Speciated Phenols in Soil Our Reference: Your Reference Sample Matrix Date Sampled	UNITS ---------- ---------- ----------	 SE79619-1 QC2 Soil 2/07/2010
Date Extracted (Spec. Phenols)		8/07/2010
Date Analysed (Spec. Phenols)		8/07/2010
Phenol	mg/kg	<0.5
2-Methylphenol (o-cresol)	mg/kg	<0.5
3/4-Methylphenol (m/p-cresol)	mg/kg	<1
2-Chlorophenol	mg/kg	<0.5
2.4-Dimethylphenol	mg/kg	<0.5
2.6-Dichlorophenol	mg/kg	<0.5
2.4-Dichlorophenol	mg/kg	<0.5
2-Nitrophenol	mg/kg	<0.5
2.4.6-Trichlorophenol	mg/kg	<0.5
4-Nitrophenol	mg/kg	<0.5
2.4.5-Trichlorophenol	mg/kg	<0.5
2.3.4.6-Tetrachlorophenol	mg/kg	<0.5
Pentachlorophenol	mg/kg	<0.5
4-Chloro-3-methylphenol	mg/kg	<1
2.4-Dinitrophenol	mg/kg	<0.5
Acetophenone	mg/kg	<0.5
2.4.6-Tribromophenol- *(Surrogate)*	%	64
d5-phenol *(Surrogate)*	%	61

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Metals in Soil by ICP-OES Our Reference: Your Reference Sample Matrix Date Sampled	UNITS ---------- ---------- 	SE79619-1 QC2 Soil 2/07/2010
Date Extracted (Metals)		12/06/2010
Date Analysed (Metals)		12/06/2010
Arsenic	mg/kg	45
Cadmium	mg/kg	2.1
Chromium	mg/kg	23
Copper	mg/kg	380
Lead	mg/kg	290
Nickel	mg/kg	24
Zinc	mg/kg	370

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Mercury Cold Vapor/Hg Analyser		
Our Reference:	UNITS	SE79619-1
Your Reference	----------	QC2
Sample Matrix	----------	Soil
Date Sampled		2/07/2010
Date Extracted (Mercury)		8/07/2010
Date Analysed (Mercury)		8/07/2010
Mercury	mg/kg	0.26

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VOCs by ZHE TCLP - 72 List Our Reference: Your Reference Sample Matrix Date Sampled	UNITS ---------- ---------- ---------- 	 SE79619-1 QC2 Soil 2/07/2010
Date Extracted-ZHE TCLP Prep		8/07/2010
pH of soil for fluid# determ.	pH units	8.03
pH of soil for fluid # determ. (acid)	pH units	1.76
Extraction fluid used	-	1
pH of final Leachate	pH units	5.13
Date extracted (VOCs)		8/07/2010
Date analysed (VOCs)		8/07/2010
Dichlorodifluoromethane (CFC-12)	µg/L	<5
Chloromethane	µg/L	<5
Vinyl Chloride (chloroethene)	µg/L	<0.3
Bromomethane	µg/L	<10
Chloroethane	µg/L	<5
Trichlorofluoromethane	µg/L	<1
Acetone (2-propanone)	µg/L	<10
1,1-Dichloroethene	µg/L	<0.5
Methyl Iodine (iodomethane)	µg/L	<5
Acrylonitrile	µg/L	<0.5
Methylene Chloride (DCM)	µg/L	<5
Allyl Chloride	µg/L	<0.5
Carbon Disulphide	µg/L	<0.5
trans-1,2-Dichloroethene	µg/L	<0.5
Methyl-tert-butyl ether (MtBE)	µg/L	<2
1,1-Dichloroethane	µg/L	<0.5
2-Butanone (MEK)	µg/L	<10
cis-1,2-Dichloroethene	µg/L	<0.5
Bromochloromethane	µg/L	<0.5
Chloroform	µg/L	<0.5
2,2-Dichloropropane	µg/L	<0.5
1,2-Dichloroethane	µg/L	<0.5
1,1,1-Trichloroethane	µg/L	<0.5
1,1-Dichloropropene	µg/L	<0.5
Carbon tetrachloride	µg/L	<0.5
Benzene	µg/L	<0.5
Dibromomethane	µg/L	<0.5
1,2-Dichloropropane	µg/L	<0.5
Trichloroethene (TCE)	µg/L	<0.5
2-Nitropropane	µg/L	<100
Bromodichloromethane	µg/L	<0.5

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VOCs by ZHE TCLP - 72 List Our Reference: Your Reference Sample Matrix Date Sampled	UNITS ---------- ---------- 	SE79619-1 QC2 Soil 2/07/2010
cis-1,3-Dichloropropene	µg/L	<0.5
4-Methyl-2-Pentanone (MIBK)	µg/L	<5
trans-1,3-Dichloropropene	µg/L	<0.5
1,1,2-Trichloroethane	µg/L	<0.5
Toluene	µg/L	1.1
1,3-Dichloropropane	µg/L	<0.5
2-Hexanone (MBK)	µg/L	<5
Dibromochloromethane	µg/L	<0.5
1,2-Dibromoethane (EDB)	µg/L	<0.5
Tetrachloroethene (PCE-perchloroethylen	µg/L	<0.5
1,1,1,2-Tetrachloroethane	µg/L	<0.5
Chlorobenzene	µg/L	<0.5
Ethyl benzene	µg/L	4.1
Bromoform	µg/L	<0.5
m/p-Xylenes	µg/L	9
Cis-1,4-dichloro-2-butene	µg/L	<1
Styrene (vinyl benzene)	µg/L	<0.5
1,1,2,2-Tetrachloroethane	µg/L	<0.5
o-Xylene	µg/L	6.1
1,2,3-Trichloropropane	µg/L	<0.5
Trans-1,4-dichloro-2-butene	µg/L	<1
Isopropylbenzene (Cumene)	µg/L	0.7
Bromobenzene	µg/L	<0.5
n-Propylbenzene	µg/L	<0.5
2-Chlorotoluene	µg/L	<0.5
4-Chlorotoluene	µg/L	<0.5
1,3,5-Trimethylbenzene	µg/L	4.3
tert-Butylbenzene	µg/L	<0.5
1,2,4-Trimethylbenzene	µg/L	13
sec-Butylbenzene	µg/L	<0.5
1,3-Dichlorobenzene	µg/L	<0.5
1,4-Dichlorobenzene	µg/L	<0.3
p-Isopropyl toluene	µg/L	<0.5
1,2-Dichlorobenzene	µg/L	<0.5
n-Butylbenzene	µg/L	<0.5
1,2-Dibromo-3-chloropropane	µg/L	<0.5
1,2,4-Trichlorobenzene	µg/L	<0.5
Naphthalene	µg/L	45
Hexachlorobutadiene	µg/L	<1

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VOCs by ZHE TCLP - 72 List Our Reference: Your Reference Sample Matrix Date Sampled	UNITS ---------- ----------	 SE79619-1 QC2 Soil 2/07/2010
1,2,3-Trichlorobenzene	µg/L	<0.5
Vinyl acetate	µg/L	<10
Dibromofluoromethane	%	91
1,2-Dichloroethane-d4	%	88
Toluene-*d8 Surrogate 2*	%	104
4-Bromofluorobenzene *Surrogate 3*	%	99

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PAHs in TCLP (USEPA 1311) Our Reference: Your Reference Sample Matrix Date Sampled	UNITS ---------- ---------- ----------	 SE79619-1 QC2 Soil 2/07/2010
Date Extracted (TCLP Preparation)		8/07/2010
pH of soil for fluid# determ.	pH units	8.03
Extraction fluid used	-	1
pH of soil for fluid # determ. (acid)	pH units	1.76
pH of final Leachate	pH units	5.13
Date Extracted		12/07/2010
Date Analysed		12/07/2010
Naphthalene	µg/L	2.1
2-Methylnaphthalene	µg/L	<0.5
1-Methylnaphthalene	µg/L	<0.5
Acenaphthylene	µg/L	<0.50
Acenaphthene	µg/L	<0.50
Fluorene	µg/L	<0.50
Phenanthrene	µg/L	<0.50
Anthracene	µg/L	<0.50
Fluoranthene	µg/L	<0.50
Pyrene	µg/L	<0.50
Benzo[*a*]anthracene	µg/L	<0.50
Chrysene	µg/L	<0.50
Benzo[*b,k*]fluoranthene	µg/L	<1.0
Benzo[*a*]pyrene	µg/L	<0.50
Indeno[*123-cd*]pyrene	µg/L	<0.50
Dibenzo[*ah*]anthracene	µg/L	<0.50
Benzo[*ghi*]perylene	µg/L	<0.50
Total PAHs (sum)	µg/L	<9
Nitrobenzene-d5	%	118
2-Fluorobiphenyl	%	126
p -Terphenyl-*d14*	%	130

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Metals in TCLP Our Reference: Your Reference Sample Matrix Date Sampled	UNITS ---------- ---------- 	SE79619-1 QC2 Soil 2/07/2010
Date Extracted (Metals)		9/07/2010
Date Analysed (Metals)		9/07/2010
Date Extracted (Mercury)		9/07/2010
Date Analysed (Mercury)		9/07/2010
Arsenic	mg/L	<0.05
Cadmium	mg/L	<0.005
Chromium	mg/L	<0.005
Copper	mg/L	0.06
Mercury	mg/L	<0.0001
Nickel	mg/L	0.018
Lead	mg/L	<0.02
Zinc	mg/L	0.42

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Moisture Our Reference: Your Reference Sample Matrix Date Sampled	UNITS ---------- ---------- 	 SE79619-1 QC2 Soil 2/07/2010
Date Analysed (moisture)		7/06/2010
Moisture	%	17

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Method ID	Methodology Summary
AN433	Volatile Organic Compounds - Soil samples are extracted with methanol, purged and concentrated by a purge and trap apparatus, and then analysed using GC/MS technique. Water samples undergo the same analysis without the extraction step. Based on USEPA 5030B and 8260B.
SEO-019	Volatile Organic Compounds - Soil samples are extracted with methanol, purged and concentrated by a purge and trap apparatus, and then analysed using GC/MS technique. Water samples undergo the same analysis without the extraction step. Based on USEPA 5030B and 8260B.
SEO-030	Polynuclear Aromatic Hydrocarbons - determined by solvent extraction with dichloromethane / acetone for soils and dichloromethane for waters, followed by instrumentation analysis using GC/MS SIM mode.
AN420	Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates, and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD/FID technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
USEPA 8270	USEPA 8270 GCMS.
SEM-010	Determination of elements by ICP-OES following appropriate sample preparation / digestion process. Based on USEPA 6010C / APHA 21st Edition, 3120B.
SEM-005	Mercury - determined by Cold-Vapour AAS following appropriate sample preparation or digestion process. Based on APHA 21st Edition, 3112B.
AN006	Toxicity Characteristic Leaching Procedure (TCLP) - Preparation of leachates for assessing the mobility of both organic and inorganic contaminants present in liquid, solid, and multiphase wastes. Based on USEPA 1311. For volatile analytes, Zero-Headspace Extraction Vessel (ZHE) is used. This method also meets the requirements of Australian Standard Leaching Procedure (ASLP) AS 4439.3-1997 Part 3.
AN101	pH - Measured using pH meter and electrode based on APHA 21st Edition, 4500-H+. For water analyses the results reported are indicative only as the sample holding time requirement specified in APHA was not met (APHA requires that the pH of the samples are to be measured within 15 minutes after sampling).
SEO-019/SEP-004	Volatile organic contaminants are leached out of the waste with a selected leaching solution in a Zero Headspace Extractor vessel. The leachate is then analysed by Purge and Trap GC/MS technique.
SEO-030	Polynuclear Aromatic Hydrocarbons - determined by solvent extraction with dichloromethane / acetone for soils and dichloromethane for waters, followed by instrumentation analysis using GC/MS SIM mode. Total PAH is the sum of all positive PAH(s) assuming non-quantifiable PAH(s) (<LOR) do not contribute to the total. LOR for Total PAH is based on 50% of the sum of 16 PAH LORs.
AN002	Preparation of soils, sediments and sludges undergo analysis by either air drying, compositing, subsampling and 1:5 soil water extraction where required. Moisture content is determined by drying the sample at 105 ± 5°C.

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QUALITY CONTROL VOCs in Soil - 72 List	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Date Extracted				08/07/2010	[NT]	[NT]	LCS	08/07/2010
Date Analysed				08/07/2010	[NT]	[NT]	LCS	08/07/2010
Dichlorodifluoromethane (CFC-12)	mg/kg	1.0	AN433	<1	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	1.0	AN433	<1	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride (chloroethene)	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	1.0	AN433	<1	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	1.0	AN433	<1	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	1.0	AN433	<1	[NT]	[NT]	[NR]	[NR]
Acetone (2-propanone)	mg/kg	10	AN433	<10	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	LCS	107%
Methyl Iodine (iodomethane)	mg/kg	5	AN433	<5	[NT]	[NT]	[NR]	[NR]
Acrylonitrile	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Methylene Chloride (DCM)	mg/kg	0.5	AN433	<0.5	[NT]	[NT]	[NR]	[NR]
Allyl Chloride	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Carbon Disulphide	mg/kg	0.5	AN433	<0.5	[NT]	[NT]	[NR]	[NR]
trans-1,2-Dichloroethene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Methyl-tert-butyl ether (MtBE)	mg/kg	0.5	AN433	<0.5	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
2-Butanone (MEK)	mg/kg	10	AN433	<10	[NT]	[NT]	[NR]	[NR]
cis-1,2-Dichloroethene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Bromochloromethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Chloroform	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	LCS	79%
2,2-Dichloropropane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,2-Dichloroethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	LCS	123%
1,1,1-Trichloroethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,1-Dichloropropene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Carbon tetrachloride	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	LCS	128%
Dibromomethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,2-Dichloropropane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Trichloroethene (TCE)	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	LCS	102%
2-Nitropropane	mg/kg	10	AN433	<10	[NT]	[NT]	[NR]	[NR]
Bromodichloromethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]

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QUALITY CONTROL VOCs in Soil - 72 List	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
cis-1,3-Dichloropropene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
4-Methyl-2-Pentanone (MIBK)	mg/kg	1.0	AN433	<1	[NT]	[NT]	[NR]	[NR]
trans-1,3-Dichloropropene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,1,2-Trichloroethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	LCS	116%
1,3-Dichloropropane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
2-Hexanone (MBK)	mg/kg	5	AN433	<5	[NT]	[NT]	[NR]	[NR]
Dibromochloromethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,2-Dibromoethane (EDB)	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Tetrachloroethene (PCE-perchloroethylen	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,1,1,2-Tetrachloroethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorobenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	LCS	121%
Ethyl benzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	LCS	100%
Bromoform	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
m/p-Xylenes	mg/kg	0.2	AN433	<0.2	[NT]	[NT]	LCS	94%
Cis-1,4-dichloro-2-butene	mg/kg	1	AN433	<1	[NT]	[NT]	[NR]	[NR]
Styrene (vinyl benzene)	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,1,2,2-Tetrachloroethane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	LCS	92%
1,2,3-Trichloropropane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Trans-1,4-dichloro-2-butene	mg/kg	1.0	AN433	<1	[NT]	[NT]	[NR]	[NR]
Isopropylbenzene (Cumene)	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Bromobenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
n-Propylbenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
2-Chlorotoluene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
4-Chlorotoluene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,3,5-Trimethylbenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
tert-Butylbenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,2,4-Trimethylbenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
sec-Butylbenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,3-Dichlorobenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,4-Dichlorobenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
p-Isopropyl toluene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]

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QUALITY CONTROL VOCs in Soil - 72 List	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
1,2-Dichlorobenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
n-Butylbenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,2-Dibromo-3-chloropropane	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,2,4-Trichlorobenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Naphthalene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Hexachlorobutadiene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
1,2,3-Trichlorobenzene	mg/kg	0.1	AN433	<0.1	[NT]	[NT]	[NR]	[NR]
Vinyl acetate	mg/kg	10	AN433	<10	[NT]	[NT]	[NR]	[NR]
Dibromofluoromethane	%	0	SEO-019	104	[NT]	[NT]	LCS	115%
1,2-Dichloroethane-d4	%	0	SEO-019	113	[NT]	[NT]	LCS	118%
Toluene-*d8 Surrogate* 2	%	0	SEO-019	77	[NT]	[NT]	LCS	101%
4-Bromofluorobenzene *Surrogate 3*	%	0	SEO-019	89	[NT]	[NT]	LCS	73%

QUALITY CONTROL PAHs in Soil	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Date Extracted				8/07/2010	[NT]	[NT]	LCS	8/07/2010
Date Analysed				8/07/2010	[NT]	[NT]	LCS	8/07/2010
Naphthalene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	LCS	86%
2-Methylnaphthalene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	[NR]	[NR]
1-Methylnaphthalene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	[NR]	[NR]
Acenaphthylene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	LCS	93%
Acenaphthene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	LCS	102%
Fluorene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	[NR]	[NR]
Phenanthrene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	LCS	93%
Anthracene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	LCS	98%
Fluoranthene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	LCS	104%
Pyrene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	LCS	107%
Benzo[*a*]anthracene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	[NR]	[NR]
Benzo[*b,k*]fluoranthene	mg/kg	0.2	SEO-030	<0.20	[NT]	[NT]	[NR]	[NR]
Benzo[*a*]pyrene	mg/kg	0.05	SEO-030	<0.05	[NT]	[NT]	LCS	95%
Indeno[*123-cd*]pyrene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	[NR]	[NR]
Dibenzo[*ah*]anthracene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	[NR]	[NR]

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QUALITY CONTROL PAHs in Soil	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Benzo[*ghi*]perylene	mg/kg	0.1	SEO-030	<0.10	[NT]	[NT]	[NR]	[NR]
Total PAHs (sum)	mg/kg	1.75	SEO-030	<1.7	[NT]	[NT]	[NR]	[NR]
Nitrobenzene-d5	%	0	SEO-030	109	[NT]	[NT]	LCS	96%
2-Fluorobiphenyl	%	0	SEO-030	96	[NT]	[NT]	LCS	93%
p -Terphenyl-*d* 14	%	0	SEO-030	114	[NT]	[NT]	LCS	118%

QUALITY CONTROL Speciated Phenols in Soil	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Date Extracted (Spec. Phenols)				8/07/2010	[NT]	[NT]	LCS	8/07/2010
Date Analysed (Spec. Phenols)				8/07/2010	[NT]	[NT]	LCS	8/07/2010
Phenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	LCS	75%
2-Methylphenol (o-cresol)	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	[NR]	[NR]
3/4-Methylphenol (m/p-cresol)	mg/kg	1.0	AN420	<1	[NT]	[NT]	[NR]	[NR]
2-Chlorophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	[NR]	[NR]
2.4-Dimethylphenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	[NR]	[NR]
2.6-Dichlorophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	LCS	94%
2.4-Dichlorophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	[NR]	[NR]
2-Nitrophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	[NR]	[NR]
2.4.6-Trichlorophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	LCS	72%
4-Nitrophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	[NR]	[NR]
2.4.5-Trichlorophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	[NR]	[NR]
2.3.4.6-Tetrachlorophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	[NR]	[NR]
Pentachlorophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	LCS	86%
4-Chloro-3-methylphenol	mg/kg	1	AN420	<1	[NT]	[NT]	[NR]	[NR]
2.4-Dinitrophenol	mg/kg	0.5	AN420	<0.5	[NT]	[NT]	[NR]	[NR]
Acetophenone	mg/kg	0.5	USEPA 8270	<0.5	[NT]	[NT]	[NR]	[NR]
2.4.6-Tribromophenol-*(Surrogate)*	%	10	AN420	110	[NT]	[NT]	LCS	116%
d5-phenol *(Surrogate)*	%	10	AN420	110	[NT]	[NT]	LCS	116%

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QUALITY CONTROL Metals in Soil by ICP-OES	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Date Extracted (Metals)				12/06/2010	[NT]	[NT]	LCS	12/06/2010
Date Analysed (Metals)				12/06/2010	[NT]	[NT]	LCS	12/06/2010
Arsenic	mg/kg	3	SEM-010	<3	[NT]	[NT]	LCS	99%
Cadmium	mg/kg	0.3	SEM-010	<0.3	[NT]	[NT]	LCS	102%
Chromium	mg/kg	0.3	SEM-010	<0.3	[NT]	[NT]	LCS	103%
Copper	mg/kg	0.5	SEM-010	<0.5	[NT]	[NT]	LCS	103%
Lead	mg/kg	1	SEM-010	<1	[NT]	[NT]	LCS	102%
Nickel	mg/kg	0.5	SEM-010	<0.5	[NT]	[NT]	LCS	102%
Zinc	mg/kg	0.5	SEM-010	<0.5	[NT]	[NT]	LCS	97%

QUALITY CONTROL Mercury Cold Vapor/Hg Analyser	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Date Extracted (Mercury)				8/07/2010	[NT]	[NT]	LCS	8/07/2010
Date Analysed (Mercury)				8/07/2010	[NT]	[NT]	LCS	8/07/2010
Mercury	mg/kg	0.05	SEM-005	<0.05	[NT]	[NT]	LCS	108%

QUALITY CONTROL VOCs by ZHE TCLP - 72 List	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
pH of soil for fluid# determ.	pH units	0	AN101	[NT]	[NT]	[NT]	[NR]	[NR]
pH of soil for fluid # determ. (acid)	pH units	0	AN101	[NT]	[NT]	[NT]	[NR]	[NR]
Extraction fluid used	-		AN006	[NT]	[NT]	[NT]	[NR]	[NR]
pH of final Leachate	pH units	0	AN101	[NT]	[NT]	[NT]	[NR]	[NR]
Date extracted (VOCs)				08/07/2010	[NT]	[NT]	LCS	08/07/2010
Date analysed (VOCs)				08/07/2010	[NT]	[NT]	LCS	08/07/2010
Dichlorodifluoromethane (CFC-12)	µg/L	5	SEO-019/SEP-004	<5	[NT]	[NT]	[NR]	[NR]
Chloromethane	µg/L	5	SEO-019/SEP-004	<5	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride (chloroethene)	µg/L	0.3	SEO-019/SEP-004	<0.3	[NT]	[NT]	[NR]	[NR]
Bromomethane	µg/L	10	SEO-019/SEP-004	<10	[NT]	[NT]	[NR]	[NR]

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QUALITY CONTROL VOCs by ZHE TCLP - 72 List	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Chloroethane	µg/L	5	SEO-019/SEP-004	<5	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	µg/L	1	SEO-019/SEP-004	<1	[NT]	[NT]	[NR]	[NR]
Acetone (2-propanone)	µg/L	10	SEO-019/SEP-004	<10	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	LCS	104%
Methyl Iodine (iodomethane)	µg/L	5	SEO-019/SEP-004	<5	[NT]	[NT]	[NR]	[NR]
Acrylonitrile	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Methylene Chloride (DCM)	µg/L	5	SEO-019/SEP-004	<5	[NT]	[NT]	[NR]	[NR]
Allyl Chloride	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Carbon Disulphide	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
trans-1,2-Dichloroethene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Methyl-tert-butyl ether (MtBE)	µg/L	2	SEO-019/SEP-004	<2	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
2-Butanone (MEK)	µg/L	10	SEO-019/SEP-004	<10	[NT]	[NT]	[NR]	[NR]
cis-1,2-Dichloroethene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Bromochloromethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Chloroform	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	LCS	94%
2,2-Dichloropropane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,2-Dichloroethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	LCS	105%
1,1,1-Trichloroethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,1-Dichloropropene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Carbon tetrachloride	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	LCS	97%
Dibromomethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]

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QUALITY CONTROL VOCs by ZHE TCLP - 72 List	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
1,2-Dichloropropane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Trichloroethene (TCE)	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	LCS	108%
2-Nitropropane	µg/L	100	SEO-019/SEP-004	<100	[NT]	[NT]	[NR]	[NR]
Bromodichloromethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
cis-1,3-Dichloropropene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
4-Methyl-2-Pentanone (MIBK)	µg/L	5	SEO-019/SEP-004	<5	[NT]	[NT]	[NR]	[NR]
trans-1,3-Dichloropropene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,1,2-Trichloroethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Toluene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	LCS	112%
1,3-Dichloropropane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
2-Hexanone (MBK)	µg/L	5	SEO-019/SEP-004	<5	[NT]	[NT]	[NR]	[NR]
Dibromochloromethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,2-Dibromoethane (EDB)	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Tetrachloroethene (PCE-perchloroethylen	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,1,1,2-Tetrachloroethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Chlorobenzene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	LCS	126%
Ethyl benzene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	LCS	125%
Bromoform	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
m/p-Xylenes	µg/L	1	SEO-019/SEP-004	<1	[NT]	[NT]	LCS	132%
Cis-1,4-dichloro-2-butene	µg/L	1	SEO-019/SEP-004	<1	[NT]	[NT]	[NR]	[NR]
Styrene (vinyl benzene)	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,1,2,2-Tetrachloroethane	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	[NR]	[NR]
o-Xylene	µg/L	0.5	SEO-019/SEP-004	<0.5	[NT]	[NT]	LCS	119%

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1,2,3-Trichloropropane	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Trans-1,4-dichloro-2-but ene	µg/L	1	SEO-019/S EP-004	<1	[NT]	[NT]	[NR]	[NR]
Isopropylbenzene (Cumene)	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Bromobenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
n-Propylbenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
2-Chlorotoluene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
4-Chlorotoluene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,3,5-Trimethylbenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
tert-Butylbenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,2,4-Trimethylbenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
sec-Butylbenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,3-Dichlorobenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,4-Dichlorobenzene	µg/L	0.3	SEO-019/S EP-004	<0.3	[NT]	[NT]	[NR]	[NR]
p-Isopropyl toluene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,2-Dichlorobenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
n-Butylbenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,2-Dibromo-3-chloropro pane	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
1,2,4-Trichlorobenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Naphthalene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Hexachlorobutadiene	µg/L	1	SEO-019/S EP-004	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-Trichlorobenzene	µg/L	0.5	SEO-019/S EP-004	<0.5	[NT]	[NT]	[NR]	[NR]
Vinyl acetate	µg/L	10	SEO-019/S EP-004	<10	[NT]	[NT]	[NR]	[NR]
Dibromofluoromethane	%	0	SEO-019/S EP-004	90	[NT]	[NT]	LCS	88%

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1,2-Dichloroethane-d4	%	0	SEO-019/SEP-004	83	[NT]	[NT]	LCS	86%
Toluene-*d8 Surrogate* 2	%	0	SEO-019/SEP-004	101	[NT]	[NT]	LCS	101%
4-Bromofluorobenzene *Surrogate 3*	%	0	SEO-019/SEP-004	85	[NT]	[NT]	LCS	85%

QUALITY CONTROL PAHs in TCLP (USEPA 1311)	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
pH of soil for fluid# determ.	pH units	0	AN101	[NT]	[NT]	[NT]	[NR]	[NR]
Extraction fluid used	-		AN006	[NT]	[NT]	[NT]	[NR]	[NR]
pH of soil for fluid # determ. (acid)	pH units	0	AN101	[NT]	[NT]	[NT]	[NR]	[NR]
pH of final Leachate	pH units	0	AN101	[NT]	[NT]	[NT]	[NR]	[NR]
Date Extracted				12/07/2010	[NT]	[NT]	LCS	12/07/2010
Date Analysed				12/07/2010	[NT]	[NT]	LCS	12/07/2010
Naphthalene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	LCS	83%
2-Methylnaphthalene	µg/L	0.5	SEO-030	<0.5	[NT]	[NT]	[NR]	[NR]
1-Methylnaphthalene	µg/L	0.5	SEO-030	<0.5	[NT]	[NT]	[NR]	[NR]
Acenaphthylene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	LCS	86%
Acenaphthene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	LCS	95%
Fluorene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	[NR]	[NR]
Phenanthrene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	LCS	88%
Anthracene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	LCS	95%
Fluoranthene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	LCS	94%
Pyrene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	LCS	96%
Benzo[*a*]anthracene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	[NR]	[NR]
Benzo[*b,k*]fluoranthene	µg/L	1	SEO-030	<1.0	[NT]	[NT]	[NR]	[NR]
Benzo[a]pyrene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	LCS	86%
Indeno[*123-cd*]pyrene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	[NR]	[NR]
Dibenzo[*ah*]anthracene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	[NR]	[NR]
Benzo[*ghi*]perylene	µg/L	0.5	SEO-030	<0.50	[NT]	[NT]	[NR]	[NR]
Total PAHs (sum)	µg/L	9	SEO-030	<9	[NT]	[NT]	[NR]	[NR]
Nitrobenzene-d5	%	0	SEO-030	96	[NT]	[NT]	LCS	87%

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Environmental Services Unit 16/33 Maddox Street Alexandria NSW 2015 Australia
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QUALITY CONTROL PAHs in TCLP (USEPA 1311)	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
2-Fluorobiphenyl	%	0	SEO-030	84	[NT]	[NT]	LCS	83%
p -Terphenyl-*d* 14	%	0	SEO-030	95	[NT]	[NT]	LCS	92%

QUALITY CONTROL Metals in TCLP	UNITS	LOR	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Date Extracted (Metals)				9/07/2010	[NT]	[NT]	LCS	9/07/2010
Date Analysed (Metals)				9/07/2010	[NT]	[NT]	LCS	9/07/2010
Date Extracted (Mercury)				9/07/2010	[NT]	[NT]	LCS	9/07/2010
Date Analysed (Mercury)				9/07/2010	[NT]	[NT]	LCS	9/07/2010
Arsenic	mg/L	0.05	SEM-010	<0.05	[NT]	[NT]	LCS	92%
Cadmium	mg/L	0.005	SEM-010	<0.005	[NT]	[NT]	LCS	97%
Chromium	mg/L	0.005	SEM-010	<0.005	[NT]	[NT]	LCS	100%
Copper	mg/L	0.01	SEM-010	<0.01	[NT]	[NT]	LCS	98%
Mercury	mg/L	0.0001	SEM-005	<0.0001	[NT]	[NT]	LCS	102%
Nickel	mg/L	0.01	SEM-010	<0.010	[NT]	[NT]	LCS	96%
Lead	mg/L	0.02	SEM-010	<0.02	[NT]	[NT]	LCS	96%
Zinc	mg/L	0.01	SEM-010	<0.010	[NT]	[NT]	LCS	91%

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QUALITY CONTROL Moisture	UNITS	LOR	METHOD	Blank
Date Analysed (moisture)				[NT]
Moisture	%	1	AN002	<1

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Result Codes

[INS] : Insufficient Sample for this test
[NR] : Not Requested
[NT] : Not tested
[LOR] : Limit of reporting
[RPD] : Relative Percentage Difference
* : Not part of NATA Accreditation
[N/A] : Not Applicable

Report Comments

Samples analysed as received. Solid samples expressed on a dry weight basis.
Date Organics extraction commenced:
NATA Corporate Accreditation No. 2562, Site No 4354
Note: Test results are not corrected for recovery (excluding Air-toxics and Dioxins/Furans*)
This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein.

This document is to be treated as an original within the meaning of UCP 600. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Quality Control Protocol

Method Blank: An analyte free matrix to which all reagents are added in the same volume or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. A method blank is prepared every 20 samples.
Duplicate: A separate portion of a sample being analysed that is treated the same as the other samples in the batch. One duplicate is processed at least every 10 samples.
Surrogate Spike: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are added to samples before extraction to monitor extraction efficiency and percent recovery in each sample.
Internal Standard: Added to all samples requiring analysis for organics (where relevant) or metals by ICP after the extraction/digestion process; the compounds/elements serve to give a standard of retention time and/or response, which is invariant from run-to-run with the instruments.
Laboratory Control Sample: A known matrix spiked with compound(s) representative of the target analytes. It is used to document laboratory performance. When the results of the matrix spike analysis indicates a potential problem due to the sample matrix itself, the LCS results are used to verify that the laboratory can perform the analysis in a clean matrix.
Matrix Spike: An aliquot of sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Quality Acceptance Criteria

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

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SAMPLE RECEIPT ADVICE (SRA)

9 July 2010

Client Details

Requested By	:	**Sumi Dorairaj**
Client	:	JBS Environmental Pty Ltd
Contact	:	Sumi Dorairaj
Address	:	PO Box 940 MASCOT NSW 1460
Email	:	sdorairaj@jbsgroup.com.au
Telephone	:	02 8338 1013
Facsimile	:	02 8338 1700
Project	:	40913 - Macdonaldtown
Order Number	:	
Samples	:	1 Soil

Laboratory Details

Laboratory	:	SGS Environmental Services
Manager	:	Edward Ibrahim
Address	:	Unit 16, 33 Maddox Street Alexandria NSW 2015
Email	:	au.samplereceipt.sydney@sgs.com
Telephone	:	61 2 8594 0400
Facsimile	:	61 2 8594 0499
Report No	:	**SE79619**
No. of Samples	:	1
Due Date	:	12/07/2010

Date Instructions Received	:	5/07/2010
Sample Receipt Date	:	5/7/10

Samples received in good order	:	YES	Samples received in correct containers	:	YES
Samples received without headspace	:	YES	Sufficient quantity supplied	:	YES
Upon receipt sample temperature	:	Cool	Cooling Method	:	Ice Pack
Sample containers provided by	:	Other Lab	Samples clearly Labelled	:	YES
Turnaround time requested	:	Standard	Completed documentation received	:	YES

Samples will be held for 1 month for water samples and 3 months for soil samples from date of receipt of samples, unless otherwise instructed.

Comments

To the extent not inconsistent with the other provisions of this document and unless specifically agreed otherwise in writing by SGS, all SGS services are rendered in accordance with the applicable SGS General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm as at the date of this document. Attention is drawn to the limitations of liablility and to the clauses of indemnification.

The signed chain of custody will be returned to you with the original report.

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Member of the SGS Group (SGS SA)

SAMPLE RECEIPT ADVICE (SRA) - continued

Client	:	JBS Environmental Pty Ltd	Report No	:	SE79619
Project	:	40913 - Macdonaldtown			

Summary of Samples and Requested Analysis

The table below represents SGS Environmental Service's understanding and interpretation of the customer supplied sample request.

Please indicate ASAP if your request differs from these details.

Testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

Note that a small X in the table below indicates some testing has not been requested in the package.

Sample No.	Description	Metals Prep & Inorganics - All	VOCs in Soil-SGS Nat. 72 List	PAHs in Soil	Speciated Phenols in Soil	Metals in Soil by ICP-OES	Mercury Cold Vapor/Hg Analyser	VOCsZHE TCLP-SGS Nat. 72 List	PAHs in TCLP USEPA 1311	Metals in TCLP	Moisture
1	QC2	X	X	X	X	X	X	X	X	X	X

Sample No.	Description
1	QC2

4126

CHAIN OF CUSTODY - Client

ENVIROLAB SERVICES

Client: JBS Environmental	**Client Project Name and Number:** 40913 Macdonaltown	**Envirolab Services** 12 Ashley St, Chatswood, NSW, 2067
Project Mgr: Dorairaj		
Sampler: Tim Davis	**PO No.:**	
Address: 128 O'Riordan St Mascot NSW 2020	**Envirolab Services Quote No. :**	**Phone:** 02 9958 5801
	Date results required:	**Fax:** 02 9958 5803
Email: sdorairaj@jbsgroup.com.au / tdavis@jbsgroup.com.au	**Or choose:** standard / 1 day / 2 day / 3 day	**E-mail:** tnotaras@envirolabservices.com.au
Phone: 8338 1011 **Fax:** 8338 1700	*Note: Inform lab in advance if urgent turnaround is required - surcharge applies*	**Contact:** Tania Notaras

Sample information				Tests Required														Comments
Envirolab Sample ID	Client Sample ID	Date sampled	Type of sample	Heavy metals	PAHs	VOCs	speciated phenols	TCLP metals	TCLP PAHs	TCLP VOCs	TCLP phenols	C_6-C_9 BTEX	HOLD	Asbestos				Provide as much information about the sample as you can
16	JBS TP5 / 1.5m	02/07/10	S	✓	✓	✓	✓	✓	✓	✓	✓			✓				
17	JBS TP5 / 2.0m	↓	↓	✓	✓	✓	✓	✓	✓	✓	✓			✓				
18	QA1												✓					
19	QA2			✓	✓	✓	✓	✓	✓	✓	✓							
20	QC2			✓	✓	✓	✓	✓	✓	✓	✓							please send to SGS
21	JBS TP3 / 4.0-4.2			✓	✓	✓	✓	✓	✓	✓	✓			✓				
22	FI																	

SGS
Received 5/7/10
By CP
Time 325
Samples intact
Ice/Cooler Pack
Temperature on Receipt 5
Storage Location 5373
SE 79614

SGS
Received
By
Time
Samples intact
Ice/Cooler Pack
Temperature on Receipt
Storage Location

Relinquished by (company): JBS	**Received by (company):** ELS SGS	**Samples Received:** Cool or Ambient (circle one)
Print Name: Sumi Dorairaj	**Print Name:** ~~ES~~ ~~18.30~~ CP	**Temperature Recieved at:** (if applicable)
Date & Time: 02/07/10 15:30	**Date & Time:** 2-7 18.30 5/7/10 3.25pm	**Transported by:** Hand delivered / courier
Signature:	**Signature:**	**Page No:** 2 of 2

AU.SampleReceipt.Sydney (Sydney)

From: Blackman, Daniel (Sydney)
Sent: Friday, 9 July 2010 2:56 PM
To: sdorairaj@jbsgroup.com.au
Cc: AU.SampleReceipt.Sydney (Sydney)
Subject: SE79619-1 - 40913 Macdonaldtown - Sample QC2
Attachments: COC_SE79619.zip

Dear Sumi,

As instructed SGS will go ahead will TCLP PAHs. Note that we will not be able to test for TCLP speciated phenols due to the limited volume and 'rocky' nature of the soil sample.

Kind

Daniel Blackman
Environmental Services
Client Services Officer

SGS Australia Pty Ltd
Unit 16, 33 Maddox St
Alexandria, NSW, 2015
Phone: +61 (0)2 8594 0400
Fax: +61 (0)2 8594 0499
E-mail: daniel.blackman@sgs.com

SGS DataNet: View Results Online

Appendix G

Tabulated Quality Control Results

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Field Duplicates (soil)
Filter: SDG in('42976')

SDG	42976	42976		42976	Interlab_D	
Field_ID	JBS TP1	QA2	RPD	JBS TP1	QC2	RPD
Sampled_Date-Time	2/07/2010	2/07/2010		2/07/2010	2/07/2010	

Chem_Group	ChemName	Units	EQL						
BTEX	Benzene	mg/kg	0.5 (Primary): 0.1 (Interla	<0.5	<0.5	0	<0.5	<0.1	0
	Ethylbenzene	µg/L	1 (Primary): 0.5 (Interlab	<1.0	1.7	52	**<1.0**	**4.1**	**122**
	Toluene	mg/kg	0.5 (Primary): 0.1 (Interla	<0.5	<0.5	0	<0.5	<0.1	0
	Xylene (m & p)	µg/L	2 (Primary): 1 (Interlab)	<2.0	2.7	30	**<2.0**	**9.0**	**127**
	Xylene (o)	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	0.1	0
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,1,1-trichloroethane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,1,2,2-tetrachloroethane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,1,2-trichloroethane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,1-dichloroethane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,1-dichloroethene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,1-dichloropropene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,2,3-trichloropropane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,2-dibromo-3-chloropropane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,2-dichloroethane	µg/L	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	1,2-dichloropropane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,3-dichloropropane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	2,2-dichloropropane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Bromochloromethane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Bromodichloromethane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Bromoform	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Carbon tetrachloride	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Chlorodibromomethane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Chloroethane	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	0
	Chloroform	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Chloromethane	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	0
	cis-1,2-dichloroethene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	cis-1,3-dichloropropene	µg/L	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	Dibromomethane	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Hexachlorobutadiene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Trichloroethene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Tetrachloroethene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	trans-1,2-dichloroethene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	trans-1,3-dichloropropene	µg/L	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	Vinyl chloride	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
Halogenated Benzenes	1,2,3-trichlorobenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,2,4-trichlorobenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,2-dichlorobenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,3-dichlorobenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	1,4-dichlorobenzene	µg/L	1 (Primary): 0.3 (Interlab	<1.0	<1.0	0	<1.0	<0.3	0
	2-chlorotoluene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	4-chlorotoluene	µg/L	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	Bromobenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Chlorobenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	Bromomethane	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	0
	Dichlorodifluoromethane	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	0
	Trichlorofluoromethane	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	0
Halogenated Phenols	2,3,4,6-tetrachlorophenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	2,4,5-trichlorophenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	2,4,6-trichlorophenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	2,4-dichlorophenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	2,6-dichlorophenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	2-chlorophenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	Pentachlorophenol	mg/kg	10 (Primary): 0.5 (Interla	<10.0	<10.0	0	<10.0	<0.5	0
Inorganics	Moisture	%	0.1 (Primary): 1 (Interlab	13.0	17.0	27	13.0	17.0	27
Lead	Lead	mg/kg	1	220.0	280.0	24	220.0	290.0	27
Lead (leached)	Lead (Filtered)	mg/l	0.03	<0.03	0.07	80	<0.03		
MAH	1,2,4-trimethylbenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	0.3	0
	1,3,5-trimethylbenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	0.1	0
	Isopropylbenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	n-butylbenzene	µg/L	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	n-propylbenzene	µg/L	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	p-isopropyltoluene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	sec-butylbenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
	Styrene	µg/L	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	tert-butylbenzene	mg/kg	1 (Primary): 0.1 (Interlab	<1.0	<1.0	0	<1.0	<0.1	0
Metals	Arsenic	mg/kg	4 (Primary): 3 (Interlab)	30.0	30.0	0	30.0	45.0	40
	Cadmium	mg/kg	0.5 (Primary): 0.3 (Interla	1.1	1.1	0	**1.1**	**2.1**	**63**
	Chromium (III+VI)	mg/kg	1 (Primary): 0.3 (Interlab	26.0	21.0	21	26.0	23.0	12
	Copper	mg/kg	1 (Primary): 0.5 (Interlab	230.0	260.0	12	230.0	380.0	49
	Mercury	mg/kg	0.1 (Primary): 0.05 (Inter	0.3	0.4	29	0.3	0.26	14
	Nickel	mg/kg	1 (Primary): 0.5 (Interlab	20.0	24.0	18	20.0	24.0	18
	Zinc	mg/kg	1 (Primary): 0.5 (Interlab	260.0	330.0	24	260.0	370.0	35
Metals (leached)	Arsenic (Filtered)	mg/l	0.05	<0.05	<0.05	0	<0.05		
	Cadmium (Filtered)	mg/l	0.01	<0.01	<0.01	0	<0.01		
	Chromium (III+VI) (Filtered)	mg/l	0.01	<0.01	<0.01	0	<0.01		
	Copper (Filtered)	mg/l	0.01	0.1	0.1	0	0.1		
	Mercury (Filtered)	mg/l	0.0005	<0.0005	<0.0005	0	<0.0005		
	Nickel (Filtered)	mg/l	0.02	0.02	0.05	86	0.02		
	Zinc (Filtered)	mg/l	0.02	1.6	1.8	12	1.6		
PAH/Phenols	2,4-dimethylphenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	2,4-dinitrophenol	mg/kg	10 (Primary): 0.5 (Interla	<10.0	<10.0	0	<10.0	<0.5	0
	2-methylphenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	2-nitrophenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	4,6-Dinitro-2-methylphenol	mg/kg	10	<10.0	<10.0	0	<10.0		
	4-methylphenol	mg/kg	2	<2.0	<2.0	0	<2.0		
	4-nitrophenol	mg/kg	10 (Primary): 0.5 (Interla	<10.0	<10.0	0	<10.0	<0.5	0
	Acenaphthene	mg/kg	0.1	0.1	0.2	67	0.1	0.23	79
	Acenaphthylene	mg/kg	0.1	**0.7**	**1.7**	**83**	**0.7**	**2.4**	**110**
	Anthracene	mg/kg	0.1	**0.8**	**2.1**	**90**	**0.8**	**2.6**	**106**
	Benz(a)anthracene	mg/kg	0.1	**2.6**	**10.0**	**117**	**2.6**	**11.0**	**124**
	Benzo(a) pyrene	mg/kg	0.05	**3.0**	**11.0**	**114**	**3.0**	**6.7**	**76**
	Benzo(b)&(k)fluoranthene	mg/kg	0.2	**3.8**	**14.0**	**115**	**3.8**	**12.0**	**104**
	Benzo(g,h,i)perylene	mg/kg	0.1	**1.1**	**4.4**	**120**	**1.1**	**4.6**	**123**
	Chrysene	mg/kg	0.1	**2.6**	**9.1**	**111**	**2.6**	**6.3**	**83**
	Dibenz(a,h)anthracene	mg/kg	0.1	**0.3**	**1.2**	**120**	**0.3**	**1.2**	**120**
	Fluoranthene	mg/kg	0.1	**4.4**	**15.0**	**109**	**4.4**	**12.0**	**93**
	Fluorene	mg/kg	0.1	0.5	0.7	33	**0.5**	**0.92**	**59**
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	**1.3**	**4.6**	**112**	**1.3**	**4.3**	**107**
	Naphthalene	mg/kg	0.1	**0.6**	**2.8**	**129**	**0.6**	**3.1 - 5.2**	**159**
	Phenanthrene	mg/kg	0.1	**3.4**	**7.9**	**80**	**3.4**	**5.7**	**51**
	Phenol	mg/kg	1 (Primary): 0.5 (Interlab	<1.0	<1.0	0	<1.0	<0.5	0
	Pyrene	mg/kg	0.1	**4.9**	**20.0**	**121**	**4.9**	**13.0**	**91**
PAH/Phenols (leached)	Acenaphthene (Filtered)	µg/l	1	<1.0	1.0	0	<1.0		
	Acenaphthylene (Filtered)	µg/l	1	<1.0	<1.0	0	<1.0		
	Anthracene (Filtered)	µg/l	1	<1.0	1.0	0	<1.0		
	Benz(a)anthracene (Filtered)	µg/l	1	<1.0	<1.0	0	<1.0		
	Benzo(a) pyrene (Filtered)	µg/l	1	<1.0	<1.0	0	<1.0		
	Benzo(b)&(k)fluoranthene (Filtered)	µg/l	2	<2.0	<2.0	0	<2.0		
	Benzo(g,h,i)perylene (Filtered)	µg/l	1	<1.0	<1.0	0	<1.0		
	Chrysene (Filtered)	µg/l	1	<1.0	<1.0	0	<1.0		
	Dibenz(a,h)anthracene (Filtered)	µg/l	1	<1.0	<1.0	0	<1.0		
	Fluoranthene (Filtered)	µg/l	1	<1.0	<1.0	0	<1.0		
	Fluorene (Filtered)	µg/l	1	<1.0	1.0	0	<1.0		
	Indeno(1,2,3-c,d)pyrene (Filtered)	µg/l	1	<1.0	<1.0	0	<1.0		
	Naphthalene (Filtered)	µg/l	1	**<1.0**	**30.0**	**187**	<1.0		
	Phenanthrene (Filtered)	µg/l	1	<1.0	1.0	0	<1.0		
	Phenolics Total	µg/l	50	<50.0	<50.0	0	<50.0		
	Pyrene (Filtered)	µg/l	1	<1.0	<1.0	0	<1.0		
Solvents	Cyclohexane	mg/kg	1	<1.0	<1.0	0	<1.0		

Field Duplicates (soil)
Filter: SDG in('42976')

SDG	42976	42976		42976	Interlab_D	
Field_ID	JBS TP1	QA2	**RPD**	JBS TP1	QC2	**RPD**
Sampled_Date-Time	2/07/2010	2/07/2010		2/07/2010	2/07/2010	

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (4-10 x EQL); 50 (10-30 x EQL); 50 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary labor

Field Blanks (water)
Filter: SDG in('42976')

SDG	42976
Field_ID	Rinsate
Sampled_Date-Time	2/07/2010
Sample_Type	Rinsate

Chem_Group	ChemName	Units	EQL	
BTEX	Benzene	µg/L	1	<1
	Ethylbenzene	µg/L	1	<1
	Toluene	µg/L	1	<1
	Xylene (m & p)	µg/L	2	<2
	Xylene (o)	µg/L	1	<1
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	µg/L	1	<1
	1,1,1-trichloroethane	µg/L	1	<1
	1,1,2,2-tetrachloroethane	µg/L	1	<1
	1,1,2-trichloroethane	µg/L	1	<1
	1,1-dichloroethane	µg/L	1	<1
	1,1-dichloroethene	µg/L	1	<1
	1,1-dichloropropene	µg/L	1	<1
	1,2,3-trichloropropane	µg/L	1	<1
	1,2-dibromo-3-chloropropane	µg/L	1	<1
	1,2-dichloroethane	µg/L	1	<1
	1,2-dichloropropane	µg/L	1	<1
	1,3-dichloropropane	µg/L	1	<1
	2,2-dichloropropane	µg/L	1	<1
	Bromochloromethane	µg/L	1	<1
	Bromodichloromethane	µg/L	1	<1
	Bromoform	µg/L	1	<1
	Carbon tetrachloride	µg/L	1	<1
	Chlorodibromomethane	µg/L	1	<1
	Chloroethane	µg/L	10	<10
	Chloroform	µg/L	1	<1
	Chloromethane	µg/L	10	<10
	cis-1,2-dichloroethene	µg/L	1	<1
	cis-1,3-dichloropropene	µg/L	1	<1
	Dibromomethane	µg/L	1	<1
	Hexachlorobutadiene	µg/L	1	<1
	Trichloroethene	µg/L	1	<1
	Tetrachloroethene	µg/L	1	<1
	trans-1,2-dichloroethene	µg/L	1	<1
	trans-1,3-dichloropropene	µg/L	1	<1
	Vinyl chloride	µg/L	10	<10
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	1	<1
	1,2,4-trichlorobenzene	µg/L	1	<1
	1,2-dichlorobenzene	µg/L	1	<1
	1,3-dichlorobenzene	µg/L	1	<1
	1,4-dichlorobenzene	µg/L	1	<1
	2-chlorotoluene	µg/L	1	<1
	4-chlorotoluene	µg/L	1	<1
	Bromobenzene	µg/L	1	<1
	Chlorobenzene	µg/L	1	<1
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	1	<1
	Bromomethane	µg/L	10	<10
	Dichlorodifluoromethane	µg/L	10	<10
	Trichlorofluoromethane	µg/L	10	<10
Halogenated Phenols	2,3,4,6-tetrachlorophenol	µg/L	10	<10
	2,4,5-trichlorophenol	µg/L	10	<10
	2,4,6-trichlorophenol	µg/L	10	<10
	2,4-dichlorophenol	µg/L	10	<10
	2,6-dichlorophenol	µg/L	10	<10
	2-chlorophenol	µg/L	10	<10
	Pentachlorophenol	µg/L	100	<100
Lead	Lead (Filtered)	mg/l	0.03	<0.03
MAH	1,2,4-trimethylbenzene	µg/L	1	<1
	1,3,5-trimethylbenzene	µg/L	1	<1
	Isopropylbenzene	µg/L	1	<1
	n-butylbenzene	µg/L	1	<1
	n-propylbenzene	µg/L	1	<1
	p-isopropyltoluene	µg/L	1	<1
	sec-butylbenzene	µg/L	1	<1
	Styrene	µg/L	1	<1
	tert-butylbenzene	µg/L	1	<1
Metals	Arsenic (Filtered)	mg/l	0.05	<0.05
	Cadmium (Filtered)	mg/l	0.01	<0.01
	Chromium (III+VI) (Filtered)	mg/l	0.01	<0.01
	Copper (Filtered)	mg/l	0.01	<0.01
	Mercury (Filtered)	mg/l	0.0005	<0.0005

Field Blanks (water)
Filter: SDG in('42976')

			SDG **Field_ID** **Sampled_Date-Time** **Sample_Type**	42976 Rinsate 2/07/2010 Rinsate
	Nickel (Filtered)	mg/l	0.02	<0.02
	Zinc (Filtered)	mg/l	0.02	<0.02
PAH/Phenols	2,4-dimethylphenol	µg/L	10	<10
	2,4-dinitrophenol	mg/l	0.1	<0.1
	2-methylphenol	µg/L	10	<10
	2-nitrophenol	µg/L	10	<10
	4,6-Dinitro-2-methylphenol	µg/L	100	<100
	4-methylphenol	mg/l	0.02	<0.02
	4-nitrophenol	µg/L	100	<100
	Acenaphthene	µg/L	1	<1
	Acenaphthylene	µg/L	1	<1
	Anthracene	µg/L	1	<1
	Benz(a)anthracene	µg/L	1	<1
	Benzo(a) pyrene	µg/L	1	<1
	Benzo(b)&(k)fluoranthene	µg/L	2	<2
	Benzo(g,h,i)perylene	µg/L	1	<1
	Chrysene	µg/L	1	<1
	Dibenz(a,h)anthracene	µg/L	1	<1
	Fluoranthene	µg/L	1	<1
	Fluorene	µg/L	1	<1
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1
	Naphthalene	µg/L	1	<1
	Phenanthrene	µg/L	1	<1
	Phenol	µg/L	10	<10
	Pyrene	µg/L	1	<1
Solvents	Cyclohexane	mg/l	0.001	<0.001

Appendix H

Test Pit Logs

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Borehole No.: JBS TP1

Location: Burren St, Erskenville

Project: Macdonaldtown Gasworks
Project No.: 40913
Client: Incoll Management
Project Manager: Sumi Dorairaj

Total Hole Depth: 1.0 m
Eastings: -
Northings: -
Date: 02/07/2010

Operator and Co.: Anthony Colluso
Excavation Method: Backhoe
Log By: Sumi Dorairaj
Excavation Width: 450 mm

SUBSURFACE PROFILE			SAMPLE			
Depth	Visual	Description	Number	Condition	PID (ppm)	Observations
0.0		Ground Surface				
		FILL Silty Gravelly Sand, comprising black coke and slag and grey ash, dry to damp, ballast gravels and cobbles (irregular, hard basalt) inclusions	JBS TP1-0.3-0.4+QA/C2	D		Bulk sample collected
		FILL Silty Clay, orange mottled grey with red ironstone gravels, well compacted, moist				
1.0		**End of test pit at 1.0 m. Target depth reached.**				
2.0						
3.0						
4.0						

Sample Method	Sample Condition		
HA - Hand Auger *SFA - Solid Flight Auger* *HFA - Hollow Flight Auger* *PT - Push Tubing*	*U - undisturbed tube sample* *D - disturbed sample* *CS - core sample*		

Borehole No.: JBS TP2

Location: Burren St, Erskenville

Project: Macdonaldtown Gasworks
Project No.: 40913
Client: Incoll Management
Project Manager: Sumi Dorairaj

Total Hole Depth: 1.8 m
Eastings: -
Northings: -
Date: 02/07/2010

Operator and Co.: Anthony Colluso
Excavation Method: Backhoe
Log By: Sumi Dorairaj
Excavation Width: 450 mm

SUBSURFACE PROFILE			SAMPLE			
Depth	Visual	Description	Number	Condition	PID (ppm)	Observations
0.0		Ground Surface				
		FILL Silty Gravelly Sand, dark brown to black, coke and slag inclusions (black, angular, hard, fine to course), 'coal tar' like odour, large 'coke' boulders, dry to damp, asphalt layer at 0.15m, steel plate below (1500 mm x 450 mm x 6 mm thick)	JBS TP2-0.4 - 0.5	D		
			JBS TP2-0.8 - 0.9	D		
1.0		**FILL** Silty Clay, orange mottled grey, well compacted with red streaks, slight 'coal tar' like odour, damp	JBS TP2-1.2 - 1.3	D		
		Seepage into pit (brown, water, localised to 0.9 - 0.95m)	JBS TP2-1.4 - 1.5	D		
		FILL Grades to brown mottled orange, wet, slight 'coal tar' like odour				
2.0		**Fill** Silty Clay, dark grey with black, oily sheen / ooze, strong 'coal' like odour, wet				
		End of test pit at 1.8 m. Refusal possibly on concrete.				
3.0						
4.0						

Sample Method	*Sample Condition*		
HA - Hand Auger	***U - undisturbed tube sample***		
SFA - Solid Flight Auger	***D - disturbed sample***		
HFA - Hollow Flight Auger	***CS - core sample***		
PT - Push Tubing			

Borehole No.: JBS TP3

Location: Burren St, Erskenville

Project: Macdonaldtown Gasworks
Project No.: 40913
Client: Incoll Management
Project Manager: Sumi Dorairaj

Total Hole Depth: 4.3 m
Eastings: -
Northings: -
Date: 02/07/2010

Operator and Co.: Anthony Colluso
Excavation Method: Backhoe
Log By: Sumi Dorairaj
Excavation Width: 450 mm

SUBSURFACE PROFILE			SAMPLE			
Depth	Visual	Description	Number	Condition	PID (ppm)	Observations
		Ground Surface				
0.0		**FILL** Silty Sandy Gravel, dark black coarse, medium grain, damp, heterogeneous with rootlets and road base gravels				Grass cover
1.0		**FILL** Silty Clay, red orange mottled with grey and yellow, medium plasticity, damp - wet, heterogeneous with slight coal tar odour				
2.0		**FILL** Silty Clay, dark brown, low plasticity, wet, heterogeneous with coke gravels and tar, strong coal tar odours and sheen	JBS TP3-1.3-1.7	D		Bulk sample collected
3.0		**FILL** Silty Clay, yellow red with grey mottles, medium plasticity, damp, heterogeneous, coal tar odoursand moisture content increasing with depth				
4.0		**FILL** As Above, very strong coal tar odours, wet, seepage of black ooze throughout	JBS TP3-4.0-4.2	U		Bulk and Bulk control samples collected
		End of test pit at 4.3 m. Equipment refusal.				

Sample Method	*Sample Condition*		
HA - Hand Auger ***SFA - Solid Flight Auger*** ***HFA - Hollow Flight Auger*** ***PT - Push Tubing***	***U - undisturbed tube sample*** ***D - disturbed sample*** ***CS - core sample***		

Borehole No.: JBS TP4

Location: Burren St, Erskenville

Project: Macdonaldtown Gasworks
Project No.: 40913
Client: Incoll Management
Project Manager: Sumi Dorairaj

Total Hole Depth: 2.1 m
Eastings: -
Northings: -
Date: 02/07/2010

Operator and Co.: Anthony Colluso
Excavation Method: Backhoe
Log By: Tim Davis
Excavation Width: 450 mm

SUBSURFACE PROFILE			SAMPLE			
Depth	Visual	Description	Number	Condition	PID (ppm)	Observations
		Ground Surface				Grass cover
0.0		**FILL** Silty Sand, dark brown, fine to medium grain, dry to damp, heterogeneous with inclusions of sandstone pieces, few suspected ACM fragments, timber, ash/slag, glass fragments, slight PAH odour at 0.5 m	JBSTP4-0.4-0.5 + QA1	D		
						No sample collected
1.0		**FILL** Silty Sand with crushed sandstone boulders, grey white mix	JBSTP4-0.9-1.0	D		
		FILL Silty Clay, red orange with grey mottles, medium plasticity, damp, heterogeneous, very slight PAH odour	JBSTP4-1.6-1.7	D		
2.0		**FILL** Silty Clay, grey brown, medium plasticity, damp, heterogeneous, inclusion of shale pieces to sheets, few plastic pieces	JBSTP4-1.9-2.0	D		
		End of borehole at 2.1 m. Target depth reached.				
3.0						
4.0						

Sample Method	Sample Condition		
HA - Hand Auger	***U - undisturbed tube sample***		
SFA - Solid Flight Auger	***D - disturbed sample***		
HFA - Hollow Flight Auger	***CS - core sample***		
PT - Push Tubing			

Borehole No.: JBS TP5

Location: Burren St, Erskenville

Project: Macdonaldtown Gasworks
Project No.: 40913
Client: Incoll Management
Project Manager: Sumi Dorairaj

Total Hole Depth: 2.1 m
Eastings: -
Northings: -
Date: 02/07/2010

Operator and Co.: Anthony Colluso
Excavation Method: Backhoe
Log By: Tim Davis
Excavation Width: 450 mm

SUBSURFACE PROFILE			SAMPLE			
Depth	Visual	Description	Number	Condition	PID (ppm)	Observations
		Ground Surface				
0.0		**FILL** Grass cover. Roadbase and bitumen mix, some sand, heterogeneous with inclusion of ash/slag				
			JBS TP5-0.4-0.5	D		
		FILL Silty Clay, orange brown to yellow, medium plasticity, damp, heterogeneous, inclusions of roadbase gravels, moderate to strong coal tar odours				
1.0			JBS TP5-1.0-1.1	D		
		FILL As above				
		FILL As above, strong coal tar odours	JBS TP5-1.5-1.6	D		
2.0		**FILL** As above, strong coal tar odours	JBS TP5-1.9-2.0	D		
		End of test pit at 2.10m. End of investigation.				
3.0						
4.0						

Sample Method	Sample Condition		
HA - Hand Auger *SFA - Solid Flight Auger* *HFA - Hollow Flight Auger* *PT - Push Tubing*	*U - undisturbed tube sample* *D - disturbed sample* *CS - core sample*		

Appendix I

Pump Test Field Sheets

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Field Reporting Cover Sheet

JBS ENVIRONMENTAL

PROJECT NAME: Macdonaldtown siding	**PROJECT NO:** 40913
FIELD DATES: 6th - 9th / 7/2010	**JBS PM:** S. DORAIRAJ
FIELD STAFF: T. DAVIS	
WEATHER: RAIN	
PROPOSED WORKS:	
SUMMARY OF FIELDWORK: - commission of trial water treatment plant - water pumped from wells MW04s & MW37s - total volume ~4000L as described in field notes mixed with 4000L on tap water to increase pump volume	
IMPORTANT OUTCOMES TO NOTE: - Datalogging trials to be conducted in coming week	
COC SENT? Yes	**DATE SAMPLES SENT:** 9/7/10
PRIMARY LAB: ENVIROLAB	**SECONDARY LAB:** NA

POST-FIELDWORK CHECKLIST

- ☐ COC checked with PM
- ☐ Site map updated and attached
- ☐ Field data sheets attached (bore logs, well monitoring sheets)
- ☐ Calibration and decontamination sheets attached
- ☐ Field notes attached
- ☐ Photos downloaded to file
- ☐ Electronic bore logs completed and checked

OUTSTANDING ACTIONS:

JBS ENVIRONMENTAL

CLIENT/SITE:	DATE:
PARTICIPANTS:	PAGE: OF:

MW42S

Depth to water - 1.020
Depth to water after pumping - 2.290
Total Depth - 4.344

pump rate
0 - 1min = 4L/min
2 - 3mins = 2.7L/min
4 - 5 mins = 1.8L/min
6 - 7 mins = 1.8L/min
8 - 9 mins = 1.7L/min

x Turn pump off after 10mins @ 10.37
x Remove datalogger after 1hr @ 11.37

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JBS ENVIRONMENTAL

CLIENT/SITE:	DATE: 11/8/10
PARTICIPANTS:	PAGE: OF:

MW04s

Depth to water before pumping - 1.359
Total Depth - 4.263
Depth to water after pumping - 1.421 after 13 mins after pump test

Start pumping 8.50am

0-1 min = 3.9 L/min
2-3 min = 4.2 L/min
4-5 min = 4.4 L/min
6-7 mins = 4.3 L/min
8-9 mins = 4.2 L/min

pump removed after 12 mins

Remove datalogger 9.50am

$T = kb$

$\therefore k = \frac{T}{b}$

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JBS ENVIRONMENTAL

CLIENT/SITE:	DATE: 11/8/11
PARTICIPANTS:	PAGE: OF:

MW065

Depth to water ~ 2.081
Depth to water after pumping ~ 3.139
Total Depth ~ 4.374

Pump Rate
0-1min = 3L/min
2-3min = 2L/min
4-5min = 1.1L/min
6-7min = 0/min
8-9mins = 0L/min

× pump removed after 10mins @ 10.08
× Datalogger removed after 1hr @ 11.08

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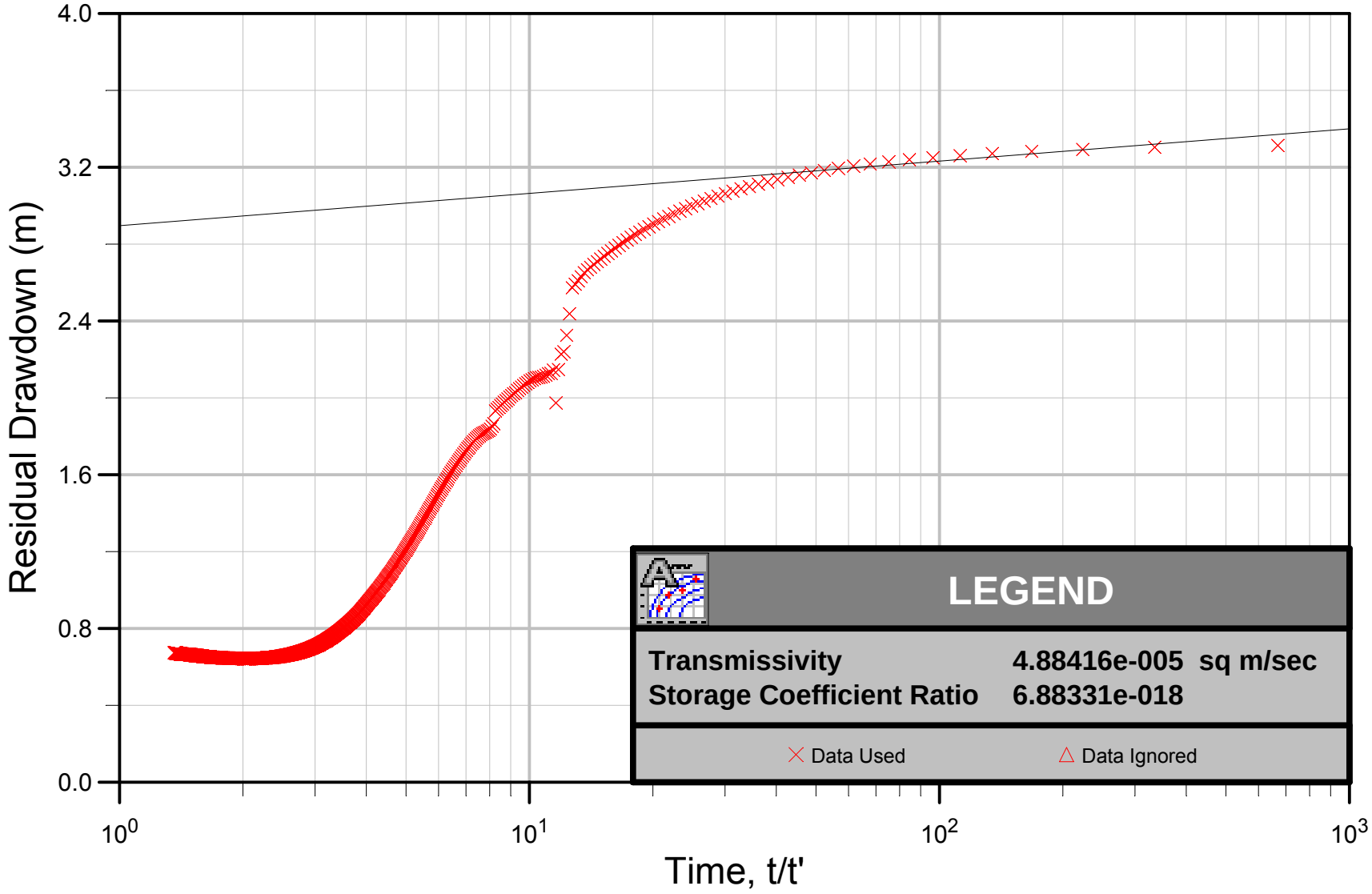
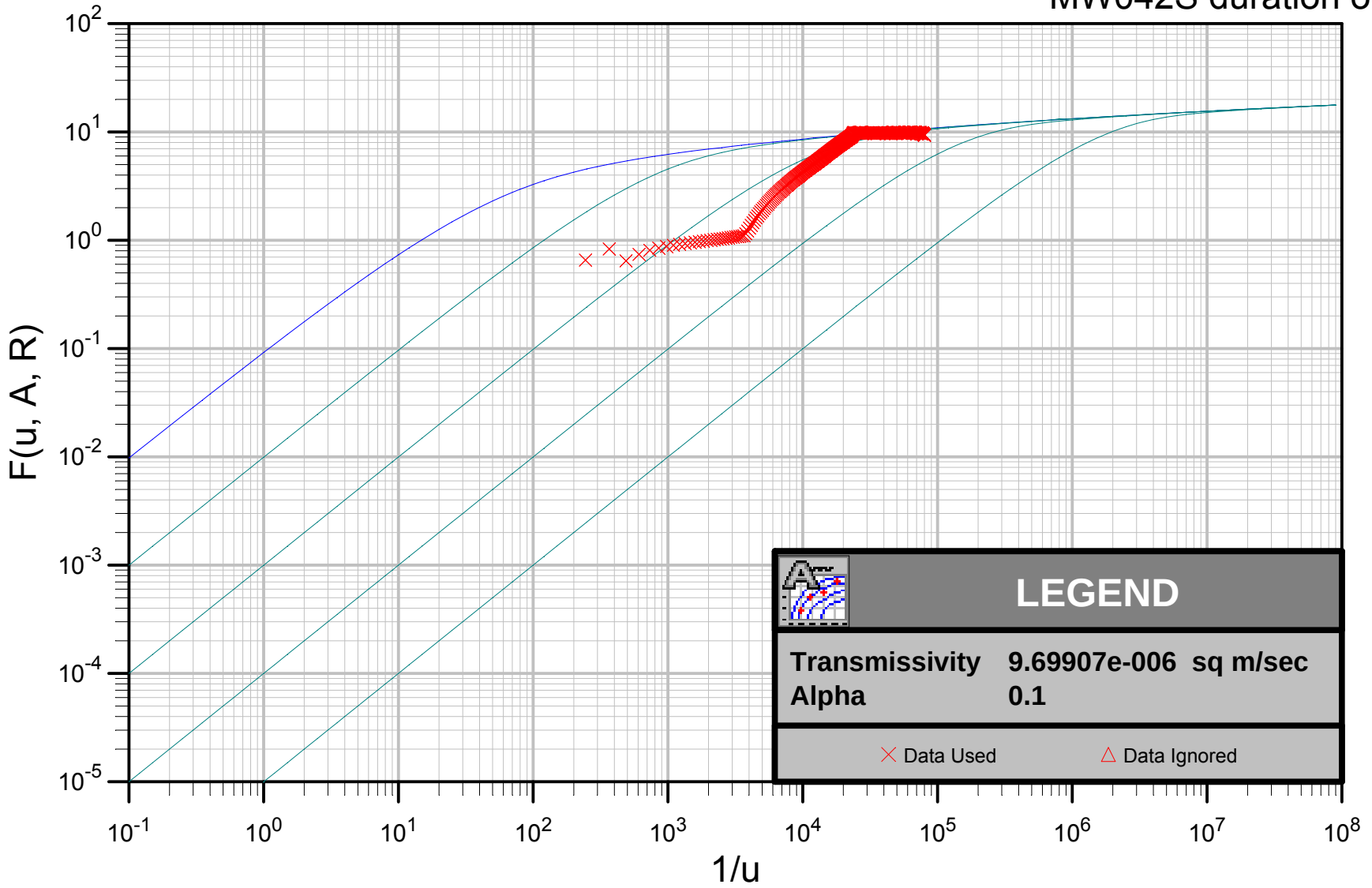
MW042S

Theis Recovery



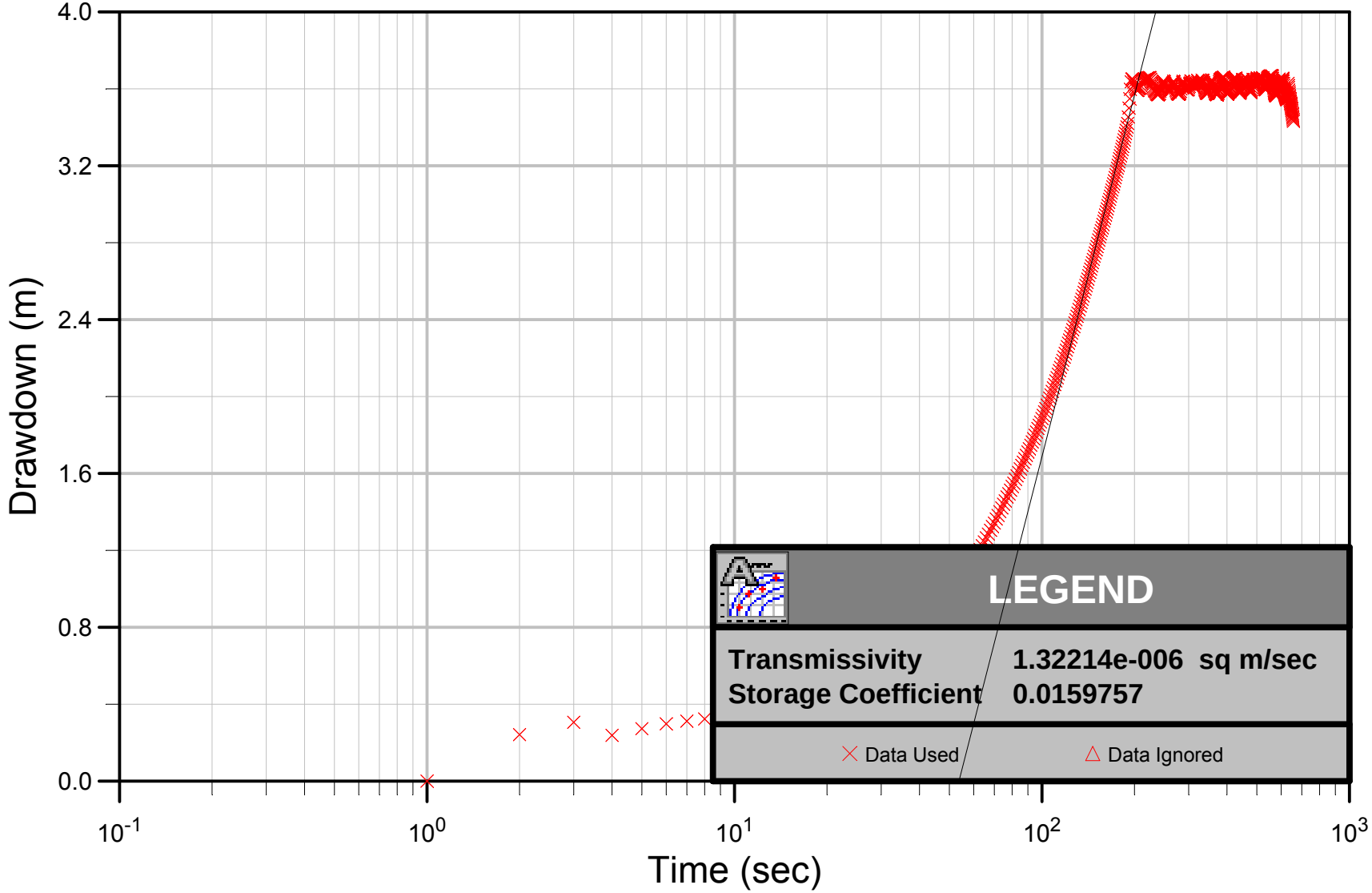
Papadopulos and Cooper

MW042S duration of pumping only



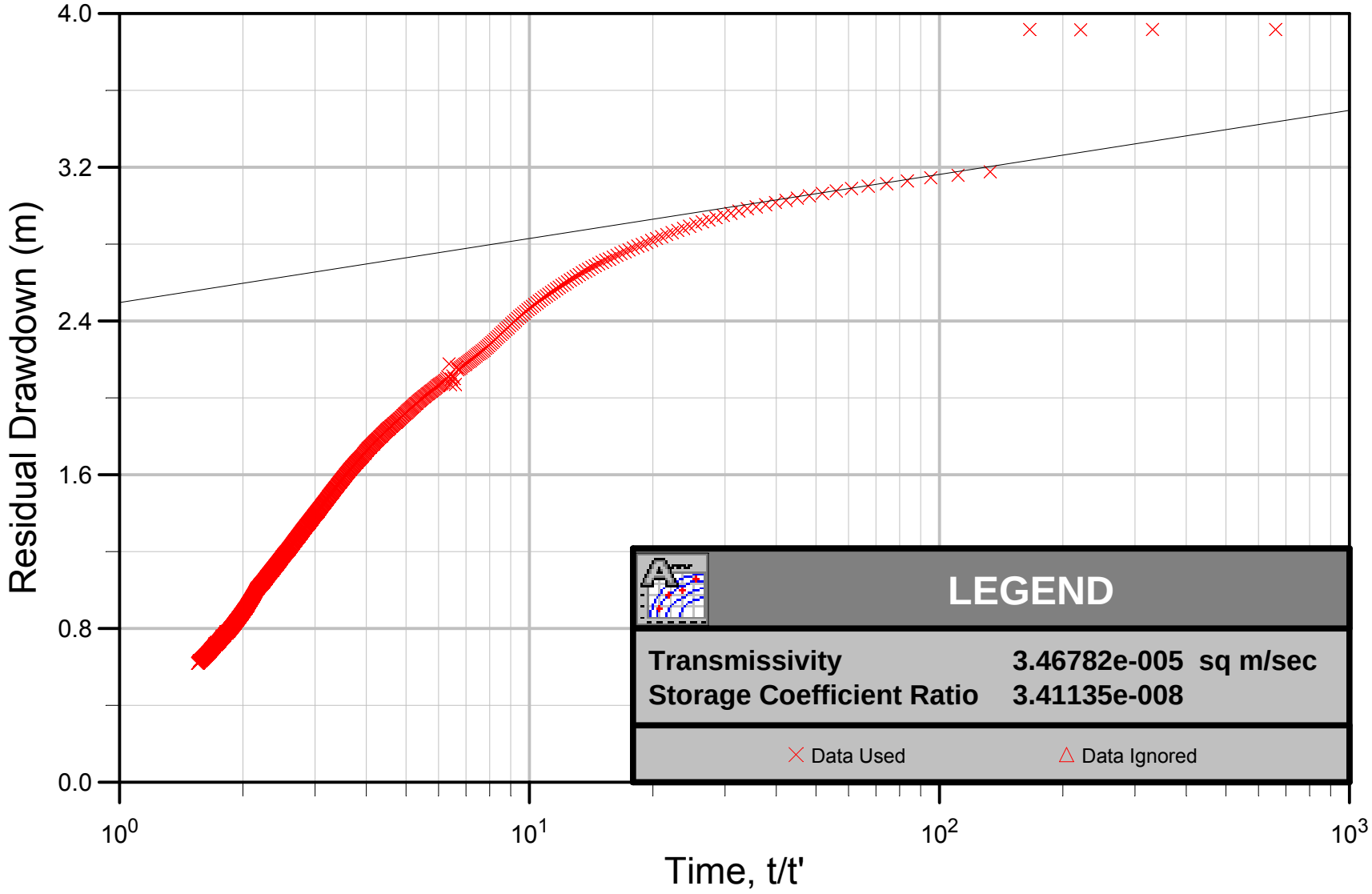
Cooper and Jacob

MW042S duration of pumping only



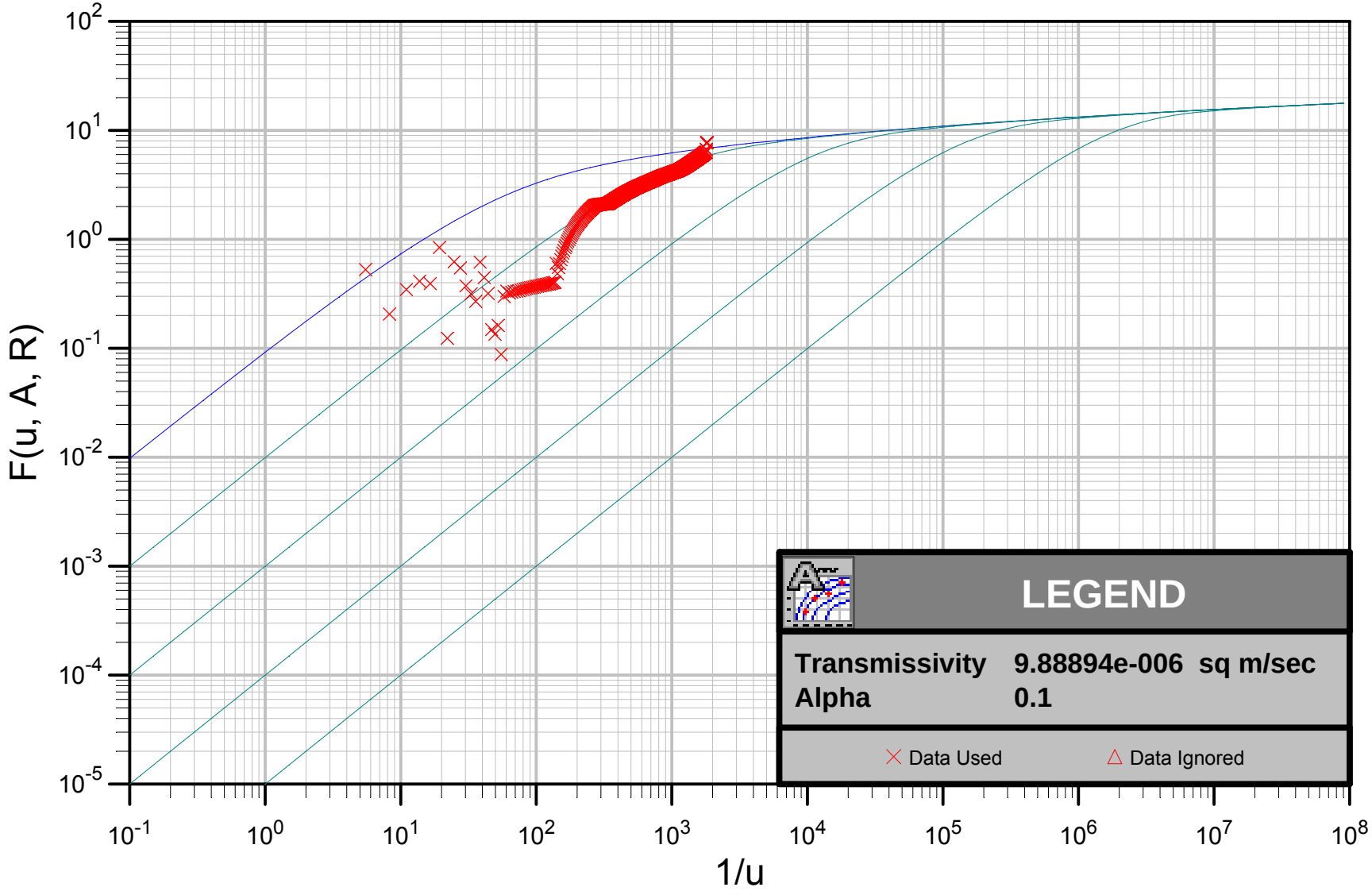
Theis Recovery

MW37S



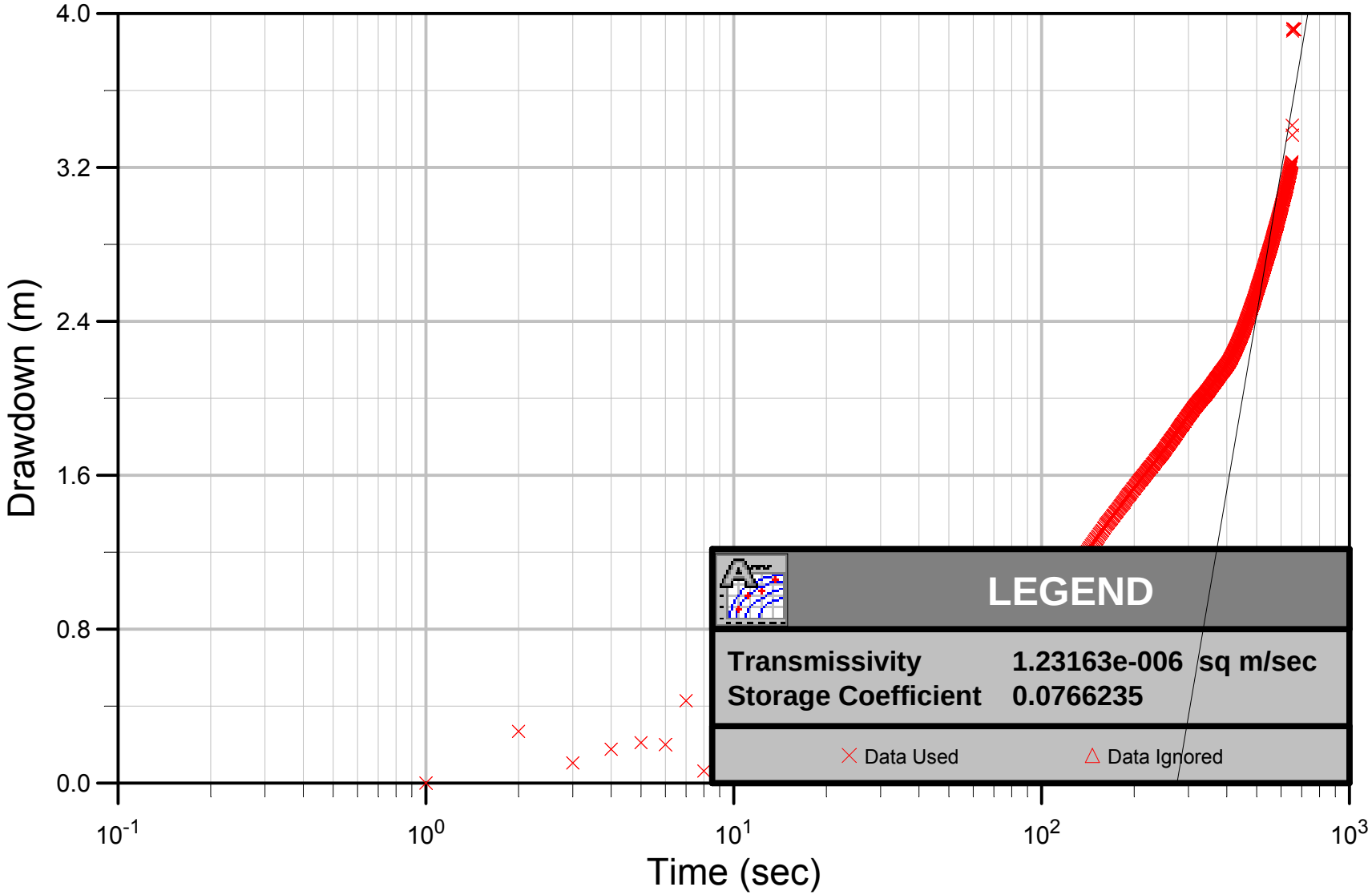
Papadopulos and Cooper

MW37S Duration of pumping onl



Cooper and Jacob

MW37S Duration of pumping onl



Appendix J

Results of Geotechnical Testing and Benchscale Stabilisation Trial

© 2010 JBS Environmental Pty Ltd

JBS Environmental Pty Ltd
128 O'Riordan Street
Mascot, NSW 2028
Email: SDorairaj@jbsenvironmental.com.au

16 August, 2010

Attention: Sumi Dorairaj

RE: MACDONALDTOWN GASWORKS TREATMENT TRIAL

Dear Sumi,

Enviropacific Services Pty Ltd (EPS) is pleased to provide JBS Environmental Pty Ltd (JBS) with this report on the above works. Client satisfaction is the highest priority on all our projects and accordingly, we pride ourselves on our ability to offer innovative and flexible project delivery approaches to ensure client needs are satisfied. We also place the highest importance on OHS&R, environmental management, integrity and compliance with relevant laws and regulations. This commitment to quality is evidenced through obtaining third party accreditation of our Management System to ISO9001-2008 and accreditation for OHS&R and Environmental System to AS4801 and ISO14001 respectively.

Definitions

- ASLP – Leachable Concentration assessed by the Australian Standard Leaching Procedure (AS 4439.3-1997 Wastes, Sediments and Contaminated Soils - Preparation of Leachates - Bottle Leaching Procedures)
- BaP – Benzo(a)pyrene
- DECCW – NSW Department of Environment, Climate Change and Water
- EPS – Enviropacific Services Pty Ltd
- General IA – DECC General Approval for the Immobilisation of Contaminants in Waste, # 2005/14 Stabilisation of Coal Tar Contaminated Soil
- IA –Immobilisation Approval
- JBS – JBS Environmental Pty Ltd
- PAH – Polycyclic Aromatic Hydrocarbon
- SCC – Specific Contaminant Concentration
- TCLP – Leachable Concentration assessed by the Toxicity Characteristic Leaching Procedure