,5-Trichlorophenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	5	5
2,4,6-Trichlorophenol		mg/kg	0.5	na	na	na	na	na	na	na	na	13	5	5
2,4-Dinitrophenol		mg/kg	2	na	na	na	na	na	na	na	na	13	20	20
4-Nitrophenol		mg/kg	1	na	na	na	na	na	na	na	na	13	10	10
2,3,4,6-Tetrachlorophenol		mg/kg	1	na	na	na	na	na	na	na	na	13	10	10
4,6-Dinitro-2-methylphenol		mg/kg	2	na	na	na	na	na	na	na	na	13	20	20
Pentachlorophenol		mg/kg	1	na	na	na	na	na	na	na	na	13	10	10
4,6-Dinitro-2-sec-butyphenol		mg/kg	2	na	na	na	na	na	na	na	na	13	20	20
OCPS														
HCB		mg/kg	0.1	na	na	na	na	na	na	na	0.05	4	0.05	0.05
alpha-BHC		mg/kg	0.1	na	na	na	na	na	na	na	0.05	4	0.05	0.05
gamma-BHC		mg/kg	0.1	na	na	na	na	na	na	na	0.05	4	0.05	0.05
Heptachlor		mg/kg	0.1	na	na	na	na	na	na	na	0.05	4	0.05	0.05
Aldrin		mg/kg	0.1	na	na	na	na	na	na	na	0.05	4	0.05	0.05
Dieldrin		mg/kg	0.1	na	na	na	na	na	na	na	0.05	4	0.05	0.05
beta-BHC		mg/kg	0.1	na	na	na	na	na	na	na	0.05	4	0.05	0.05
delta-BHC		mg/kg	0.1	na	na	na	na	na	na	na	0.05	4	0.05	0.05

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area		Units	LOR	GASWORKS				GASWORKS				Count	Maximum	Minimum
Consultant	CH2M HILL			CH2M HILL	CH2M HILL	CH2M HILL	GASWORKS	GASWORKS	GASWORKS					
Sample Location	TPD			TPD	TPD	BH10	BH99	CH2M HILL	BH99	CH2M HILL				
Sample Depth	0.20			0.60	0.30	0.30	0.00-0.10	0.20-0.30	0.00-0.10	0.20-0.30				
Analyte		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill			
Oxychlordane		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
Heptachlor epoxide		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
Endosulphan I		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
Chlordane-trans		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
Chlordane-cis		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
trans-Nonachlor		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
4,4'-DDE		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
Endrin		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
4,4'-DDD		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
Endosulphan II		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
4,4'-DDT		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
Endosulphan sulphate		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
Methoxychlor		na	na	na	na	na	na	na	na	0.05	0.05	4	0.05	0.05
Total OCPs		0	0	0	0	0	0	0	0	1.05	1.05	33	0	0
PCBs														
Arochlor 1016		na	na	na	na	na	na	na	na	0.5	0.5	2	0.5	0.5
Arochlor 1221		na	na	na	na	na	na	na	na	0.5	0.5	2	0.5	0.5
Arochlor 1232		na	na	na	na	na	na	na	na	0.5	0.5	2	0.5	0.5
Arochlor 1242		na	na	na	na	na	na	na	na	0.5	0.5	2	0.5	0.5
Arochlor 1248		na	na	na	na	na	na	na	na	0.5	0.5	2	0.5	0.5
Arochlor 1254		na	na	na	na	na	na	na	na	0.5	0.5	2	0.5	0.5
Arochlor 1260		na	na	na	na	na	na	na	na	0.5	0.5	2	0.5	0.5
Total PCBs		na	na	na	na	na	na	na	na	0	0	2	0	0

n/a = not applicable
LOR = Laboratory Limits of Reporting
na = not selected for analysis
nd = not detected above laboratory LOR
Note: Results reported as non detect have been replaced with half the LOR for s

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area				Average	SD	Students t a = 0.05	CV	95% UCL	Site criteria	Hotspot criteria
Consultant										
Sample Location										
Sample Depth										
Analyte		Units	LOR							
HEAVY METALS										
Arsenic		mg/kg	5	19.3	36.4	1.70	1.89	30	500	1250
Cadmium		mg/kg	0.5	0.4	0.4	1.70	0.85	1	100	250
Chromium		mg/kg	5	19.9	15.2	1.70	0.77	25	500	1250
Copper		mg/kg	5	92.4	100.7	1.70	1.09	123	5000	12500
Nickel		mg/kg	2	17.9	24.4	1.70	1.36	25	3000	7500
Lead		mg/kg	5	171.7	240.1	1.70	1.40	245	1500	3750
Zinc		mg/kg	5	187.1	222.6	1.70	1.19	255	35000	87500
Mercury		mg/kg	0.05	0.2	0.1	1.70	0.98	0	75	188
Total Cyanide		mg/kg	0.5	8.3	13.1	1.94	1.58	19	2500	6250
VOC's										
Benzene		mg/kg	0.5	0.3	0.0	2.35	0.00	0	1	3
Bromobenzene		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
Bromochloromethane		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
Bromodichloromethane		mg/kg	1	0.5	0.0	2.35	0.00	1	2.4	6
Bromoform		mg/kg	1	0.5	0.0	2.35	0.00	1	310	775
Bromomethane		mg/kg	1	0.5	0.0	2.35	0.00	1	13	33
n-Butylbenzene		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
sec-Butylbenzene		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
tert-Butylbenzene		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
Carbon Tetrachloride		mg/kg	1	0.5	0.0	2.35	0.00	1	0.53	1
cis-1,2-Dichloroethene		mg/kg	1	0.5	0.0	2.35	0.00	1	150	375
Chlorobenzene		mg/kg	1	0.5	0.0	2.35	0.00	1	450	1125
Chloroethane		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
Chloroform		mg/kg	1	0.5	0.0	2.35	0.00	1	10	25
Chloromethane		mg/kg	1	0.5	0.0	2.35	0.00	1	2.7	7
2-Chlorotoluene		mg/kg	1	0.5	0.0	2.35	0.00	1	570	1425
4-Chlorotoluene		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
Dibromochloromethane		mg/kg	1	0.5	0.0	2.35	0.00	1	2.7	7
1,2-Dibromo-3-Chloropropane		mg/kg	1	0.5	0.0	2.35	0.00	1	4	10
1,2-Dibromomethane (EDB)		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
Dibromomethane		mg/kg	1	0.5	0.0	2.35	0.00	1	240	600
1,2-Dichlorobenzene		mg/kg	1	0.5	0.0	2.35	0.00	1	370	925
1,3-Dichlorobenzene		mg/kg	1	0.5	0.0	2.35	0.00	1	52	130
1,4-Dichlorobenzene		mg/kg	1	0.5	0.0	2.35	0.00	1	8.1	20
Dichlorodifluoromethane		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
1,1-Dichloroethene		mg/kg	1	0.5	0.0	2.35	0.00	1	0.12	0.30
1,2-Dichloroethane		mg/kg	1	0.5	0.0	2.35	0.00	1	4	10
1,1-Dichloroethane		mg/kg	1	0.5	0.0	2.35	0.00	1	50	125
cis-1,2-Dichloroethene		mg/kg	1	0.5	0.0	2.35	0.00	1	150	375
trans-1,2-Dichloroethene		mg/kg	1	0.5	0.0	2.35	0.00	1	n/a	n/a
1,2-Dichloropropane		mg/kg	1	0.5	0.0	2.35	0.00	1	0.77	2

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area				Average	SD	Students t a = 0.05	CV	95% UCL	Site criteria	Hotspot criteria
Consultant										
Sample Location										
Sample Depth										
Analyte	Units	LOR								
1.3-Dichloropropane	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
2.2-Dichloropropane	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
1.1-Dichloropropylene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
cis-1.3-Dichloropropylene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
trans-1.3-Dichloropropylene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
Ethylbenzene	mg/kg	1		0.5	0.0	2.35	0.00	1	3.1	8
Hexachlorobutadiene	mg/kg	1		0.5	0.0	2.35	0.00	1	32	80
Isopropylene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
p-Isopropyltoluene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
Methylene chloride	mg/kg	1		0.5	0.0	2.35	0.00	1	20	50
Naphthalene	mg/kg	1		1.0	0.9	2.35	0.87	2	n/a	n/a
n-Propylbenzene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
Styrene	mg/kg	1		0.5	0.0	2.35	0.00	1	100	250
1.1.1.2-Tetrachloroethane	mg/kg	1		0.5	0.0	2.35	0.00	1	7	18
1.1.2.2-Tetrachloroethane	mg/kg	1		0.5	0.0	2.35	0.00	1	0.9	2
Tetrachloroethene	mg/kg	1		0.5	0.0	2.35	0.00	1	4	10
Toluene	mg/kg	1		0.5	0.0	2.35	0.00	1	1.4	4
1.2.3-Trichlorobenzene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
1.2.4-Trichlorobenzene	mg/kg	1		0.5	0.0	2.35	0.00	1	3000	7500
1.1.1-Trichloroethane	mg/kg	1		0.5	0.0	2.35	0.00	1	50	125
1.1.2-Trichloroethane	mg/kg	1		0.5	0.0	2.35	0.00	1	50	125
Trichloroethene	mg/kg	1		0.5	0.0	2.35	0.00	1	60	150
Trichlorofluoromethane	mg/kg	1		0.5	0.0	2.35	0.00	1	2000	5000
1.2.3-Trichloropropane	mg/kg	1		0.5	0.0	2.35	0.00	1	0.0031	0.01
1.2.4-Trimethylbenzene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
1.3.5-Trimethylbenzene	mg/kg	1		0.5	0.0	2.35	0.00	1	70	175
Vinyl chloride	mg/kg	1		0.5	0.0	2.35	0.00	1	0.1	0
ortho-Xylene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
meta- & para-Xylene	mg/kg	1		0.5	0.0	2.35	0.00	1	n/a	n/a
TPH										
C6-C9	mg/kg			15.0	2.6	1.78	0.17	27	65	163
C10-C14	mg/kg	10		890.4	1138.3	1.78	1.28	1476	n/a	n/a
C15-C28	mg/kg	50		6167.1	7935.5	1.78	1.29	10250	n/a	n/a
C29-C36	mg/kg	50		1828.8	2500.9	1.78	1.37	3115	n/a	n/a
Total C10-C36	mg/kg			7109.0	10612.8	1.75	1.49	11913	1000	2500
BTEX										
Benzene	mg/kg	0.5		0.4	0.4	1.72	1.08	1	1	2.5
Toluene	mg/kg	1		1.7	3.4	1.72	2.05	3	1.4	3.5
Ethylbenzene	mg/kg	1		1.3	2.3	1.72	1.87	1.51	3.1	7.8
Total Xylenes	mg/kg	3		7.5	17.1	1.72	2.29	14.0	14.0	35
PAHs										
Naphthalene	mg/kg	0.5		41.5	114.9	1.69	2.77	76	n/a	n/a

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area				Average	SD	Students t a = 0.05	CV	95% UCL	Site criteria	Hotspot criteria		
Consultant	Sample Location	Sample Depth	Analyte	Units	LOR							
				mg/kg	0.5	14.2	34.0	1.69	2.40	24	n/a	n/a
				mg/kg	0.5	4.1	8.6	1.69	2.09	7	n/a	n/a
				mg/kg	0.5	14.5	33.1	1.69	2.28	24	n/a	n/a
				mg/kg	0.5	61.4	155.0	1.69	2.52	108	n/a	n/a
				mg/kg	0.5	17.7	42.4	1.69	2.39	30	n/a	n/a
				mg/kg	0.5	52.2	122.8	1.69	2.35	89	n/a	n/a
				mg/kg	0.5	58.0	128.4	1.69	2.21	97	n/a	n/a
				mg/kg	0.5	39.7	86.9	1.69	2.19	66	n/a	n/a
				mg/kg	0.5	19.6	41.6	1.69	2.12	32	n/a	n/a
				mg/kg	1	41.8	83.4	1.69	1.99	67	n/a	n/a
				mg/kg	0.5	32.0	62.0	1.69	1.94	51	5	13
				mg/kg	0.5	15.4	27.1	1.69	1.76	23	n/a	n/a
				mg/kg	0.5	2.6	4.4	1.69	1.72	4	n/a	n/a
				mg/kg	0.5	10.0	16.3	1.69	1.63	15	n/a	n/a
				mg/kg		287.2	753.6	1.69	2.62	513	100	250
Total PAHs												
Phenols												
				mg/kg	0.5	9.4	10.2	1.77	1.09	14	42500	106250
				mg/kg	0.5	5.0	0.0	1.77	0.00	5	n/a	n/a
				mg/kg	0.5	10.2	2.0	1.77	0.20	15	n/a	n/a
				mg/kg	0.5	24.8	48.2	1.77	1.94	48	n/a	n/a
				mg/kg	0.5	5.0	0.0	1.77	0.00	5	n/a	n/a
				mg/kg	0.5	18.6	36.9	1.77	1.98	37	n/a	n/a
				mg/kg	0.5	5.0	0.0	1.77	0.00	5	n/a	n/a
				mg/kg	0.5	5.0	0.0	1.77	0.00	5	n/a	n/a
				mg/kg	0.5	5.0	0.0	1.77	0.00	5	n/a	n/a
				mg/kg	0.5	5.0	0.0	1.77	0.00	5	n/a	n/a
				mg/kg	0.5	5.0	0.0	1.77	0.00	5	n/a	n/a
				mg/kg	0.5	5.0	0.0	1.77	0.00	5	n/a	n/a
				mg/kg	2	20.0	0.0	1.77	0.00	20	n/a	n/a
				mg/kg	1	10.0	0.0	1.77	0.00	10	n/a	n/a
				mg/kg	1	10.0	0.0	1.77	0.00	10	n/a	n/a
				mg/kg	2	20.0	0.0	1.77	0.00	20	n/a	n/a
				mg/kg	1	10.0	0.0	1.77	0.00	10	n/a	n/a
				mg/kg	2	20.0	0.0	1.77	0.00	20	n/a	n/a
				mg/kg	1	10.0	0.0	1.77	0.00	10	n/a	n/a
				mg/kg	2	20.0	0.0	1.77	0.00	20	n/a	n/a
OCFs												
				mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
				mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
				mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
				mg/kg	0.1	0.1	0.0	2.13	0.00	0	50	125
				mg/kg	0.1	0.1	0.0	2.13	0.00	0	50	125
				mg/kg	0.1	0.1	0.0	2.13	0.00	0	0	0
				mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
				mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area				Average	SD	Students t a = 0.05	CV	95% UCL	Site criteria	Hotspot criteria
Consultant										
Sample Location										
Sample Depth										
Analyte		Units	LOR							
Oxychlordane		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
Heptachlor epoxide		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
Endosulphan I		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
Chlordane-trans		mg/kg	0.1	0.1	0.0	2.13	0.00	0	250.00	625
Chlordane-cis		mg/kg	0.1	0.1	0.0	2.13	0.00	0	250.00	625
trans-Nonachlor		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
4,4'-DDE		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
Endrin		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
4,4'-DDD		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
Endosulphan II		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
4,4'-DDT		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
Endosulphan sulphate		mg/kg	0.1	0.1	0.0	2.13	0.00	0	1000	2500
Methoxychlor		mg/kg	0.1	0.1	0.0	2.13	0.00	0	n/a	n/a
Total OCPs				0.1	0.3	1.69	2.73	0	40	100
PCBs										
Arochlor 1016		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1221		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1232		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1242		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1248		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1254		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1260		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Total PCBs				0.0	0.0	2.92	n/a	0	50	125

n/a = not applicable

LOR = Laboratory Limits of Reporting

na = not selected for analysis

nd = not detected above laboratory LOR

Note: Results reported as non detect have been replaced with half the LOR for s

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area					SD
Consultant					
Sample Location					
Sample Depth					
Analyte		Units	LOR	UCL after removal of hotspots	
HEAVY METALS					
Arsenic		mg/kg	5	n/a	n/a
Cadmium		mg/kg	0.5	n/a	n/a
Chromium		mg/kg	5	n/a	n/a
Copper		mg/kg	5	n/a	n/a
Nickel		mg/kg	2	n/a	n/a
Lead		mg/kg	5	n/a	n/a
Zinc		mg/kg	5	n/a	n/a
Mercury		mg/kg	0.05	n/a	n/a
Total Cyanide		mg/kg	0.5	n/a	n/a
VOC's					
Benzene		mg/kg	0.5	n/a	n/a
Bromobenzene		mg/kg	1	n/a	n/a
Bromochloromethane		mg/kg	1	n/a	n/a
Bromodichloromethane		mg/kg	1	n/a	n/a
Bromoform		mg/kg	1	n/a	n/a
Bromomethane		mg/kg	1	n/a	n/a
n-Butylbenzene		mg/kg	1	n/a	n/a
sec-Butylbenzene		mg/kg	1	n/a	n/a
tert-Butylbenzene		mg/kg	1	n/a	n/a
Carbon Tetrachloride		mg/kg	1	n/a	n/a
cis-1,2-Dichloroethene		mg/kg	1	n/a	n/a
Chlorobenzene		mg/kg	1	n/a	n/a
Chloroethane		mg/kg	1	n/a	n/a
Chloroform		mg/kg	1	n/a	n/a
Chloromethane		mg/kg	1	n/a	n/a
2-Chlorotoluene		mg/kg	1	n/a	n/a
4-Chlorotoluene		mg/kg	1	n/a	n/a
Dibromochloromethane		mg/kg	1	n/a	n/a
1,2-Dibromo-3-Chloropropane		mg/kg	1	n/a	n/a
1,2-Dibromomethane (EDB)		mg/kg	1	n/a	n/a
Dibromomethane		mg/kg	1	n/a	n/a
1,2-Dichlorobenzene		mg/kg	1	n/a	n/a
1,3-Dichlorobenzene		mg/kg	1	n/a	n/a
1,4-Dichlorobenzene		mg/kg	1	n/a	n/a
Dichlorodifluoromethane		mg/kg	1	n/a	n/a
1,1-Dichloroethene		mg/kg	1	n/a	n/a
1,2-Dichloroethane		mg/kg	1	n/a	n/a
1,1-Dichloroethane		mg/kg	1	n/a	n/a
cis-1,2-Dichloroethene		mg/kg	1	n/a	n/a
trans-1,2-Dichloroethene		mg/kg	1	n/a	n/a
1,2-Dichloropropane		mg/kg	1	n/a	n/a

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area					SD
Consultant					
Sample Location					
Sample Depth					
Analyte		Units	LOR	UCL after removal of hotspots	
1.3-Dichloropropane		mg/kg	1	n/a	n/a
2.2-Dichloropropane		mg/kg	1	n/a	n/a
1.1-Dichloropropylene		mg/kg	1	n/a	n/a
cis-1.3-Dichloropropylene		mg/kg	1	n/a	n/a
trans-1.3-Dichloropropylene		mg/kg	1	n/a	n/a
Ethylbenzene		mg/kg	1	n/a	n/a
Hexachlorobutadiene		mg/kg	1	n/a	n/a
Isopropylene		mg/kg	1	n/a	n/a
p-Isopropyltoluene		mg/kg	1	n/a	n/a
Methylene chloride		mg/kg	1	n/a	n/a
Naphthalene		mg/kg	1	n/a	n/a
n-Propylbenzene		mg/kg	1	n/a	n/a
Styrene		mg/kg	1	n/a	n/a
1.1.1.2-Tetrachloroethane		mg/kg	1	n/a	n/a
1.1.2.2-Tetrachloroethane		mg/kg	1	n/a	n/a
Tetrachloroethene		mg/kg	1	n/a	n/a
Toluene		mg/kg	1	n/a	n/a
1.2.3-Trichlorobenzene		mg/kg	1	n/a	n/a
1.2.4-Trichlorobenzene		mg/kg	1	n/a	n/a
1.1.1-Trichloroethane		mg/kg	1	n/a	n/a
1.1.2-Trichloroethane		mg/kg	1	n/a	n/a
Trichloroethene		mg/kg	1	n/a	n/a
Trichlorofluoromethane		mg/kg	1	n/a	n/a
1.2.3-Trichloropropane		mg/kg	1	n/a	n/a
1.2.4-Trimethylbenzene		mg/kg	1	n/a	n/a
1.3.5-Trimethylbenzene		mg/kg	1	n/a	n/a
Vinyl chloride		mg/kg	1	n/a	n/a
ortho-Xylene		mg/kg	1	n/a	n/a
meta- & para-Xylene		mg/kg	1	n/a	n/a
TPH					
C6-C9		mg/kg	10	n/a	n/a
C10-C14		mg/kg	10	n/a	n/a
C15-C28		mg/kg	50	n/a	n/a
C29-C36		mg/kg	50	n/a	n/a
Total C10-C36		mg/kg		951.5	378
BTX					
Benzene		mg/kg	0.5	n/a	n/a
Toluene		mg/kg	1	0.5	0
Ethylbenzene		mg/kg	1	1.44	1.49
Total Xylenes		mg/kg	3	2.73	1.78
PAHs					
Naphthalene		mg/kg	0.5	n/a	n/a

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area		Units	LOR	UCL after removal of hotspots	SD
Consultant	Sample Location				
Sample Depth					
Analyte					
Acenaphthylene		mg/kg	0.5	n/a	n/a
Acenaphthene		mg/kg	0.5	n/a	n/a
Fluorene		mg/kg	0.5	n/a	n/a
Phenanthrene		mg/kg	0.5	n/a	n/a
Anthracene		mg/kg	0.5	n/a	n/a
Fluoranthene		mg/kg	0.5	n/a	n/a
Pyrene		mg/kg	0.5	n/a	n/a
Benzo(a)anthracene		mg/kg	0.5	n/a	n/a
Chrysene		mg/kg	0.5	n/a	n/a
Benzo(b)&(k)fluoranthene		mg/kg	1	n/a	n/a
Benzo(a)pyrene		mg/kg	0.5	3.51	2.42
Indeno(1.2.3-cd)pyrene		mg/kg	0.5	n/a	n/a
Dibenz(a,h)anthracene		mg/kg	0.5	n/a	n/a
Benzo(g,h,i)perylene		mg/kg	0.5	n/a	n/a
Total PAHs		mg/kg		52.79	40.1
Phenols					
Phenol		mg/kg	0.5	n/a	n/a
2-Chlorophenol		mg/kg	0.5	n/a	n/a
2-Methylphenol		mg/kg	0.5	n/a	n/a
3-Methylphenol & 4-Methylphenol		mg/kg	0.5	n/a	n/a
2-Nitrophenol		mg/kg	0.5	n/a	n/a
2,4-Dimethylphenol		mg/kg	0.5	n/a	n/a
2,4-Dichlorophenol		mg/kg	0.5	n/a	n/a
2,6-Dichlorophenol		mg/kg	0.5	n/a	n/a
4-Chloro-3-methylphenol		mg/kg	0.5	n/a	n/a
2,4,5-Trichlorophenol		mg/kg	0.5	n/a	n/a
2,4,6-Trichlorophenol		mg/kg	0.5	n/a	n/a
2,4-Dinitrophenol		mg/kg	2	n/a	n/a
4-Nitrophenol		mg/kg	1	n/a	n/a
2,3,4,6-Tetrachlorophenol		mg/kg	1	n/a	n/a
4,6-Dinitro-2-methylphenol		mg/kg	2	n/a	n/a
Pentachlorophenol		mg/kg	1	n/a	n/a
4,6-Dinitro-2-sec-butyphenol		mg/kg	2	n/a	n/a
OCPs					
HCB		mg/kg	0.1	n/a	n/a
alpha-BHC		mg/kg	0.1	n/a	n/a
gamma-BHC		mg/kg	0.1	n/a	n/a
Heptachlor		mg/kg	0.1	n/a	n/a
Aldrin		mg/kg	0.1	n/a	n/a
Dieldrin		mg/kg	0.1	n/a	n/a
beta-BHC		mg/kg	0.1	n/a	n/a
delta-BHC		mg/kg	0.1	n/a	n/a

Table 6.4: 95% UCL Gasworks Fill Analytical Results

Area				UCL after removal of hotspots	SD
Consultant	Sample Location				
Sample Depth					
Analyte		Units	LOR		
Oxychlorane		mg/kg	0.1	n/a	n/a
Heptachlor epoxide		mg/kg	0.1	n/a	n/a
Endosulphan I		mg/kg	0.1	n/a	n/a
Chlordane-trans		mg/kg	0.1	n/a	n/a
Chlordane-cis		mg/kg	0.1	n/a	n/a
trans-Nonachlor		mg/kg	0.1	n/a	n/a
4,4'-DDE		mg/kg	0.1	n/a	n/a
Endrin		mg/kg	0.1	n/a	n/a
4,4'-DDD		mg/kg	0.1	n/a	n/a
Endosulphan II		mg/kg	0.1	n/a	n/a
4,4'-DDT		mg/kg	0.1	n/a	n/a
Endosulphan sulphate		mg/kg	0.1	n/a	n/a
Methoxychlor		mg/kg	0.1	n/a	n/a
Total OCPs				n/a	n/a
PCBs					
Arochlor 1016		mg/kg	1	n/a	n/a
Arochlor 1221		mg/kg	1	n/a	n/a
Arochlor 1232		mg/kg	1	n/a	n/a
Arochlor 1242		mg/kg	1	n/a	n/a
Arochlor 1248		mg/kg	1	n/a	n/a
Arochlor 1254		mg/kg	1	n/a	n/a
Arochlor 1260		mg/kg	1	n/a	n/a
Total PCBs				n/a	n/a

n/a = not applicable
LOR = Laboratory Limits of Reporting
na = not selected for analysis
nd = not detected above laboratory LOR
Note: Results reported as non detect have been replaced with half the LOR for s

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area					GASWORKS	GASWORKS	GASWORKS	GASWORKS	GASWORKS	GASWORKS	GASWORKS	GASWORKS
Consultant					CH2M HILL	CH2M HILL	CH2M HILL	CH2M HILL	CH2M HILL	CH2M HILL	CH2M HILL	CH2M HILL
Sample Location					SB02	SB02	SB02	SB03	SB04	SB06	SB07	SB08
Sample Depth					2.50-2.60	4.40-4.50	1.00-1.10	1.50-1.60	0.30-0.40	1.40-1.50	1.60-1.70	
Analyte		Units	LOR		Natural	Natural	Natural	Natural	Natural	Natural	Natural	Natural
Acenaphthylene		mg/kg	0.5		0.25	0.25	0.25	0.25	2	35	2.8	
Acenaphthene		mg/kg	0.5		0.25	0.25	0.25	0.25	0.25	41	2.2	
Fluorene		mg/kg	0.5		0.25	0.25	0.25	0.25	0.25	61	6	
Phenanthrene		mg/kg	0.5		0.25	0.25	0.25	0.25	1.4	100	4.8	
Anthracene		mg/kg	0.5		0.25	0.25	0.25	0.25	0.9	30	6.8	
Fluoranthene		mg/kg	0.5		0.25	0.25	0.25	0.25	5	51	11	
Pyrene		mg/kg	0.5		0.25	0.25	0.25	0.25	20	54	19	
Benzo(a)anthracene		mg/kg	0.5		0.25	0.25	0.25	0.25	7.6	31	6.4	
Chrysene		mg/kg	0.5		0.25	0.25	0.25	0.25	9.2	14	4.4	
Benzo(b)&(k)fluoranthene		mg/kg	1		0.5	0.5	0.5	0.5	26	30	5	
Benzo(a)pyrene		mg/kg	0.5		0.25	0.25	0.25	0.25	30	26	5.4	
Indeno(1,2,3-cd)pyrene		mg/kg	0.5		0.25	0.25	0.25	0.25	16	13	2.6	
Dibenz(a,h)anthracene		mg/kg	0.5		0.25	0.25	0.25	0.25	2.2	1.6	0.25	
Benzo(g,h,i)perylene		mg/kg	0.5		0.25	0.25	0.25	0.25	17	7.2	2.8	
Total PAHs		mg/kg			0.9	0.25	0.25	0.25	37	7.2	82	
Phenols												
Phenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
2-Chlorophenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
2-Methylphenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
3-Methylphenol & 4-Methylphenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
2-Nitrophenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
2,4-Dimethylphenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
2,4-Dichlorophenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
2,6-Dichlorophenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
4-Chloro-3-methylphenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
2,4,5-Trichlorophenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
2,4,6-Trichlorophenol		mg/kg	0.5		na	na	na	na	nd*	nd*	na	
2,4-Dinitrophenol		mg/kg	2		na	na	na	na	nd*	nd*	na	
4-Nitrophenol		mg/kg	1		na	na	na	na	nd*	nd*	na	
2,3,4,6-Tetrachlorophenol		mg/kg	1		na	na	na	na	nd*	nd*	na	
4,6-Dinitro-2-methylphenol		mg/kg	2		na	na	na	na	nd*	nd*	na	
Pentachlorophenol		mg/kg	1		na	na	na	na	nd*	nd*	na	
4,6-Dinitro-2-sec-butylphenol		mg/kg	2		na	na	na	na	nd*	nd*	na	
OCPs												
HCB		mg/kg	0.1		na	na	na	na	na	na	na	
alpha-BHC		mg/kg	0.1		na	na	na	na	na	na	na	
gamma-BHC		mg/kg	0.1		na	na	na	na	na	na	na	
Heptachlor		mg/kg	0.1		na	na	na	na	na	na	na	
Aldrin		mg/kg	0.1		na	na	na	na	na	na	na	
Dieldrin		mg/kg	0.1		na	na	na	na	na	na	na	
beta-BHC		mg/kg	0.1		na	na	na	na	na	na	na	
delta-BHC		mg/kg	0.1		na	na	na	na	na	na	na	

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area			GASWORKS CH2M HILL SB02	GASWORKS CH2M HILL SB02	GASWORKS CH2M HILL SB03	GASWORKS CH2M HILL SB04	GASWORKS CH2M HILL SB06	GASWORKS CH2M HILL SB07	GASWORKS CH2M HILL SB08
Consultant									
Sample Location									
Sample Depth									
Analyte	Units	LOR	Natural	Natural	Natural	Natural	Natural	Natural	Natural
Oxychlordane	mg/kg	0.1	na	na	na	na	na	na	na
Heptachlor epoxide	mg/kg	0.1	na	na	na	na	na	na	na
Endosulphan I	mg/kg	0.1	na	na	na	na	na	na	na
Chlordane-trans	mg/kg	0.1	na	na	na	na	na	na	na
Chlordane-cis	mg/kg	0.1	na	na	na	na	na	na	na
trans-Nonachlor	mg/kg	0.1	na	na	na	na	na	na	na
4,4'-DDE	mg/kg	0.1	na	na	na	na	na	na	na
Endrin	mg/kg	0.1	na	na	na	na	na	na	na
4,4'-DDD	mg/kg	0.1	na	na	na	na	na	na	na
Endosulphan II	mg/kg	0.1	na	na	na	na	na	na	na
4,4'-DDT	mg/kg	0.1	na	na	na	na	na	na	na
Endosulphan sulphate	mg/kg	0.1	na	na	na	na	na	na	na
Methoxychlor	mg/kg	0.1	na	na	na	na	na	na	na
Total OCPs			0	0	0	0	0	0	0
PCBs									
Arochlor 1016	mg/kg	1	na	na	na	na	na	0.5	0.5
Arochlor 1221	mg/kg	1	na	na	na	na	na	0.5	0.5
Arochlor 1232	mg/kg	1	na	na	na	na	na	0.5	0.5
Arochlor 1242	mg/kg	1	na	na	na	na	na	0.5	0.5
Arochlor 1248	mg/kg	1	na	na	na	na	na	0.5	0.5
Arochlor 1254	mg/kg	1	na	na	na	na	na	0.5	0.5
Arochlor 1260	mg/kg	1	na	na	na	na	na	0.5	0.5
Total PCBs			na	na	na	na	na	0	0

n/a = not applicable

LOR = Laboratory Limits of Reporting

na = not selected for analysis

nd = not detected above laboratory LOR

Note: Results reported as non detect6 have been replaced with half the LOR for statistical purposes

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area					GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2
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Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area				GASWORKS		GASWORKS		GASWORKS		GASWORKS		GASWORKS		GASWORKS	
Consultant	Sample Location	Sample Depth	Analyte	Units	LOR	GASWORKS CH2M HILL BH11 3.00-3.10 Natural	GASWORKS CH2M HILL BH12 4.40-4.50 Natural	GASWORKS CH2M HILL BH13 0.90-1.00 Natural	GASWORKS CH2M HILL BH14 0.90-1.00 Natural	GASWORKS CH2M HILL BH16 3.00-3.10 Natural	GASWORKS CH2M HILL SB18 1.70-1.80 Natural	GASWORKS CH2M HILL SB18 3.90-4.00 Natural			
	Acenaphthylene			mg/kg	0.5	na	2.6	0.25	0.25	0.25	15	0.25			
	Acenaphthene			mg/kg	0.5	na	2.6	0.25	0.25	0.25	17	0.25			
	Fluorene			mg/kg	0.5	na	14	0.25	0.25	0.25	46	0.25			
	Phenanthrene			mg/kg	0.5	na	34	0.25	0.25	0.25	94	0.25			
	Anthracene			mg/kg	0.5	na	10	0.25	0.25	0.25	32	0.25			
	Fluoranthene			mg/kg	0.5	na	20	0.6	0.25	0.25	50	0.25			
	Pyrene			mg/kg	0.5	na	16	0.25	0.25	0.25	65	0.25			
	Benzo(a)anthracene			mg/kg	0.5	na	9	0.25	0.25	0.25	29	0.25			
	Chrysene			mg/kg	0.5	na	6.4	0.25	0.25	0.25	20	0.25			
	Benzo(b)&(k)fluoranthene			mg/kg	1	na	11	0.5	0.5	0.5	31	0.5			
	Benzo(a)pyrene			mg/kg	0.5	na	8.4	0.25	0.25	0.25	28	0.25			
	Indeno(1,2,3-cd)pyrene			mg/kg	0.5	na	4	0.25	0.25	0.25	17	0.25			
	Dibenz(a,h)anthracene			mg/kg	0.5	na	0.25	0.25	0.25	0.25	3.8	0.25			
	Benzo(g,h,i)perylene			mg/kg	0.5	na	2.4	0.25	0.25	0.25	13	0.25			
	Total PAHs			mg/kg		na	220	0.6	3.8	0.25	2100	1.8			
	Phenols														
	Phenol				mg/kg	0.5	na	8.6	na	na	na	nd*	na		
	2-Chlorophenol				mg/kg	0.5	na	nd*	na	na	na	nd*	na		
	2-Methylphenol				mg/kg	0.5	na	6.4	na	na	na	nd*	na		
	3-Methylphenol & 4-Methylphenol				mg/kg	0.5	na	11	na	na	na	nd*	na		
2-Nitrophenol				mg/kg	0.5	na	nd*	na	na	na	nd*	na			
2,4-Dimethylphenol				mg/kg	0.5	na	8.2	na	na	na	nd*	na			
2,4-Dichlorophenol				mg/kg	0.5	na	nd*	na	na	na	nd*	na			
2,6-Dichlorophenol				mg/kg	0.5	na	nd*	na	na	na	nd*	na			
4-Chloro-3-methylphenol				mg/kg	0.5	na	nd*	na	na	na	nd*	na			
2,4,5-Trichlorophenol				mg/kg	0.5	na	nd*	na	na	na	nd*	na			
2,4,6-Trichlorophenol				mg/kg	0.5	na	nd*	na	na	na	nd*	na			
2,4-Dinitrophenol				mg/kg	2	na	nd*	na	na	na	nd*	na			
4-Nitrophenol				mg/kg	1	na	nd*	na	na	na	nd*	na			
2,3,4,6-Tetrachlorophenol				mg/kg	1	na	nd*	na	na	na	nd*	na			
4,6-Dinitro-2-methylphenol				mg/kg	2	na	nd*	na	na	na	nd*	na			
Pentachlorophenol				mg/kg	1	na	nd*	na	na	na	nd*	na			
4,6-Dinitro-2-sec-butylphenol				mg/kg	2	na	nd*	na	na	na	nd*	na			
OCPs															
HCB				mg/kg	0.1	na	na	na	na	na	na	na			
alpha-BHC				mg/kg	0.1	na	na	na	na	na	na	na			
gamma-BHC				mg/kg	0.1	na	na	na	na	na	na	na			
Heptachlor				mg/kg	0.1	na	na	na	na	na	na	na			
Aldrin				mg/kg	0.1	na	na	na	na	na	na	na			
Dieldrin				mg/kg	0.1	na	na	na	na	na	na	na			
beta-BHC				mg/kg	0.1	na	na	na	na	na	na	na			
delta-BHC				mg/kg	0.1	na	na	na	na	na	na	na			

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area				GASWORKS CH2M HILL BH11 3.00-3.10	GASWORKS CH2M HILL BH12 4.40-4.50	GASWORKS CH2M HILL BH13 0.90-1.00	GASWORKS CH2M HILL BH14 0.90-1.00	GASWORKS CH2M HILL BH16 3.00-3.10	GASWORKS CH2M HILL SB18 1.70-1.80	GASWORKS CH2M HILL SB18 3.90-4.00
Consultant										
Sample Location										
Sample Depth										
Analyte	Units	LOR								
Oxychlordane	mg/kg	0.1		na	na	na	na	na	na	na
Heptachlor epoxide	mg/kg	0.1		na	na	na	na	na	na	na
Endosulphan I	mg/kg	0.1		na	na	na	na	na	na	na
Chlordane-trans	mg/kg	0.1		na	na	na	na	na	na	na
Chlordane-cis	mg/kg	0.1		na	na	na	na	na	na	na
trans-Nonachlor	mg/kg	0.1		na	na	na	na	na	na	na
4,4'-DDE	mg/kg	0.1		na	na	na	na	na	na	na
Endrin	mg/kg	0.1		na	na	na	na	na	na	na
4,4'-DDD	mg/kg	0.1		na	na	na	na	na	na	na
Endosulphan II	mg/kg	0.1		na	na	na	na	na	na	na
4,4'-DDT	mg/kg	0.1		na	na	na	na	na	na	na
Endosulphan sulphate	mg/kg	0.1		na	na	na	na	na	na	na
Methoxychlor	mg/kg	0.1		na	na	na	na	na	na	na
Total OCPs				0	0	0	0	0	0	0
PCBs										
Arochlor 1016	mg/kg	1		na	na	na	na	na	na	na
Arochlor 1221	mg/kg	1		na	na	na	na	na	na	na
Arochlor 1232	mg/kg	1		na	na	na	na	na	na	na
Arochlor 1242	mg/kg	1		na	na	na	na	na	na	na
Arochlor 1248	mg/kg	1		na	na	na	na	na	na	na
Arochlor 1254	mg/kg	1		na	na	na	na	na	na	na
Arochlor 1260	mg/kg	1		na	na	na	na	na	na	na
Total PCBs				na	na	na	na	na	na	na

n/a = not applicable

LOR = Laboratory Limits of Reporting

na = not selected for analysis

nd = not detected above laboratory LOR

Note: Results reported as non detect6 have been replaced with half the LOR for

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area			Units	LOR	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	GASWORKS CH2M HILL	Count	Maximum	Minimum
Consultant	Sample Location	Sample Depth	Analyte										
HEAVY METALS													
			Arsenic	mg/kg	5	11		5	15	2.5	15	15	2.5
			Cadmium	mg/kg	0.5	0.25		0.25	0.25	0.25	15	0.25	0.25
			Chromium	mg/kg	5	8		9	43	13	15	43	2.5
			Copper	mg/kg	5	24		16	24	11	15	24	2.5
			Nickel	mg/kg	2	12		3	3	3	15	30	1
			Lead	mg/kg	5	43		82	26	85	15	130	13
			Zinc	mg/kg	5	130		26	17	17	15	310	2.5
			Mercury	mg/kg	0.05	0.07		0.08	0.025	0.08	15	0.26	0.025
			Total Cyanide	mg/kg	0.5	na		na	na	na	3	98	0.25
VOCs													
			Benzene	mg/kg	0.5	na		na	na	na	1	0.25	0.25
			Bromobenzene	mg/kg	1	na		na	na	na	1	0.5	0.5
			Bromochloromethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			Bromodichloromethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			Bromoform	mg/kg	1	na		na	na	na	1	0.5	0.5
			Bromomethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			n-Butylbenzene	mg/kg	1	na		na	na	na	1	27	27
			sec-Butylbenzene	mg/kg	1	na		na	na	na	1	2	2
			tert-Butylbenzene	mg/kg	1	na		na	na	na	1	0.5	0.5
			Carbon Tetrachloride	mg/kg	1	na		na	na	na	1	0.5	0.5
			cis-1,2-Dichloroethene	mg/kg	1	na		na	na	na	1	0.5	0.5
			Chlorobenzene	mg/kg	1	na		na	na	na	1	0.5	0.5
			Chloroethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			Chloroform	mg/kg	1	na		na	na	na	1	0.5	0.5
			Chloromethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			2-Chlorotoluene	mg/kg	1	na		na	na	na	1	0.5	0.5
			4-Chlorotoluene	mg/kg	1	na		na	na	na	1	0.5	0.5
			Dibromochloromethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			1,2-Dibromo-3-Chloropropane	mg/kg	1	na		na	na	na	1	0.5	0.5
			1,2-Dibromomethane (EDB)	mg/kg	1	na		na	na	na	1	0.5	0.5
			Dibromomethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			1,2-Dichlorobenzene	mg/kg	1	na		na	na	na	1	0.5	0.5
			1,3-Dichlorobenzene	mg/kg	1	na		na	na	na	1	0.5	0.5
			1,4-Dichlorobenzene	mg/kg	1	na		na	na	na	1	0.5	0.5
			Dichlorodifluoromethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			1,1-Dichloroethene	mg/kg	1	na		na	na	na	1	0.5	0.5
			1,2-Dichloroethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			1,1-Dichloroethane	mg/kg	1	na		na	na	na	1	0.5	0.5
			cis-1,2-Dichloroethene	mg/kg	1	na		na	na	na	1	0.5	0.5
			trans-1,2-Dichloroethene	mg/kg	1	na		na	na	na	1	0.5	0.5
			1,2-Dichloropropane	mg/kg	1	na		na	na	na	1	0.5	0.5

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area			Units	LOR	GASWORKS CH2M HILL MW03 1.00-1.10 Natural	GASWORKS CH2M HILL MW03 2.00-2.10 Natural	GASWORKS CH2M HILL MW04 1.00-1.10 Natural	GASWORKS CH2M HILL MW04 2.00-2.10 Natural	GASWORKS CH2M HILL MW04 2.00-2.10 Natural	Count	Maximum	Minimum
Consultant												
Sample Location												
Sample Depth												
Analyte												
1,3-Dichloropropane			mg/kg	1	na	na	na	na	na	1	0.5	0.5
2,2-Dichloropropane			mg/kg	1	na	na	na	na	na	1	0.5	0.5
1,1-Dichloropropylene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
cis-1,3-Dichloropropylene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
trans-1,3-Dichloropropylene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
Ethylbenzene			mg/kg	1	na	na	na	na	na	1	7	7
Hexachlorobutadiene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
Isopropylene			mg/kg	1	na	na	na	na	na	1	12	12
p-Isopropyltoluene			mg/kg	1	na	na	na	na	na	1	17	17
Methylene chloride			mg/kg	1	na	na	na	na	na	1	0.5	0.5
Naphthalene			mg/kg	1	na	na	na	na	na	1	780	780
n-Propylbenzene			mg/kg	1	na	na	na	na	na	1	10	10
Styrene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
1,1,1,2-Tetrachloroethane			mg/kg	1	na	na	na	na	na	1	0.5	0.5
1,1,2,2-Tetrachloroethane			mg/kg	1	na	na	na	na	na	1	0.5	0.5
Tetrachloroethene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
Toluene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
1,2,3-Trichlorobenzene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
1,2,4-Trichlorobenzene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
1,1,1-Trichloroethane			mg/kg	1	na	na	na	na	na	1	0.5	0.5
1,1,2-Trichloroethane			mg/kg	1	na	na	na	na	na	1	0.5	0.5
Trichloroethene			mg/kg	1	na	na	na	na	na	1	0.5	0.5
Trichlorofluoromethane			mg/kg	1	na	na	na	na	na	1	0.5	0.5
1,2,3-Trichloropropane			mg/kg	1	na	na	na	na	na	1	0.5	0.5
1,2,4-Trimethylbenzene			mg/kg	1	na	na	na	na	na	1	250	250
1,3,5-Trimethylbenzene			mg/kg	1	na	na	na	na	na	1	120	120
Vinyl chloride			mg/kg	1	na	na	na	na	na	1	0.5	0.5
ortho-Xylene			mg/kg	1	na	na	na	na	na	1	14	14
meta- & para-Xylene			mg/kg	1	na	na	na	na	na	1	15	15
TPH												
C6-C9			mg/kg	10	5	5	5	5	na	9	12	5
C10-C14			mg/kg	10	5	5	5	5	na	9	300	5
C15-C28			mg/kg	50	25	25	25	25	na	9	580	25
C29-C36			mg/kg	50	25	25	25	25	na	9	260	25
Total C10-C36			mg/kg		55	55	55	55	na	9	910	55
BTEX												
Benzene			mg/kg	0.5	0.25	0.25	0.25	0.25	0.25	17	7	0.25
Toluene			mg/kg	1	0.5	0.5	0.5	0.5	0.5	17	11	0.5
Ethylbenzene			mg/kg	1	0.5	0.5	0.5	0.5	0.5	17	80	0.5
Total Xylenes			mg/kg	3	1.5	1.5	1.5	1.5	1.5	17	210	1.5
PAHs												
Naphthalene			mg/kg	0.5	0.25	0.25	0.25	0.25	0.25	18	1700	0.25

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area				GASWORKS						Count	Maximum	Minimum		
Consultant	Sample Location	Sample Depth	Units	LOR	CH2M HILL	GASWORKS	CH2M HILL	GASWORKS	CH2M HILL	GASWORKS	Natural	Natural	2.00-2.10	
					MW03	CH2M HILL	MW04	CH2M HILL	MW04	CH2M HILL				BH99
					1.00-1.10	2.00-2.10	1.00-1.10	2.00-2.10	1.00-1.10	2.00-2.10				
Analyte					Natural	Natural	Natural	Natural	Natural	Natural				
Oxychlordane			mg/kg	0.1	na	na	na	na	na	na		0	0	
Heptachlor epoxide			mg/kg	0.1	na	na	na	na	na	na		0	0	
Endosulphan I			mg/kg	0.1	na	na	na	na	na	na		0	0	
Chlordane-trans			mg/kg	0.1	na	na	na	na	na	na		0	0	
Chlordane-cis			mg/kg	0.1	na	na	na	na	na	na		0	0	
trans-Nonachlor			mg/kg	0.1	na	na	na	na	na	na		0	0	
4,4'-DDE			mg/kg	0.1	na	na	na	na	na	na		0	0	
Endrin			mg/kg	0.1	na	na	na	na	na	na		0	0	
4,4'-DDD			mg/kg	0.1	na	na	na	na	na	na		0	0	
Endosulphan II			mg/kg	0.1	na	na	na	na	na	na		0	0	
4,4'-DDT			mg/kg	0.1	na	na	na	na	na	na		0	0	
Endosulphan sulphate			mg/kg	0.1	na	na	na	na	na	na		0	0	
Methoxychlor			mg/kg	0.1	na	na	na	na	na	na		0	0	
Total OCPs					0	0	0	0	0	0		19	0	
PCBs														
Arochlor 1016			mg/kg	1	na	na	na	na	na	na		2	0.5	
Arochlor 1221			mg/kg	1	na	na	na	na	na	na		2	0.5	
Arochlor 1232			mg/kg	1	na	na	na	na	na	na		2	0.5	
Arochlor 1242			mg/kg	1	na	na	na	na	na	na		2	0.5	
Arochlor 1248			mg/kg	1	na	na	na	na	na	na		2	0.5	
Arochlor 1254			mg/kg	1	na	na	na	na	na	na		2	0.5	
Arochlor 1260			mg/kg	1	na	na	na	na	na	na		2	0.5	
Total PCBs					na	na	na	na	na	na		2	0	

n/a = not applicable

LOR = Laboratory Limits of Reporting

na = not selected for analysis

nd = not detected above laboratory LOR

Note: Results reported as non detect6 have been replaced with half the LOR for

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area				Average	SD	Students t a = 0.05	CV	95% UCL	Site criteria	Hotspot criteria
Consultant	Sample Location	Units	LOR							
Sample Depth										
Analyte										
HEAVY METALS										
Arsenic		mg/kg	5	5.1	3.8	1.75	0.75	7	500	1250
Cadmium		mg/kg	0.5	0.3	0.0	1.75	0.00	0.25	100	250
Chromium		mg/kg	5	17.3	9.7	1.75	0.56	22	500	1250
Copper		mg/kg	5	11.7	7.3	1.75	0.63	15	5000	12500
Nickel		mg/kg	2	5.6	2.6	1.75	0.46	10	3000	7500
Lead		mg/kg	5	50.1	38.4	1.75	0.77	68	1500	3750
Zinc		mg/kg	5	65.3	91.5	1.75	1.40	107	35000	87500
Mercury		mg/kg	0.05	0.1	2.4	1.75	35.55	0.11	75	188
Total Cyanide		mg/kg	0.5	32.8	56.4	2.35	1.72	110	2500	6250
VOCs										
Benzene		mg/kg	0.5	0.3	n/a	6.31	n/a	n/a	1	3
Bromobenzene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
Bromo chloromethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
Bromodichloromethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	2.4	6
Bromoform		mg/kg	1	0.5	n/a	6.31	n/a	n/a	310	775
Bromomethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	13	33
n-Butylbenzene		mg/kg	1	27.0	n/a	6.31	n/a	n/a	n/a	n/a
sec-Butylbenzene		mg/kg	1	2.0	n/a	6.31	n/a	n/a	n/a	n/a
tert-Butylbenzene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
Carbon Tetrachloride		mg/kg	1	0.5	n/a	6.31	n/a	n/a	0.53	1
cis-1,2-Dichloroethene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	150	375
Chlorobenzene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	450	1125
Chloroethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
Chloroform		mg/kg	1	0.5	n/a	6.31	n/a	n/a	10	25
Chloromethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	2.7	7
2-Chlorotoluene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	570	1425
4-Chlorotoluene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
Dibromochloromethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	2.7	7
1,2-Dibromo-3-Chloropropane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	4	10
1,2-Dibromomethane (EDB)		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
Dibromomethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	240	600
1,2-Dichlorobenzene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	370	925
1,3-Dichlorobenzene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	52	130
1,4-Dichlorobenzene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	8.1	20
Dichlorodifluoromethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
1,1-Dichloroethene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	0.12	0.30
1,2-Dichloroethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	4	10
1,1-Dichloroethane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	50	125
cis-1,2-Dichloroethene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	150	375
trans-1,2-Dichloroethene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
1,2-Dichloropropane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	0.77	2

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area				Average	SD	Students t a = 0.05	CV	95% UCL	Site criteria	Hotspot criteria
Consultant	Sample Location									
Sample Depth										
Analyte		Units	LOR							
1.3-Dichloropropane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
2.2-Dichloropropane		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
1.1-Dichloropropylene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
cis-1.3-Dichloropropylene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
trans-1.3-Dichloropropylene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
Ethylbenzene		mg/kg	1	7.0	n/a	6.31	n/a	3.1	8	8
Hexachlorobutadiene		mg/kg	1	0.5	n/a	6.31	n/a	32	80	80
Isopropylene		mg/kg	1	12.0	n/a	6.31	n/a	n/a	n/a	n/a
p-Isopropyltoluene		mg/kg	1	17.0	n/a	6.31	n/a	n/a	n/a	n/a
Methylene chloride		mg/kg	1	0.5	n/a	6.31	n/a	20	50	50
Naphthalene		mg/kg	1	780.0	n/a	6.31	n/a	n/a	n/a	n/a
n-Propylbenzene		mg/kg	1	10.0	n/a	6.31	n/a	n/a	n/a	n/a
Styrene		mg/kg	1	0.5	n/a	6.31	n/a	100	250	250
1.1.1.2-Tetrachloroethane		mg/kg	1	0.5	n/a	6.31	n/a	7	18	18
1.1.2.2-Tetrachloroethane		mg/kg	1	0.5	n/a	6.31	n/a	0.9	2	2
Tetrachloroethene		mg/kg	1	0.5	n/a	6.31	n/a	4	10	10
Toluene		mg/kg	1	0.5	n/a	6.31	n/a	1.4	4	4
1.2.3-Trichlorobenzene		mg/kg	1	0.5	n/a	6.31	n/a	n/a	n/a	n/a
1.2.4-Trichlorobenzene		mg/kg	1	0.5	n/a	6.31	n/a	3000	7500	7500
1.1.1-Trichloroethane		mg/kg	1	0.5	n/a	6.31	n/a	50	125	125
1.1.2-Trichloroethane		mg/kg	1	0.5	n/a	6.31	n/a	50	125	125
Trichloroethene		mg/kg	1	0.5	n/a	6.31	n/a	60	150	150
Trichlorofluoromethane		mg/kg	1	0.5	n/a	6.31	n/a	2000	5000	5000
1.2.3-Trichloropropane		mg/kg	1	0.5	n/a	6.31	n/a	0.0031	0.01	0.01
1.2.4-Trimethylbenzene		mg/kg	1	250.0	n/a	6.31	n/a	n/a	n/a	n/a
1.3.5-Trimethylbenzene		mg/kg	1	120.0	n/a	6.31	n/a	70	175	175
Vinyl chloride		mg/kg	1	0.5	n/a	6.31	n/a	0.1	0	0
ortho-Xylene		mg/kg	1	14.0	n/a	6.31	n/a	n/a	n/a	n/a
meta- & para-Xylene		mg/kg	1	15.0	n/a	6.31	n/a	n/a	n/a	n/a
TPH										
C6-C9		mg/kg	10	6.2	2.5	1.83	0.41	8	65	163
C10-C14		mg/kg	10	50.0	96.9	1.83	1.94	109	n/a	n/a
C15-C28		mg/kg	50	161.1	215.9	1.83	1.34	293	n/a	n/a
C29-C36		mg/kg	50	77.2	103.6	1.83	1.34	141	n/a	n/a
Total C10-C36		mg/kg		288.3	349.9	1.83	1.21	502	1000	2500
BTEX										
Benzene		mg/kg	0.5	1.2	2.0	1.74	1.72	2.0	1	2.5
Toluene		mg/kg	1	1.3	2.3	1.74	1.83	1.6	1.4	3.5
Ethylbenzene		mg/kg	1	7.1	19.8	1.74	2.78	15	3.1	7.8
Total Xylenes		mg/kg	3	18.6	51.0	1.74	2.73	40	14	35.0
PAHs										
Naphthalene		mg/kg	0.5	136.1	419.1	1.73	3.08	307	n/a	n/a

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area				Average	SD	Students t a = 0.05	CV	95% UCL	Site criteria	Hotspot criteria
Consultant	Sample Location	Sample Depth	Analyte							
Acenaphthylene				3.4	8.6	1.73	2.56	7	n/a	n/a
Acenaphthene				3.7	10.1	1.73	2.75	8	n/a	n/a
Fluorene				7.3	17.4	1.73	2.39	14	n/a	n/a
Phenanthrene				13.2	31.5	1.73	2.39	26	n/a	n/a
Anthracene				4.6	10.0	1.73	2.16	9	n/a	n/a
Fluoranthene				7.9	16.3	1.73	2.07	15	n/a	n/a
Pyrene				10.0	19.3	1.73	1.93	18	n/a	n/a
Benzo(a)anthracene				4.8	9.6	1.73	1.99	9	n/a	n/a
Chrysene				3.2	5.7	1.73	1.78	6	n/a	n/a
Benzo(b)&(k)fluoranthene				6.2	10.9	1.73	1.76	11	n/a	n/a
Benzo(a)pyrene				5.7	10.5	1.73	1.85	10	5	13
Indeno(1,2,3-cd)pyrene				3.2	5.7	1.73	1.79	6	n/a	n/a
Dibenz(a,h)anthracene				0.6	1.0	1.73	1.52	1	n/a	n/a
Benzo(g,h,i)perylene				2.6	4.9	1.73	1.86	5	n/a	n/a
Total PAHs				137.4	492.7	1.73	3.59	339	100	250
Phenols										
Phenol				8.6	n/a	6.31	n/a	n/a	42500	106250
2-Chlorophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
2-Methylphenol				6.4	n/a	6.31	n/a	n/a	n/a	n/a
3-Methylphenol & 4-Methylphenol				11.0	n/a	6.31	n/a	n/a	n/a	n/a
2-Nitrophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
2,4-Dimethylphenol				8.2	n/a	6.31	n/a	n/a	n/a	n/a
2,4-Dichlorophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
2,6-Dichlorophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
4-Chloro-3-methylphenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
2,4,5-Trichlorophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
2,4,6-Trichlorophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
2,4-Dinitrophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
4-Nitrophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
2,3,4,6-Tetrachlorophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
4,6-Dinitro-2-methylphenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pentachlorophenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
4,6-Dinitro-2-sec-butylphenol				n/a	n/a	n/a	n/a	n/a	n/a	n/a
OCPs										
HCB				n/a	n/a	n/a	n/a	n/a	n/a	n/a
alpha-BHC				n/a	n/a	n/a	n/a	n/a	n/a	n/a
gamma-BHC				n/a	n/a	n/a	n/a	n/a	n/a	n/a
Heptachlor				n/a	n/a	n/a	n/a	n/a	50	125
Aldrin				n/a	n/a	n/a	n/a	n/a	50	125
Dieldrin				n/a	n/a	n/a	n/a	n/a	n/a	0
beta-BHC				n/a	n/a	n/a	n/a	n/a	n/a	n/a
delta-BHC				n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area				Average	SD	Students t a = 0.05	CV	95% UCL	Site criteria	Hotspot criteria
Consultant	Sample Location	Units	LOR							
Sample Depth										
Analyte										
Oxychlordane		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Heptachlor epoxide		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Endosulphan I		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chlordane-trans		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	250.00	625
Chlordane-cis		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	250.00	625
trans-Nonachlor		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4,4'-DDE		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Endrin		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4,4'-DDD		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Endosulphan II		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4,4'-DDT		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	1000	2500
Endosulphan sulphate		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Methoxychlor		mg/kg	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total OCPs				0.0	0.0	1.73	n/a	0	40	100
PCBs										
Arochlor 1016		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1221		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1232		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1242		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1248		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1254		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Arochlor 1260		mg/kg	1	0.5	0.0	2.92	0.00	1	n/a	n/a
Total PCBs				0.0	0.0	2.92	n/a	0	50	125

n/a = not applicable

LOR = Laboratory Limits of Reporting

na = not selected for analysis

nd = not detected above laboratory LOR

Note: Results reported as non detect6 have been replaced with half the LOR for

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area					UCL after removal of hotspots	SD
Consultant						
Sample Location						
Sample Depth						
Analyte		Units	LOR			
HEAVY METALS						
Arsenic		mg/kg	5		n/a	n/a
Cadmium		mg/kg	0.5		n/a	n/a
Chromium		mg/kg	5		n/a	n/a
Copper		mg/kg	5		n/a	n/a
Nickel		mg/kg	2		n/a	n/a
Lead		mg/kg	5		n/a	n/a
Zinc		mg/kg	5		n/a	n/a
Mercury		mg/kg	0.05		n/a	n/a
Total Cyanide		mg/kg	0.5		n/a	n/a
VOC's						
Benzene		mg/kg	0.5		n/a	n/a
Bromobenzene		mg/kg	1		n/a	n/a
Bromo chloromethane		mg/kg	1		n/a	n/a
Bromodichloromethane		mg/kg	1		n/a	n/a
Bromoform		mg/kg	1		n/a	n/a
Bromomethane		mg/kg	1		n/a	n/a
n-Butylbenzene		mg/kg	1		n/a	n/a
sec-Butylbenzene		mg/kg	1		n/a	n/a
tert-Butylbenzene		mg/kg	1		n/a	n/a
Carbon Tetrachloride		mg/kg	1		n/a	n/a
cis-1,2-Dichloroethene		mg/kg	1		n/a	n/a
Chlorobenzene		mg/kg	1		n/a	n/a
Chloroethane		mg/kg	1		n/a	n/a
Chloroform		mg/kg	1		n/a	n/a
Chloromethane		mg/kg	1		n/a	n/a
2-Chlorotoluene		mg/kg	1		n/a	n/a
4-Chlorotoluene		mg/kg	1		n/a	n/a
Dibromochloromethane		mg/kg	1		n/a	n/a
1,2-Dibromo-3-Chloropropane		mg/kg	1		n/a	n/a
1,2-Dibromomethane (EDB)		mg/kg	1		n/a	n/a
Dibromomethane		mg/kg	1		n/a	n/a
1,2-Dichlorobenzene		mg/kg	1		n/a	n/a
1,3-Dichlorobenzene		mg/kg	1		n/a	n/a
1,4-Dichlorobenzene		mg/kg	1		n/a	n/a
Dichlorodifluoromethane		mg/kg	1		n/a	n/a
1,1-Dichloroethene		mg/kg	1		n/a	n/a
1,2-Dichloroethane		mg/kg	1		n/a	n/a
1,1-Dichloroethane		mg/kg	1		n/a	n/a
cis-1,2-Dichloroethene		mg/kg	1		n/a	n/a
trans-1,2-Dichloroethene		mg/kg	1		n/a	n/a
1,2-Dichloropropane		mg/kg	1		n/a	n/a

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area					UCL after removal of hotspots	SID
Consultant						
Sample Location						
Sample Depth						
Analyte		Units	LOR			
1.3-Dichloropropane		mg/kg	1		n/a	n/a
2.2-Dichloropropane		mg/kg	1		n/a	n/a
1.1-Dichloropropylene		mg/kg	1		n/a	n/a
cis-1.3-Dichloropropylene		mg/kg	1		n/a	n/a
trans-1.3-Dichloropropylene		mg/kg	1		n/a	n/a
Ethylbenzene		mg/kg	1		n/a	n/a
Hexachlorobutadiene		mg/kg	1		n/a	n/a
Isopropylene		mg/kg	1		n/a	n/a
p-Isopropyltoluene		mg/kg	1		n/a	n/a
Methylene chloride		mg/kg	1		n/a	n/a
Naphthalene		mg/kg	1		n/a	n/a
n-Propylbenzene		mg/kg	1		n/a	n/a
Styrene		mg/kg	1		n/a	n/a
1.1.1.2-Tetrachloroethane		mg/kg	1		n/a	n/a
1.1.2.2-Tetrachloroethane		mg/kg	1		n/a	n/a
Tetrachloroethene		mg/kg	1		n/a	n/a
Toluene		mg/kg	1		n/a	n/a
1.2.3-Trichlorobenzene		mg/kg	1		n/a	n/a
1.2.4-Trichlorobenzene		mg/kg	1		n/a	n/a
1.1.1-Trichloroethane		mg/kg	1		n/a	n/a
1.1.2-Trichloroethane		mg/kg	1		n/a	n/a
Trichloroethene		mg/kg	1		n/a	n/a
Trichlorofluoromethane		mg/kg	1		n/a	n/a
1.2.3-Trichloropropane		mg/kg	1		n/a	n/a
1.2.4-Trimethylbenzene		mg/kg	1		n/a	n/a
1.3.5-Trimethylbenzene		mg/kg	1		n/a	n/a
Vinyl chloride		mg/kg	1		n/a	n/a
ortho-Xylene		mg/kg	1		n/a	n/a
meta- & para-Xylene		mg/kg	1		n/a	n/a
TPH						
C6-C9		mg/kg	10		n/a	n/a
C10-C14		mg/kg	10		n/a	n/a
C15-C28		mg/kg	50		n/a	n/a
C29-C36		mg/kg	50		n/a	n/a
Total C10-C36		mg/kg			n/a	n/a
BTX						
Benzene		mg/kg	0.5		0.4	0.2
Toluene		mg/kg	1		0.93	0.63
Ethylbenzene		mg/kg	1		0.5	0
Total Xylenes		mg/kg	3		5.34	2.32
PAHs						
Naphthalene		mg/kg	0.5		n/a	n/a

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area			Units	LOR	UCL after removal of hotspots	SID
Consultant	Sample Location					
Sample Depth						
Analyte						
Acenaphthylene		mg/kg	0.5		n/a	n/a
Acenaphthene		mg/kg	0.5		n/a	n/a
Fluorene		mg/kg	0.5		n/a	n/a
Phenanthrene		mg/kg	0.5		n/a	n/a
Anthracene		mg/kg	0.5		n/a	n/a
Fluoranthene		mg/kg	0.5		n/a	n/a
Pyrene		mg/kg	0.5		n/a	n/a
Benzo(a)anthracene		mg/kg	0.5		n/a	n/a
Chrysene		mg/kg	0.5		n/a	n/a
Benzo(b)&(k)fluoranthene		mg/kg	1		n/a	n/a
Benzo(a)pyrene		mg/kg	0.5		2.32	2.39
Indeno(1,2,3-cd)pyrene		mg/kg	0.5		n/a	n/a
Dibenz(a,h)anthracene		mg/kg	0.5		n/a	n/a
Benzo(g,h,i)perylene		mg/kg	0.5		n/a	n/a
Total PAHs		mg/kg			18.94	21.35
Phenols						
Phenol		mg/kg	0.5		n/a	n/a
2-Chlorophenol		mg/kg	0.5		n/a	n/a
2-Methylphenol		mg/kg	0.5		n/a	n/a
3-Methylphenol & 4-Methylphenol		mg/kg	0.5		n/a	n/a
2-Nitrophenol		mg/kg	0.5		n/a	n/a
2,4-Dimethylphenol		mg/kg	0.5		n/a	n/a
2,4-Dichlorophenol		mg/kg	0.5		n/a	n/a
2,6-Dichlorophenol		mg/kg	0.5		n/a	n/a
4-Chloro-3-methylphenol		mg/kg	0.5		n/a	n/a
2,4,5-Trichlorophenol		mg/kg	0.5		n/a	n/a
2,4,6-Trichlorophenol		mg/kg	0.5		n/a	n/a
2,4-Dinitrophenol		mg/kg	2		n/a	n/a
4-Nitrophenol		mg/kg	1		n/a	n/a
2,3,4,6-Tetrachlorophenol		mg/kg	1		n/a	n/a
4,6-Dinitro-2-methylphenol		mg/kg	2		n/a	n/a
Pentachlorophenol		mg/kg	1		n/a	n/a
4,6-Dinitro-2-sec-butylphenol		mg/kg	2		n/a	n/a
OCPs						
HCB		mg/kg	0.1		n/a	n/a
alpha-BHC		mg/kg	0.1		n/a	n/a
gamma-BHC		mg/kg	0.1		n/a	n/a
Heptachlor		mg/kg	0.1		n/a	n/a
Aldrin		mg/kg	0.1		n/a	n/a
Dieldrin		mg/kg	0.1		n/a	n/a
beta-BHC		mg/kg	0.1		n/a	n/a
delta-BHC		mg/kg	0.1		n/a	n/a

Table 6.5: 95% UCL Gasworks Natural Analytical Results

Area				UCL after removal of hotspots	SID
Consultant					
Sample Location					
Sample Depth					
Analyte	Units	LOR			
Oxychlorane	mg/kg	0.1		n/a	n/a
Heptachlor epoxide	mg/kg	0.1		n/a	n/a
Endosulphan I	mg/kg	0.1		n/a	n/a
Chlordane-trans	mg/kg	0.1		n/a	n/a
Chlordane-cis	mg/kg	0.1		n/a	n/a
trans-Nonachlor	mg/kg	0.1		n/a	n/a
4,4'-DDE	mg/kg	0.1		n/a	n/a
Endrin	mg/kg	0.1		n/a	n/a
4,4'-DDD	mg/kg	0.1		n/a	n/a
Endosulphan II	mg/kg	0.1		n/a	n/a
4,4'-DDT	mg/kg	0.1		n/a	n/a
Endosulphan sulphate	mg/kg	0.1		n/a	n/a
Methoxychlor	mg/kg	0.1		n/a	n/a
Total OCPs				n/a	n/a
PCBs					
Arochlor 1016	mg/kg	1		n/a	n/a
Arochlor 1221	mg/kg	1		n/a	n/a
Arochlor 1232	mg/kg	1		n/a	n/a
Arochlor 1242	mg/kg	1		n/a	n/a
Arochlor 1248	mg/kg	1		n/a	n/a
Arochlor 1254	mg/kg	1		n/a	n/a
Arochlor 1260	mg/kg	1		n/a	n/a
Total PCBs				n/a	n/a

n/a = not applicable

LOR = Laboratory Limits of Reporting

na = not selected for analysis

nd = not detected above laboratory LOR

Note: Results reported as non detect6 have been replaced with half the LOR for

TABLE 6.7
GROUNDWATER ANALYTICAL RESULTS

Consultant	CH2M HILL	CH2M HILL	CH2M HILL
Sample Location	MW03S_11/05/00	MW03D_11/05/00	MW04S_11/05/00
Date Sampled	5/11/2000	5/11/2000	5/11/2000
Aquifer	Surficial	Ashfield Shale	Surficial

Analyte	Units	LOR	ANZECC (1992) Guidelines for the Protection of Fresh Water Ecosystems (µg/L)	NSW EPA Guidelines for the Assessment of Service Station Sites (1994)	
HEAVY METALS					
Arsenic	mg/L	0.001	50.0		1 9 2
Cadmium	mg/L	0.0001	0.2-2.0		nd nd nd
Chromium	mg/L	0.001	10.0		4 4 15
Copper	mg/L	0.001	2.0-5.0		3 6 nd
Nickel	mg/L	0.001	15.0-150.0		4 19 10
Lead	mg/L	0.001	1.0-5.0		nd nd nd
Zinc	mg/L	0.002	5.0-50.0		12 49 13
Mercury	mg/L	0.00005	0.1		nd nd nd
Iron (II)	mg/L	0.05	1000		55600 36500 35300
Nitrate as N	mg/L	0.01			nd 0.01 nd
Sulphate	mg/L	1			240 580 41
Electrical Conductivity	µS/cm	1			870 3100 420
pH		0.1	6.5-9.0		6.0 5.4 6.2
Dissolved Methane	µg/L				230 83 2500
PAHs					
Naphthalene	µg/L	1			86 210 5
Acenaphthylene	µg/L	1			nd nd nd
Acenaphthene	µg/L	1			2 nd nd
Fluorene	µg/L	1			1 2 nd
Phenanthrene	µg/L	1			nd 2 nd
Anthracene	µg/L	1			nd nd nd
Fluoranthene	µg/L	1			nd nd nd
Pyrene	µg/L	1			nd nd nd
Benzo(a)anthracene	µg/L	1			nd nd nd
Chrysene	µg/L	1			nd nd nd
Benzo(b)&(k)fluoranthene	µg/L	2			nd nd nd
Benzo(a)pyrene	µg/L	1			nd nd nd
Indeno(1,2,3-cd)pyrene	µg/L	1			nd nd nd
Dibenz(a,h)anthracene	µg/L	1			nd nd nd

TABLE 6.7
GROUNDWATER ANALYTICAL RESULTS

Consultant	CH2M HILL	CH2M HILL	CH2M HILL
Sample Location	MW03S_11/05/00	MW03D_11/05/00	MW04S_11/05/00
Date Sampled	5/11/2000	5/11/2000	5/11/2000
Aquifer	Surficial	Ashfield Shale	Surficial

Analyte	Units	LOR	ANZECC (1992) Guidelines for the Protection of Fresh Water Ecosystems (µg/L)	NSW EPA Guidelines for the Assessment of Service Station Sites (1994)		
Benzo(g,h,i)perylene	µg/L	1			nd	nd
Total PAHs	µg/L	1	3.0		89	210
Phenols						
Phenol	µg/L	5			nd	16
2-Chlorophenol	µg/L	5			nd	nd
2-Methylphenol	µg/L	5			nd	19
3-Methylphenol & 4-Methylphenol	µg/L	5			nd	10
2-Nitrophenol	µg/L	5			nd	nd
2,4-Dimethylphenol	µg/L	5			nd	37
2,4-Dichlorophenol	µg/L	5			nd	nd
2,6-Dichlorophenol	µg/L	5			nd	nd
4-Chloro-3-methylphenol	µg/L	5			nd	nd
2,4,5-Trichlorophenol	µg/L	5			nd	nd
2,4,6-Trichlorophenol	µg/L	5			nd	nd
2,4-Dinitrophenol	µg/L	20			nd	nd
4-Nitrophenol	µg/L	10			nd	nd
2,3,4,6-Tetrachlorophenol	µg/L	10			nd	nd
4,6-Dinitro-2-methylphenol	µg/L	20			nd	nd
Pentachlorophenol	µg/L	10			nd	nd
4,6-Dinitro-2-sec-butylphenol	µg/L	20			nd	nd
Total Phenols	µg/L		50		0	82
TPH						
C6-C9	µg/L	20		10,000	140	580
C10-C14	µg/L	20			840	600
C15-C28	µg/L	100			553	nd
C29-C36	µg/L	100			nd	nd
Total C10-C30	µg/L			10,000	1393	600
BTEX						
Benzene	µg/L	0.5	300		74	430
Toluene	µg/L	1	300		nd	9

TABLE 6.7
GROUNDWATER ANALYTICAL RESULTS

Consultant	CH2M HILL	CH2M HILL	CH2M HILL
Sample Location	MW03S_1/05/00	MW03D_11/05/00	MW04S_11/05/00
Date Sampled	5/11/2000	5/11/2000	5/11/2000
Aquifer	Surficial	Ashfield Shale	Surficial

Analyte	Units	LOR	ANZECC (1992) Guidelines for the Protection of Fresh Water Ecosystems (µg/L)	NSW EPA Guidelines for the Assessment of Service Station Sites (1994)	
Ethylbenzene	µg/L	1	140		28
Total Xylenes	µg/L	3		380	15
					25
					73
					nd
					nd

NOTE:

Exceeds ANZECC (1992) Guidelines for the Protection of Fresh Water Ecosystems
Exceeds NSW EPA Guidelines for the Assessment of Service Station Sites (1994)

n/a = not applicable
LOR = Laboratory Limits of Reporting
na = not selected for analysis
nd = not detected above laboratory LOR

TABLE 6.7
GROUNDWATER ANALYTICAL RESULTS

Consultant	CH2M HILL	CH2M HILL	CH2M HILL
Sample Location	MWDUP01_1/1/05/00	MW04D_11/05/00	MW06S_11/05/00
Date Sampled	5/11/2000	5/11/2000	5/11/2000
Aquifer	Surficial	Ashfield Shale	Surficial

Analyte	Units	LOR	ANZECC (1992) Guidelines for the Protection of Fresh Water Ecosystems (µg/L)	NSW EPA Guidelines for the Assessment of Service Station Sites (1994)	
HEAVY METALS					
Arsenic	mg/L	0.001	50.0		2 5 2
Cadmium	mg/L	0.0001	0.2-2.0		nd nd 0.4
Chromium	mg/L	0.001	10.0		3 7 3
Copper	mg/L	0.001	2.0-5.0		nd 8 2
Nickel	mg/L	0.001	15.0-150.0		9 14 4
Lead	mg/L	0.001	1.0-5.0		nd nd nd
Zinc	mg/L	0.002	5.0-50.0		15 62 25
Mercury	mg/L	0.00005	0.1		nd nd nd
Iron (II)	mg/L	0.05	1000		39300 12800 1500
Nitrate as N	mg/L	0.01			nd 0.02 1.42
Sulphate	mg/L	1			44 610 130
Electrical Conductivity	µS/cm	1			400 2300 510
pH		0.1	6.5-9.0		6.2 5.0 5.7
Dissolved Methane	µg/L				2300 22 100
PAHs					
Naphthalene	µg/L	1			6 37 2600
Acenaphthylene	µg/L	1			nd nd 61
Acenaphthene	µg/L	1			nd nd 16
Fluorene	µg/L	1			nd nd 24
Phenanthrene	µg/L	1			nd nd 13
Anthracene	µg/L	1			nd nd 3
Fluoranthene	µg/L	1			nd nd 1
Pyrene	µg/L	1			nd nd 1
Benzo(a)anthracene	µg/L	1			nd nd nd
Chrysene	µg/L	1			nd nd nd
Benzo(b)&(k)fluoranthene	µg/L	2			nd nd nd
Benzo(a)pyrene	µg/L	1			nd nd nd
Indeno(1,2,3-cd)pyrene	µg/L	1			nd nd nd
Dibenz(a,h)anthracene	µg/L	1			nd nd nd