

2010 Data							2011 Data												
Borehole No./Surface Water Sample No.							Borehole No./Surface Water Sample No.												
Sample depth, if stated (m bgl)							Sample depth, if stated (m bgl)												
Site							Site												
Zone							Zone												
Strata Screened into**							Strata Screened into**												
Analyte	EQS**	EQS**	EQS**	EQS**	UKDWS**		BH1	BH2	BH3	BH5	SW1	SW2	SW3						
pH			6-9**				8.44	7.88	7.95	8.07	8.68	8.68	8.67						
<b>Metals and Metalloids</b>																			
Arsenic			7.5				18.50	0.88	2.30	0.40	9.26	1.88	4.69	0.77	1.05	1.49	0.72	0.94	0.76
Cadmium	0.6*		3.75												0.14	0.10			
Chromium (Total)			27.5				117.0	39.7	93.8	61.0	51.5	85.9	16.8	13.3	18.3	18.10	5.04	4.94	5.25
Chromium (VI)	30**												32.0		45.0				
Copper			1500				1.01	2.40	0.95				3.26	3.40	4.77	5.55	1.32	1.23	1.28
Lead	7.2		18.75				0.20	0.14	0.12	0.04	0.19	0.08	0.19	0.07	0.16	0.22	0.03	0.05	0.04
Manganese			300				1280.0	467.0	545.0	7.37	2720.0	74.80							
Nickel	20		15				10.90	5.63	4.65	2.93	5.50	1.38	13.0	7.3	7.08	6.81	2.4	2.37	2.47
Zinc		50					1.73	1.02	0.88		1.27		8.88	1.66	2.24	2.22	0.49	0.89	1.23
Phosphorus			35				12200	1860	8520	2820	3560	2850							
Sodium			150000				55900	34300	51300	31100	33700	31400							
Magnesium				50000			26400	21900	22900	18600	23700	7310							
Potassium				12000			5750	5810	4970	3170	4200	13800							
<b>Misc. Inorganics</b>																			
Ammoniacal Nitrogen (NH3)		15					482		278		758	619	11500		1700				
Ammoniacal Nitrogen (as N)			85				396		228		824	509	9470		1400				
Sulphate (mg/l)			187.5				141	131	72.6	72.2	18	103	130	205	29.1	35.5	10.4	10.4	12.9
Chloride (mg/l)				250			83.6	30.6	50.4	37.2	12.7	26.4							
Nitrate (NO3) (mg/l)			37.5										2.49	3.37		3.53	3.48		3.39
Nitrite (NO2)			375										70			50	50		
<b>PAHs</b>																			
Naphthalene	2.4												0.287				0.175	0.105	0.321
Total PAH (screen)			0.075										0.287	ND	ND	ND	0.175	0.105	0.321
<b>Phenolics</b>																			
Phenol (total monohydric)		30											ND	ND	ND	ND	ND	120	ND
<b>Misc. Organics</b>																			
TOC (mg/l)													20.4	10.5	8.48	7.7	11.3	9.81	9.70

ND: Not detected  
Units are µg/l unless otherwise stated

- (a) European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. No.272 of 2009). Assuming MAC-EQS for Hard Surface Waters. Where MAC-EQS values are not applicable, AA-EQS values have been adopted since they are considered protective against short-term pollution peaks in continuous discharges (Schedule 6);
  - (b) Environment Agency (2002), Technical Advice to Third Parties on Pollution Controlled Waters for Part IIA of the EPA 1990, Freshwater Environmental Quality Standards (EQS) for Minor Aquifers/Surface Watercourses;
  - (c) Groundwater Quality Standards, European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No.9 of 2010). Values adopted relate to the assessment of impacts of chemical inputs from groundwater on associated surface water bodies (Schedule 5);
  - (d) The Water Supply (Water Quality) (Amendment) Regulations 2001 and 2007;
  - (e) The Surface Waters (Pollute) (Classification) Regulations 1997;
  - (f) Environmental Quality Standards (Freshwater), October 2004, Issue No. 1, WRc - NSF National Centre for Environmental Toxicology.
- ++ AL (Shallow Alluvial Aquifer);  
\* EQS for cadmium varies with water hardness. A Hardness of 50-100mg/l CaCO<sub>3</sub> has been adopted for sensitive aquatic life;  
\*\* EPA Interim Guideline Values for the protection of groundwater.

Trial pit/borehole no.		TP02	TP04	TP04	TP04	TP9	TP09	TP11	TP14	TP14
Sample depth, if stated (m bgl) / Sample		0.6-1.0	0.1-0.8	1.2-2.0	2.2-2.8	0.0-0.5	1.7-2.7	1.2-1.5	0.0-0.2	0.5-1.0
Site		North	North	North	North	North	North	North	North	North
Zone		Zone 3	Zone 3	Zone 3	Zone 3	Zone 2	Zone 2	Zone 1	Zone 1	Zone 1
Soil type, if stated		MG	MG	CLAY	CLAY	MG	CLAY	MG	MG	CLAY
Analyte	GAC									
pH	-	6.6	7.2	8.2			8.1	7.03		7.8
<b>Metals and metalloids</b>										
Arsenic	32	10.3	23.6	6.35			11.6	10.2		3.76
Cadmium	10	1.3	1.5	0.54			0.70	1.36		0.32
Chromium (III)	3000	33.2	43.1	24.1			23.1	31.4		33.0
Copper	200	46.4	51.0	19.2			18.3	46.7		16.9
Lead	450	135	694	41			42.4	187.0		46.3
Nickel	130	25.1	31.6	34.8			34.2	25.1		26.8
Zinc	450	134.0	82.0	56.9			58.1	1170		37.5
<b>Misc inorganics</b>										
Sulphur (total: %)	-	0.120	0.12	0.02				0.34		0.03
Sulphate (total)	-	1810	1210	50.7						
TON	-	5.520	3.72					2.55		
<b>PAHs</b>										
Acenaphthene	200								0.147	
Acenaphthylene	160								0.04	
Anthracene	2200								0.04	
Benzo(a)anthracene	3.3					0.09			0.07	
Benzo(b)fluoranthene	0.83					0.12			0.11	
Benzo(k)fluoranthene	5.6					0.04			0.03	
Benzo(a)pyrene	44					0.08			0.06	
Benzo(g,h,i)perylene	8.5					0.06			0.05	
Chrysene	6.1					0.06			0.05	
Fluoranthene	260					0.14			0.13	
Fluorene	160					0.02			0.12	
Indeno(1,2,3-cd)pyrene	3.2					0.05			0.04	
Naphthalene	0.68					0.07			1.44	
Phenanthrene	92					0.08			0.21	
Pyrene	560					0.11			0.09	
Total PAH (screen)	-					0.91			2.66	
<b>BTEX and related</b>										
Benzene	-								ND	
Toluene	-								ND	
Ethylbenzene	-								ND	
Xylenes (Total)	-					ND			ND	
<b>TPH</b>										
Mineral oil range (MRO; C26-	-					34.8			59.3	
<b>Phenolics</b>										
Phenol (total monohydric)	-	ND	0.02	ND			ND	ND		ND
<b>Misc organics</b>										
TOM (%)	-		5.88		0.45					
TOC (%)	-					2.84			6.18	
SEM	-	1170	1360					1930		141
<b>PCBs</b>										
Sum PCB	-					ND			ND	

ND: Not detected  
Units are mg/kg unless otherwise stated

Trial pit/borehole no.		TP01	TP01	TP07	TP07	TP08
Sample depth, if stated (m bgl) / Sample ID		0.6-1.5	1.9	2.0-2.3	2.3-3.0	1.2-1.6
Site		South	South	South	South	South
Zone		-	-	-	-	-
Soil type, if stated		MG	SILT	MG	CLAY	MG
Analyte	GAC					
pH	-		8.03		8.22	7.82
<b>Metals and metalloids</b>						
Arsenic	32		12.9		5.9	10.3
Cadmium	10		0.9		0.4	0.774
Chromium (III)	3000		30.8		23.5	23.2
Copper	200		5.6		16.0	33.8
Lead	450		44.0		38.0	78.5
Nickel	130		31.3		29.1	27.3
Zinc	450		44.9		47.6	118
<b>Misc inorganics</b>						
Sulphur (total; %)	-		0.03			0.09
Sulphate (total)	-		119		106	1010
Sulphide	-					48.8
<b>PAHs</b>						
Acenaphthene	200	1.15				
Acenaphthylene	160	0.11				
Anthracene	2200	0.24				
Benzo(a)anthracene	3.3	0.84		0.06		
Benzo(b)fluoranthene	0.83	0.73		0.07		
Benzo(k)fluoranthene	5.6	0.21		0.02		
Benzo(a)pyrene	44	0.54		0.05		
Benzo(g,h,i)perylene	8.5	0.32		0.04		
Chrysene	6.1	0.54		0.04		
Dibenz(a,h)anthracene	260	0.09				
Fluoranthene	160	3.82		0.07		
Fluorene	3.2	0.33		0.02		
Indeno(1,2,3-cd)pyrene	0.68	0.27		0.03		
Naphthalene	92	0.13		0.02		
Phenanthrene	560	0.64		0.05		
Pyrene	-	0.67		0.07		
<b>BTEX and related</b>						
Toluene	-			0.002		
Xylenes (Total)	-	0.003		ND		
<b>TPH</b>						
Mineral oil range (MRO; C26-C40)	-	304		137		
<b>Phenolics</b>						
Phenol (total monohydric)	-		ND		ND	ND
<b>Misc organics</b>						
TOM (%)	-		5.88			
TOC (%)	-	1.69		0.78		2.84
SEM	-					460
<b>PCBs</b>						
PCB Congener 28	-	0.01		0.003		
PCB Congener 52	-	0.006				
PCB Congener 101	-	0.003				
PCB Congener 118	-	0.006				
Sum PCB	-	0.027		0.003		

ND: Not detected

Units are mg/kg unless otherwise stated