

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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Date: 31/12/08

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190870	190871	190872	190873	190874	190875	190876	190877	190878	190879
Sample Identification		TP21-1	TP22-1	TP23-1	TP24-1	TP25-1	TP26-1	TP27-1	TP28-1	TP29-1	TP30-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08
Method : E008.2											
Phenols by GC/MS		EQL									
Phenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methylphenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3-&4-methylphenol	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-nitrophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chloro-3-methylphenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of reported phenols	--	--	--	--	--	--	--	--	--	--	--
2-FP (Surr @ 5mg/kg)	--	89%	90%	81%	111%	83%	93%	97%	93%	82%	100%
Phenol-d5 (Surr @ 5mg/kg)	--	81%	80%	78%	94%	83%	112%	86%	92%	75%	98%
2,4,6-TBP (Surr @ 5mg/kg)	--	113%	81%	81%	116%	81%	103%	87%	94%	89%	107%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

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This report supercedes reports issued on: N/A

Laboratory Identification		190880	190881	190882	190883	190884	190885	190886	190887	190888	190889
Sample Identification		TP31-1	TP32-1	TP33-1	TP34-1	TP35-1	TP36-1	TP37-1	TP38-1	TP39-1	TP40-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08
Method : E008.2											
Phenols by GC/MS		EQL									
Phenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methylphenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3-&4-methylphenol	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-nitrophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chloro-3-methylphenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of reported phenols	--	--	--	--	--	--	--	--	--	--	--
2-FP (Surr @ 5mg/kg)	--	91%	98%	98%	96%	89%	92%	80%	81%	88%	110%
Phenol-d5 (Surr @ 5mg/kg)	--	84%	85%	91%	93%	82%	80%	78%	83%	81%	86%
2,4,6-TBP (Surr @ 5mg/kg)	--	108%	103%	109%	116%	90%	83%	92%	91%	110%	93%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

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 of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190890	190891	190894	190895	190896	190897	190898	190899	190900	190901
Sample Identification		DUP1	DUP2	TP01-2	TP06-2	TP10-2	TP12-2	TP20-2	TP22-2	TP25-2	TP32-2
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	16/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08
Method : E008.2											
Phenols by GC/MS		EQL									
Phenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-chlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methylphenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3-&4-methylphenol	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-nitrophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chloro-3-methylphenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sum of reported phenols	--	--	--	--	--	--	--	--	--	--	--
2-FP (Surr @ 5mg/kg)	--	81%	88%	117%	104%	117%	112%	106%	107%	102%	103%
Phenol-d5 (Surr @ 5mg/kg)	--	79%	88%	102%	85%	93%	88%	82%	84%	83%	93%
2,4,6-TBP (Surr @ 5mg/kg)	--	100%	120%	113%	116%	91%	111%	117%	104%	109%	108%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

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 of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190902	190903	190850d	190850r	190860d	190860r	190870d	190870r	190880d	190880r
Sample Identification		TP39-2	TP40-2	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	--	23/12/08	--	23/12/08	--	23/12/08	--
Laboratory Analysis Date		25/12/08	25/12/08	24/12/08	--	25/12/08	--	25/12/08	--	25/12/08	--
Method : E008.2											
Phenols by GC/MS	EQL										
Phenol	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
2-chlorophenol	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
2-methylphenol	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
3-&4-methylphenol	1.0	<1.0	<1.0	<1.0	--	<1.0	--	<1.0	--	<1.0	--
2-nitrophenol	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
2,4-dimethylphenol	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
2,4-dichlorophenol	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
4-chloro-3-methylphenol	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
2,4,6-trichlorophenol	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
2,4,5-trichlorophenol	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Pentachlorophenol	1	<1	<1	<1	--	<1	--	<1	--	<1	--
Sum of reported phenols	--	--	--	--	--	--	--	--	--	--	--
2-FP (Surr @ 5mg/kg)	--	101%	101%	89%	3%	84%	2%	77%	14%	95%	4%
Phenol-d5 (Surr @ 5mg/kg)	--	84%	82%	89%	13%	78%	7%	75%	8%	81%	4%
2,4,6-TBP (Surr @ 5mg/kg)	--	119%	99%	104%	3%	88%	2%	99%	13%	108%	0%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

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This report supercedes reports issued on: N/A

Laboratory Identification		190895d	190895r	190903d	190903r	190851s	190871s	190896s	lcs	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		23/12/08	--	23/12/08	--	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	
Laboratory Analysis Date		25/12/08	--	25/12/08	--	24/12/08	25/12/08	25/12/08	24/12/08	24/12/08	
Method : E008.2											
Phenols by GC/MS	EQL										
Phenol	0.5	<0.5	--	<0.5	--	79%	99%	97%	75%	<0.5	
2-chlorophenol	0.5	<0.5	--	<0.5	--	77%	113%	85%	88%	<0.5	
2-methylphenol	0.5	<0.5	--	<0.5	--	96%	88%	91%	80%	<0.5	
3-&4-methylphenol	1.0	<1.0	--	<1.0	--	115%	103%	104%	74%	<1.0	
2-nitrophenol	0.5	<0.5	--	<0.5	--	112%	118%	112%	117%	<0.5	
2,4-dimethylphenol	0.5	<0.5	--	<0.5	--	106%	90%	117%	118%	<0.5	
2,4-dichlorophenol	0.5	<0.5	--	<0.5	--	112%	97%	118%	118%	<0.5	
4-chloro-3-methylphenol	0.5	<0.5	--	<0.5	--	113%	111%	105%	94%	<0.5	
2,4,6-trichlorophenol	0.5	<0.5	--	<0.5	--	94%	90%	110%	119%	<0.5	
2,4,5-trichlorophenol	0.5	<0.5	--	<0.5	--	103%	111%	115%	102%	<0.5	
Pentachlorophenol	1	<1	--	<1	--	121%	103%	100%	111%	<1	
Sum of reported phenols	--	--	--	--	--	--	--	--	--	--	
2-FP (Surr @ 5mg/kg)	--	113%	8%	106%	5%	81%	89%	99%	106%	105%	
Phenol-d5 (Surr @ 5mg/kg)	--	95%	11%	87%	6%	92%	88%	98%	75%	83%	
2,4,6-TBP (Surr @ 5mg/kg)	--	95%	20%	98%	1%	104%	88%	109%	85%	82%	

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

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This report supercedes reports issued on: N/A

Laboratory Identification		190850	190851	190852	190853	190854	190855	190856	190857	190858	190859
Sample Identification		TP01-1	TP02-1	TP03-1	TP04-1	TP05-1	TP06-1	TP07-1	TP08-1	TP09-1	TP10-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Organochlorine Pesticides (OC)	EQL										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DBC (Surr @ 0.2mg/kg)	--	94%	93%	96%	105%	109%	96%	104%	91%	94%	102%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

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This report supercedes reports issued on: N/A

Laboratory Identification		190860	190861	190862	190863	190864	190865	190866	190867	190868	190869
Sample Identification		TP11-1	TP12-1	TP13-1	TP14-1	TP15-1	TP16-1	TP17-1	TP18-1	TP19-1	TP20-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Organochlorine Pesticides (OC)	EQL										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DBC (Surr @ 0.2mg/kg)	--	96%	94%	92%	102%	92%	92%	100%	85%	88%	98%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190870	190871	190872	190873	190874	190875	190876	190877	190878	190879
Sample Identification		TP21-1	TP22-1	TP23-1	TP24-1	TP25-1	TP26-1	TP27-1	TP28-1	TP29-1	TP30-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Organochlorine Pesticides (OC)	EQL										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DBC (Surr @ 0.2mg/kg)	--	92%	87%	90%	106%	87%	84%	92%	104%	82%	96%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190880	190881	190882	190883	190884	190885	190886	190887	190888	190889
Sample Identification		TP31-1	TP32-1	TP33-1	TP34-1	TP35-1	TP36-1	TP37-1	TP38-1	TP39-1	TP40-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Organochlorine Pesticides (OC)	EQL										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DBC (Surr @ 0.2mg/kg)	--	91%	116%	100%	94%	87%	93%	94%	100%	92%	99%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190890	190891	190894	190895	190896	190897	190898	190899	190900	190901
Sample Identification		DUP1	DUP2	TP01-2	TP06-2	TP10-2	TP12-2	TP20-2	TP22-2	TP25-2	TP32-2
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	16/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Organochlorine Pesticides (OC)	EQL										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DBC (Surr @ 0.2mg/kg)	--	91%	93%	99%	93%	90%	91%	92%	92%	90%	90%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		190902	190903	190850d	190850r	190860d	190860r	190870d	190870r	190880d	190880r
Sample Identification		TP39-2	TP40-2	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	--	23/12/08	--	23/12/08	--	23/12/08	--
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	--	24/12/08	--	24/12/08	--	24/12/08	--
Method : E013.2											
Organochlorine Pesticides (OC)		EQL									
a-BHC	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
b-BHC	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
d-BHC	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
Heptachlor	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
Aldrin	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
trans-chlordane	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
Endosulfan I	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
cis-chlordane	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
Dieldrin	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
4,4-DDE	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
Endrin	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
Endosulfan II	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
4,4-DDD	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--
4,4-DDT	0.2	<0.2	<0.2	<0.2	--	<0.2	--	<0.2	--	<0.2	--
Methoxychlor	0.2	<0.2	<0.2	<0.2	--	<0.2	--	<0.2	--	<0.2	--
DBC (Surr @ 0.2mg/kg)	--	91%	91%	104%	10%	92%	4%	88%	4%	95%	4%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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Final
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of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190895d	190895r	190903d	190903r	190851s	190871s	190896s	lcs	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		23/12/08	--	23/12/08	--	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	
Laboratory Analysis Date		24/12/08	--	24/12/08	--	24/12/08	24/12/08	24/12/08	23/12/08	23/12/08	
Method : E013.2											
Organochlorine Pesticides (OC)	EQL										
a-BHC	0.05	<0.05	--	<0.05	--	106%	107%	97%	104%	<0.05	
Hexachlorobenzene	0.05	<0.05	--	<0.05	--	104%	105%	97%	101%	<0.05	
b-BHC	0.05	<0.05	--	<0.05	--	102%	100%	93%	110%	<0.05	
g-BHC (Lindane)	0.05	<0.05	--	<0.05	--	104%	102%	95%	122%	<0.05	
d-BHC	0.05	<0.05	--	<0.05	--	126%	128%	125%	125%	<0.05	
Heptachlor	0.05	<0.05	--	<0.05	--	91%	89%	84%	85%	<0.05	
Aldrin	0.05	<0.05	--	<0.05	--	91%	89%	82%	98%	<0.05	
Heptachlor epoxide	0.05	<0.05	--	<0.05	--	103%	101%	93%	106%	<0.05	
trans-chlordane	0.05	<0.05	--	<0.05	--	102%	100%	92%	107%	<0.05	
Endosulfan I	0.05	<0.05	--	<0.05	--	93%	94%	85%	90%	<0.05	
cis-chlordane	0.05	<0.05	--	<0.05	--	99%	102%	90%	96%	<0.05	
Dieldrin	0.05	<0.05	--	<0.05	--	98%	95%	88%	106%	<0.05	
4,4-DDE	0.05	<0.05	--	<0.05	--	101%	97%	91%	101%	<0.05	
Endrin	0.05	<0.05	--	<0.05	--	96%	94%	86%	106%	<0.05	
Endosulfan II	0.05	<0.05	--	<0.05	--	95%	91%	84%	107%	<0.05	
4,4-DDD	0.05	<0.05	--	<0.05	--	104%	103%	92%	101%	<0.05	
Endosulfan sulphate	0.05	<0.05	--	<0.05	--	120%	128%	115%	113%	<0.05	
4,4-DDT	0.2	<0.2	--	<0.2	--	100%	95%	87%	98%	<0.2	
Methoxychlor	0.2	<0.2	--	<0.2	--	103%	102%	92%	94%	<0.2	
DBC (Surr @ 0.2mg/kg)	--	95%	2%	94%	3%	106%	100%	95%	89%	115%	

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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Final
Certificate
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This report supercedes reports issued on: N/A

Laboratory Identification		190850	190851	190852	190853	190854	190855	190856	190857	190858	190859
Sample Identification		TP01-1	TP02-1	TP03-1	TP04-1	TP05-1	TP06-1	TP07-1	TP08-1	TP09-1	TP10-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		25/12/08	25/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08
Method : E014.2											
Organophosphorus Pesticides (OP)		EQL									
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton (total)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPP (Surr @ 2mg/kg)	--	93%	92%	106%	106%	111%	103%	105%	91%	94%	108%

Results expressed in mg/kg dry weight unless otherwise specified

Comments: ## Percent recovery not available due to interference from the sample.

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190860	190861	190862	190863	190864	190865	190866	190867	190868	190869
Sample Identification		TP11-1	TP12-1	TP13-1	TP14-1	TP15-1	TP16-1	TP17-1	TP18-1	TP19-1	TP20-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08
Method : E014.2											
Organophosphorus Pesticides (OP)	EQL										
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton (total)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPP (Surr @ 2mg/kg)	--	93%	103%	93%	108%	93%	98%	104%	93%	99%	107%

Results expressed in mg/kg dry weight unless otherwise specified

Comments: ## Percent recovery not available due to interference from the sample.

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190870	190871	190872	190873	190874	190875	190876	190877	190878	190879
Sample Identification		TP21-1	TP22-1	TP23-1	TP24-1	TP25-1	TP26-1	TP27-1	TP28-1	TP29-1	TP30-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08
Method : E014.2											
Organophosphorus Pesticides (OP)		EQL									
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton (total)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPP (Surr @ 2mg/kg)	--	104%	96%	92%	120%	84%	115%	100%	109%	90%	105%

Results expressed in mg/kg dry weight unless otherwise specified

Comments: ## Percent recovery not available due to interference from the sample.

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190880	190881	190882	190883	190884	190885	190886	190887	190888	190889
Sample Identification		TP31-1	TP32-1	TP33-1	TP34-1	TP35-1	TP36-1	TP37-1	TP38-1	TP39-1	TP40-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08
Method : E014.2											
Organophosphorus Pesticides (OP)	EQL										
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton (total)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPP (Surr @ 2mg/kg)	--	107%	96%	106%	111%	95%	104%	94%	129%	96%	108%

Results expressed in mg/kg dry weight unless otherwise specified

Comments: ## Percent recovery not available due to interference from the sample.

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190890	190891	190894	190895	190896	190897	190898	190899	190900	190901
Sample Identification		DUP1	DUP2	TP01-2	TP06-2	TP10-2	TP12-2	TP20-2	TP22-2	TP25-2	TP32-2
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	16/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08	26/12/08
Method : E014.2											
Organophosphorus Pesticides (OP)	EQL										
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton (total)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPP (Surr @ 2mg/kg)	--	99%	107%	106%	103%	101%	99%	96%	102%	96%	100%

Results expressed in mg/kg dry weight unless otherwise specified

Comments: ## Percent recovery not available due to interference from the sample.

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190902	190903	190850d	190850r	190860d	190860r	190870d	190870r	190880d	190880r
Sample Identification		TP39-2	TP40-2	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	--	23/12/08	--	23/12/08	--	23/12/08	--
Laboratory Analysis Date		26/12/08	26/12/08	25/12/08	--	26/12/08	--	26/12/08	--	26/12/08	--
Method : E014.2											
Organophosphorus Pesticides (OP)		EQL									
Dichlorvos	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Demeton (total)	1	<1	<1	<1	--	<1	--	<1	--	<1	--
Ethoprop	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Monocrotophos	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Phorate	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Dimethoate	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Diazinon	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Disulfoton	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Methyl parathion	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Ronnel	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Fenitrothion	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Malathion	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Fenthion	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Parathion	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Stirofos	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Prothiofos	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Azinophos methyl	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Coumaphos	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
TPP (Surr @ 2mg/kg)	--	103%	95%	100%	7%	90%	3%	98%	6%	109%	2%

Results expressed in mg/kg dry weight unless otherwise specified

Comments: ## Percent recovery not available due to interference from the sample.

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		190895d	190895r	190903d	190903r	190851s	190871s	190896s	lcs	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		23/12/08	--	23/12/08	--	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	
Laboratory Analysis Date		26/12/08	--	26/12/08	--	25/12/08	25/12/08	25/12/08	25/12/08	25/12/08	
Method : E014.2											
Organophosphorus Pesticides (OP)	EQL										
Dichlorvos	0.5	<0.5	--	<0.5	--	103%	117%	128%	104%	<0.5	
Mevinphos (Phosdrin)	0.5	<0.5	--	<0.5	--	80%	87%	93%	86%	<0.5	
Demeton (total)	1	<1	--	<1	--	95%	108%	121%	104%	<1	
Ethoprop	0.5	<0.5	--	<0.5	--	66%	73%	79%	67%	<0.5	
Monocrotophos	0.5	<0.5	--	<0.5	--	60%	62%	60%	66%	<0.5	
Phorate	0.5	<0.5	--	<0.5	--	76%	85%	95%	83%	<0.5	
Dimethoate	0.5	<0.5	--	<0.5	--	66%	76%	81%	76%	<0.5	
Diazinon	0.5	<0.5	--	<0.5	--	93%	105%	121%	98%	<0.5	
Disulfoton	0.5	<0.5	--	<0.5	--	96%	108%	121%	104%	<0.5	
Methyl parathion	0.5	<0.5	--	<0.5	--	109%	122%	129%	113%	<0.5	
Ronnel	0.5	<0.5	--	<0.5	--	93%	105%	117%	99%	<0.5	
Fenitrothion	0.5	<0.5	--	<0.5	--	93%	104%	117%	99%	<0.5	
Malathion	0.5	<0.5	--	<0.5	--	74%	85%	90%	77%	<0.5	
Chlorpyrifos	0.5	<0.5	--	<0.5	--	95%	108%	121%	101%	<0.5	
Fenthion	0.5	<0.5	--	<0.5	--	129%	##	##	130%	<0.5	
Parathion	0.5	<0.5	--	<0.5	--	99%	113%	123%	105%	<0.5	
Stirofos	0.5	<0.5	--	<0.5	--	92%	104%	114%	101%	<0.5	
Prothiofos	0.5	<0.5	--	<0.5	--	108%	114%	126%	101%	<0.5	
Azinophos methyl	0.5	<0.5	--	<0.5	--	95%	105%	104%	99%	<0.5	
Coumaphos	0.5	<0.5	--	<0.5	--	97%	110%	119%	100%	<0.5	
TPP (Surr @ 2mg/kg)	--	106%	3%	100%	5%	92%	99%	94%	98%	101%	

Results expressed in mg/kg dry weight unless otherwise specified

Comments: ## Percent recovery not available due to interference from the sample.

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		190850	190851	190852	190853	190854	190855	190856	190857	190858	190859
Sample Identification		TP01-1	TP02-1	TP03-1	TP04-1	TP05-1	TP06-1	TP07-1	TP08-1	TP09-1	TP10-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1232	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1242	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1248	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1254	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1260	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of reported PCBs	--	--	--	--	--	--	--	--	--	--	--
DBC (Surr @ 0.2mg/kg)	--	94%	93%	96%	105%	109%	96%	104%	91%	94%	102%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		190860	190861	190862	190863	190864	190865	190866	190867	190868	190869
Sample Identification		TP11-1	TP12-1	TP13-1	TP14-1	TP15-1	TP16-1	TP17-1	TP18-1	TP19-1	TP20-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1232	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1242	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1248	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1254	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1260	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of reported PCBs	--	--	--	--	--	--	--	--	--	--	--
DBC (Surr @ 0.2mg/kg)	--	96%	94%	92%	102%	92%	92%	100%	85%	88%	98%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		190870	190871	190872	190873	190874	190875	190876	190877	190878	190879
Sample Identification		TP21-1	TP22-1	TP23-1	TP24-1	TP25-1	TP26-1	TP27-1	TP28-1	TP29-1	TP30-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1232	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1242	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1248	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1254	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1260	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of reported PCBs	--	--	--	--	--	--	--	--	--	--	--
DBC (Surr @ 0.2mg/kg)	--	92%	87%	90%	106%	87%	84%	92%	104%	82%	96%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		190880	190881	190882	190883	190884	190885	190886	190887	190888	190889
Sample Identification		TP31-1	TP32-1	TP33-1	TP34-1	TP35-1	TP36-1	TP37-1	TP38-1	TP39-1	TP40-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1232	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1242	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1248	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1254	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1260	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of reported PCBs	--	--	--	--	--	--	--	--	--	--	--
DBC (Surr @ 0.2mg/kg)	--	91%	116%	100%	94%	87%	93%	94%	100%	92%	99%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		190890	190891	190894	190895	190896	190897	190898	190899	190900	190901
Sample Identification		DUP1	DUP2	TP01-2	TP06-2	TP10-2	TP12-2	TP20-2	TP22-2	TP25-2	TP32-2
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	16/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1232	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1242	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1248	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1254	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1260	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of reported PCBs	--	--	--	--	--	--	--	--	--	--	--
DBC (Surr @ 0.2mg/kg)	--	91%	93%	99%	93%	90%	91%	92%	92%	90%	90%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041074
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Contact Name: Anne Ashworth
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This report supercedes reports issued on: N/A

Laboratory Identification		190902	190903	190850d	190850r	190860d	190860r	190870d	190870r	190880d	190880r
Sample Identification		TP39-2	TP40-2	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	--	23/12/08	--	23/12/08	--	23/12/08	--
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	--	24/12/08	--	24/12/08	--	24/12/08	--
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Arochlor 1232	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Arochlor 1242	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Arochlor 1248	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Arochlor 1254	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Arochlor 1260	0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	--	<0.5	--
Sum of reported PCBs	--	--	--	--	--	--	--	--	--	--	--
DBC (Surr @ 0.2mg/kg)	--	91%	91%	104%	10%	92%	4%	88%	4%	95%	4%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

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This report supercedes reports issued on: N/A

Laboratory Identification		190895d	190895r	190903d	190903r	190851s	190871s	190896s	lcs	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		23/12/08	--	23/12/08	--	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	
Laboratory Analysis Date		24/12/08	--	24/12/08	--	24/12/08	24/12/08	24/12/08	23/12/08	23/12/08	
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	<0.5	--	<0.5	--	--	--	--	--	--	<0.5
Arochlor 1232	0.5	<0.5	--	<0.5	--	--	--	--	--	--	<0.5
Arochlor 1242	0.5	<0.5	--	<0.5	--	--	--	--	--	--	<0.5
Arochlor 1248	0.5	<0.5	--	<0.5	--	--	--	--	--	--	<0.5
Arochlor 1254	0.5	<0.5	--	<0.5	--	100%	97%	115%	70%	--	<0.5
Arochlor 1260	0.5	<0.5	--	<0.5	--	--	--	--	--	--	<0.5
Sum of reported PCBs	--	--	--	--	--	--	--	--	--	--	--
DBC (Surr @ 0.2mg/kg)	--	95%	2%	94%	3%	100%	99%	105%	98%	115%	

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

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This report supercedes reports issued on: N/A

Laboratory Identification		190850	190851	190852	190853	190854	190855	190856	190857	190858	190859
Sample Identification		TP01-1	TP02-1	TP03-1	TP04-1	TP05-1	TP06-1	TP07-1	TP08-1	TP09-1	TP10-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	29/12/08	29/12/08	24/12/08	24/12/08
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	5	7	8	9	6	12	6	7	5	15
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1	16	16	16	11	10	28	16	19	13	40
Copper	2	14	14	17	21	19	28	10	7	11	10
Nickel	1	8	6	4	25	12	21	8	5	10	13
Lead	2	16	17	12	31	14	30	12	15	14	41
Zinc	5	16	21	15	23	22	34	14	9	14	15

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

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Laboratory Identification		190860	190861	190862	190863	190864	190865	190866	190867	190868	190869
Sample Identification		TP11-1	TP12-1	TP13-1	TP14-1	TP15-1	TP16-1	TP17-1	TP18-1	TP19-1	TP20-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	20/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	10	9	2	9	5	8	7	10	8	8
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1	25	30	17	28	13	25	19	16	27	28
Copper	2	10	15	9	13	10	12	8	9	7	8
Nickel	1	5	9	7	9	3	4	3	8	3	3
Lead	2	27	33	8	22	11	20	18	39	10	11
Zinc	5	16	18	18	13	7	9	9	14	12	12

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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Laboratory Identification		190870	190871	190872	190873	190874	190875	190876	190877	190878	190879
Sample Identification		TP21-1	TP22-1	TP23-1	TP24-1	TP25-1	TP26-1	TP27-1	TP28-1	TP29-1	TP30-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	5	20	10	6	8	5	<1	7	7	8
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1	15	24	47	18	28	17	<1	28	28	29
Copper	2	7	39	6	14	7	12	<2	12	8	9
Nickel	1	3	20	6	8	4	5	<1	9	6	6
Lead	2	9	21	25	13	20	25	<2	16	17	15
Zinc	5	6	82	10	21	11	18	<5	16	13	11

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
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Laboratory Identification		190880	190881	190882	190883	190884	190885	190886	190887	190888	190889
Sample Identification		TP31-1	TP32-1	TP33-1	TP34-1	TP35-1	TP36-1	TP37-1	TP38-1	TP39-1	TP40-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	29/12/08	24/12/08	29/12/08	24/12/08	29/12/08
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	12	8	8	14	10	4	5	3	5	4
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1	38	26	25	26	26	20	27	11	14	22
Copper	2	13	16	16	12	11	8	9	6	12	3
Nickel	1	9	12	11	12	12	3	4	3	7	2
Lead	2	27	15	15	36	27	15	11	16	11	21
Zinc	5	26	21	21	28	19	5	5	8	14	13

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

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This report supercedes reports issued on: N/A

Laboratory Identification		190890	190891	190894	190895	190896	190897	190898	190899	190900	190901
Sample Identification		DUP1	DUP2	TP01-2	TP06-2	TP10-2	TP12-2	TP20-2	TP22-2	TP25-2	TP32-2
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	16/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	5	9	5	3	7	3	8	4	4	4
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1	13	37	11	11	18	10	22	10	14	13
Copper	2	15	7	11	13	13	7	10	15	9	14
Nickel	1	11	2	2	8	4	1	12	15	4	5
Lead	2	16	21	8	9	11	8	15	15	9	8
Zinc	5	24	15	8	13	11	<5	10	20	10	16

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

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This report supercedes reports issued on: N/A

Laboratory Identification		190902	190903	190850d	190850r	190860d	190860r	190870d	190870r	190880d	190880r
Sample Identification		TP39-2	TP40-2	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	--	23/12/08	--	23/12/08	--	23/12/08	--
Laboratory Analysis Date		29/12/08	29/12/08	24/12/08	--	24/12/08	--	24/12/08	--	24/12/08	--
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	5	6	7	33%	12	18%	7	33%	14	15%
Cadmium	0.1	<0.1	<0.1	<0.1	--	<0.1	--	<0.1	--	<0.1	--
Chromium	1	13	12	19	17%	34	31%	26	54%	39	3%
Copper	2	15	10	15	7%	12	18%	11	44%	13	0%
Nickel	1	7	4	6	29%	5	0%	5	50%	10	11%
Lead	2	14	8	24	40%	25	8%	11	20%	33	20%
Zinc	5	19	17	17	6%	17	6%	11	59%	31	18%

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Report No: E041074
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Contact Name: Anne Ashworth
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This report supercedes reports issued on: N/A

Laboratory Identification		190895d	190895r	190903d	190903r	190850t	190860t	190870t	190851s	190871s	190896s
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		23/12/08	--	23/12/08	--	30/12/08	30/12/08	30/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		29/12/08	--	29/12/08	--	31/12/08	31/12/08	31/12/08	24/12/08	24/12/08	29/12/08
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	4	29%	5	18%	--	--	--	70%	59%	78%
Cadmium	0.1	<0.1	--	<0.1	--	--	--	--	105%	87%	104%
Chromium	1	12	9%	7	53%	--	26	24	59%	160%	63%
Copper	2	13	0%	9	11%	--	--	--	70%	#	68%
Nickel	1	9	12%	3	29%	--	--	--	79%	56%	79%
Lead	2	9	0%	7	13%	19	--	--	76%	63%	85%
Zinc	5	16	21%	14	19%	--	--	--	64%	#	84%

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Report No: E041074
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Contact Name: Anne Ashworth
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This report supercedes reports issued on: N/A

Laboratory Identification		crm	lcs	lcs	mb	mb					
Sample Identification		QC	QC	QC	QC	QC					
Depth (m)		--	--	--	--	--					
Sampling Date recorded on COC		--	--	--	--	--					
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	30/12/08	23/12/08	30/12/08					
Laboratory Analysis Date		23/12/08	23/12/08	31/12/08	23/12/08	31/12/08					
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	99%	90%	--	<1	--					
Cadmium	0.1	91%	95%	--	<0.1	--					
Chromium	1	103%	86%	82%	<1	<1					
Copper	2	102%	92%	--	<2	--					
Nickel	1	107%	90%	--	<1	--					
Lead	2	89%	92%	93%	<2	<2					
Zinc	5	91%	94%	--	<5	--					

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		190850	190851	190852	190853	190854	190855	190856	190857	190858	190859
Sample Identification		TP01-1	TP02-1	TP03-1	TP04-1	TP05-1	TP06-1	TP07-1	TP08-1	TP09-1	TP10-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	29/12/08	29/12/08	30/12/08	30/12/08
Method : E026.2 Acid extractable metals - mercury Mercury	EQL 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.05	0.05	<0.05	<0.05

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		190860	190861	190862	190863	190864	190865	190866	190867	190868	190869
Sample Identification		TP11-1	TP12-1	TP13-1	TP14-1	TP15-1	TP16-1	TP17-1	TP18-1	TP19-1	TP20-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08
Method : E026.2 Acid extractable metals - mercury Mercury	EQL 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

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Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		190870	190871	190872	190873	190874	190875	190876	190877	190878	190879
Sample Identification		TP21-1	TP22-1	TP23-1	TP24-1	TP25-1	TP26-1	TP27-1	TP28-1	TP29-1	TP30-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08
Method : E026.2 Acid extractable metals - mercury Mercury	EQL 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		190880	190881	190882	190883	190884	190885	190886	190887	190888	190889
Sample Identification		TP31-1	TP32-1	TP33-1	TP34-1	TP35-1	TP36-1	TP37-1	TP38-1	TP39-1	TP40-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	30/12/08	29/12/08
Method : E026.2 Acid extractable metals - mercury Mercury	EQL 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	0.07

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

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This report supercedes reports issued on: N/A

Laboratory Identification		190890	190891	190894	190895	190896	190897	190898	190899	190900	190901
Sample Identification		DUP1	DUP2	TP01-2	TP06-2	TP10-2	TP12-2	TP20-2	TP22-2	TP25-2	TP32-2
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	16/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08	29/12/08
Method : E026.2 Acid extractable metals - mercury Mercury		EQL 0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		190902	190903	190850d	190850r	190860d	190860r	190870d	190870r	190880d	190880r
Sample Identification		TP39-2	TP40-2	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	--	23/12/08	--	23/12/08	--	23/12/08	--
Laboratory Analysis Date		29/12/08	29/12/08	30/12/08	--	30/12/08	--	30/12/08	--	30/12/08	--
Method : E026.2 Acid extractable metals - mercury Mercury		EQL 0.05	<0.05	<0.05	--	<0.05	--	<0.05	--	<0.05	--

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

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This report supercedes reports issued on: N/A

Laboratory Identification		190895d	190895r	190903d	190903r	190851s	190871s	190896s	crm	lcs	mb
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		23/12/08	--	23/12/08	--	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		29/12/08	--	29/12/08	--	29/12/08	30/12/08	29/12/08	30/12/08	30/12/08	30/12/08
Method : E026.2											
Acid extractable metals - mercury		EQL									
Mercury	0.05	<0.05	--	<0.05	--	115%	80%	111%	115%	106%	<0.05

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

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Laboratory Identification		190850	190851	190852	190853	190854	190855	190856	190857	190858	190859
Sample Identification		TP01-1	TP02-1	TP03-1	TP04-1	TP05-1	TP06-1	TP07-1	TP08-1	TP09-1	TP10-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	15/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E005.2											
Moisture	EQL										
Moisture	--	14	11	14	16	18	21	14	11	15	14

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Identification		190860	190861	190862	190863	190864	190865	190866	190867	190868	190869
Sample Identification		TP11-1	TP12-1	TP13-1	TP14-1	TP15-1	TP16-1	TP17-1	TP18-1	TP19-1	TP20-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E005.2											
Moisture	EQL										
Moisture	--	11	8	10	16	15	14	16	20	15	15

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

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This report supercedes reports issued on: N/A

Laboratory Identification		190870	190871	190872	190873	190874	190875	190876	190877	190878	190879
Sample Identification		TP21-1	TP22-1	TP23-1	TP24-1	TP25-1	TP26-1	TP27-1	TP28-1	TP29-1	TP30-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E005.2											
Moisture	EQL										
Moisture	--	16	11	15	12	8	22	11	15	16	17

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Identification		190880	190881	190882	190883	190884	190885	190886	190887	190888	190889
Sample Identification		TP31-1	TP32-1	TP33-1	TP34-1	TP35-1	TP36-1	TP37-1	TP38-1	TP39-1	TP40-1
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E005.2											
Moisture	EQL										
Moisture	--	10	17	20	17	16	16	13	15	12	15

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

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This report supercedes reports issued on: N/A

Laboratory Identification		190890	190891	190894	190895	190896	190897	190898	190899	190900	190901
Sample Identification		DUP1	DUP2	TP01-2	TP06-2	TP10-2	TP12-2	TP20-2	TP22-2	TP25-2	TP32-2
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		15/12/08	16/12/08	15/12/08	15/12/08	15/12/08	15/12/08	16/12/08	16/12/08	16/12/08	16/12/08
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08	23/12/08
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08	24/12/08
Method : E005.2											
Moisture	EQL										
Moisture	--	14	14	11	15	18	13	10	13	13	14

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Identification		190902	190903	190850d	190850r	190860d	190860r	190870d	190870r	190880d	190880r
Sample Identification		TP39-2	TP40-2	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		16/12/08	16/12/08	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		23/12/08	23/12/08	23/12/08	--	23/12/08	--	23/12/08	--	23/12/08	--
Laboratory Analysis Date		24/12/08	24/12/08	24/12/08	--	24/12/08	--	24/12/08	--	24/12/08	--
Method : E005.2											
Moisture	EQL										
Moisture	--	11	11	15	7%	11	0%	17	6%	10	0%

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Report No: E041074
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		190895d	190895r	190903d	190903r						
Sample Identification		QC	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		--	--	--	--						
Laboratory Extraction (Preparation) Date		23/12/08	--	23/12/08	--						
Laboratory Analysis Date		24/12/08	--	24/12/08	--						
Method : E005.2											
Moisture		EQL									
Moisture		--	15	0%	11	0%					

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Sample Receipt Notice (SRN) for E041074



Quality, Service, Support

Client Details		Laboratory Reference Information	
Client Name: WSP Environmental Pty Ltd Client Phone: 02 8925 6700 Client Fax: 02 8925 6799 Contact Name: Anne Ashworth Contact Email: anne.ashworth@wspgroup.com Client Address: Level 1/ 41 McLaren St North Sydney NSW 2295 Project Name: Werrington Project Number: 1-08-135 CoC Serial Number: - Not provided - Purchase Order: - Not provided - Surcharge: No surcharge applied (results by 6:30pm on due date) Sample Matrix: SOIL		Please have this information ready when contacting Labmark. Laboratory Report: E041074 Quotation Number: Q0580.ES Laboratory Address: Unit 1, 8 Leighton Pl. Asquith NSW 2077 Phone: 61 2 9476 6533 Fax: 61 2 9476 8219 Sample Receipt Contact: Ros Schacht Email: Ros.Schacht@labmark.com.au Reporting Contact: Leanne Boag Email: leanne.boag@labmark.com.au	
Date Sampled (earliest date): 15/12/2008 Date Samples Received: 18/12/2008 Date Sample Receipt Notice issued: 19/12/2008 Date Preliminary Report Due: 29/12/2008 Client TAT Request Date: 29/12/2008		NATA Accreditation: 13542 TGA GMP License: 185-336 (Sydney) APVMA License: 6105 (Sydney) AQIS Approval: NO356 (Sydney) AQIS Entry Permit: 200521534 (Sydney)	

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 08EA2187

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals not required. Direct Labmark's custody taken .
Sample container & chemical preservation suitable .

Comments: Asbestos subcontracted to Amdel SA | TRIP1 and TRIP2 sent to Envirolab as requested on 19/12/08

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of \$1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur \$5.00/ sample/ 3 months. Additional refrigerated storage shall incur \$30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

Subcontracted Analyses:

Reported by Amdel Limited, NATA accreditation No.1526.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample
Receipt
Notice (SRN) for **E041074**



Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

[illegible]

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample Receipt Notice (SRN) for E041074



Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE				Requested Analysis															
No.	Date	Depth	Client Sample ID	BTEX by P&T	Acid extractable metals - mercury	Acid extractable metals (M7)	Moisture	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Polychlorinated Biphenyls (PCB)	Phenols by GC/MS	PREP Not Reported	Petroleum Hydrocarbons (TPH)	Volatile TPH by P&T (VTPH)	External Asbestos			
190882	16/12		TP33-1	●	●	●	●	●	●	●	●	●	●	●	●	●			
190883	16/12		TP34-1	●	●	●	●	●	●	●	●	●	●	●	●	●			
190884	16/12		TP35-1	●	●	●	●	●	●	●	●	●	●	●	●	●			
190885	16/12		TP36-1	●	●	●	●	●	●	●	●	●	●	●	●	●			
190886	16/12		TP37-1	●	●	●	●	●	●	●	●	●	●	●	●	●			
190887	16/12		TP38-1	●	●	●	●	●	●	●	●	●	●	●	●	●			
190888	16/12		TP39-1	●	●	●	●	●	●	●	●	●	●	●	●	●			
190889	16/12		TP40-1	●	●	●	●	●	●	●	●	●	●	●	●	●			
190890	15/12		DUP1	●	●	●	●	●	●	●	●	●	●	●	●	●			
190891	16/12		DUP2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190894	15/12		TP01-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190895	15/12		TP06-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190896	15/12		TP10-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190897	15/12		TP12-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190898	16/12		TP20-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190899	16/12		TP22-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190900	16/12		TP25-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190901	16/12		TP32-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190902	16/12		TP39-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
190903	16/12		TP40-2	●	●	●	●	●	●	●	●	●	●	●	●	●			
Totals:				52	52	52	52	52	52	52	52	52	52	52	52	50			

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample
Receipt
Notice (SRN) for **E041074**



Quality, Service, Support

				Requested Analysis															
No.	Date	Depth	Client Sample ID	M8 - M7-T_S															
190850	15/12		TP01-1	●															
190851	15/12		TP02-1	●															
190852	15/12		TP03-1	●															
190853	15/12		TP04-1	●															
190854	15/12		TP05-1	●															
190855	15/12		TP06-1	●															
190856	15/12		TP07-1	●															
190857	15/12		TP08-1	●															
190858	15/12		TP09-1	●															
190859	15/12		TP10-1	●															
190860	15/12		TP11-1	●															
190861	15/12		TP12-1	●															
190862	15/12		TP13-1	●															
190863	15/12		TP14-1	●															
190864	15/12		TP15-1	●															
190865	16/12		TP16-1	●															
190866	16/12		TP17-1	●															
190867	16/12		TP18-1	●															
190868	16/12		TP19-1	●															
190869	16/12		TP20-1	●															
190870	16/12		TP21-1	●															
190871	16/12		TP22-1	●															
190872	16/12		TP23-1	●															
190873	16/12		TP24-1	●															
190874	16/12		TP25-1	●															
190875	16/12		TP26-1	●															
190876	16/12		TP27-1	●															
190877	16/12		TP28-1	●															
190878	16/12		TP29-1	●															
190879	16/12		TP30-1	●															
190880	16/12		TP31-1	●															
190881	16/12		TP32-1	●															
190882	16/12		TP33-1	●															

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample
Receipt
Notice (SRN) for **E041074**



Quality, Service, Support

				Requested Analysis															
No.	Date	Depth	Client Sample ID	M8 - M7-T_S															
190883	16/12		TP34-1	●															
190884	16/12		TP35-1	●															
190885	16/12		TP36-1	●															
190886	16/12		TP37-1	●															
190887	16/12		TP38-1	●															
190888	16/12		TP39-1	●															
190889	16/12		TP40-1	●															
190890	15/12		DUP1	●															
190891	16/12		DUP2	●															
190894	15/12		TP01-2	●															
190895	15/12		TP06-2	●															
190896	15/12		TP10-2	●															
190897	15/12		TP12-2	●															
190898	16/12		TP20-2	●															
190899	16/12		TP22-2	●															
190900	16/12		TP25-2	●															
190901	16/12		TP32-2	●															
190902	16/12		TP39-2	●															
190903	16/12		TP40-2	●															
Totals:				52															

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

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Ph: (07) 3902 4600 Fax: (07) 3902 4646
1/21 Smallwood Place Murarrie QLD 4172
E: enviro.brisbane@labmark.com.au

☒ SYDNEY

Ph: (02) 9476 6533 Fax: (02) 9476 8219
Unit 1/8 Leighton Place Asquith NSW 2077
E: enviro.sydney@labmark.com.au

Call:
1300 0 LABMARK

LabMark
ENVIRONMENTAL LABORATORIES

Environmental Analysis Request – Chain Of Custody (COC)

Company: WSP Environmental
Address: Level 1, 41 McLaren St
North Sydney
Contact: Anne Ashworth
Telephone: 8925 6700 **Fax:** _____
Email: anne.ashworth@wspgroup.com

Project Name: Werrington
Project Number: 1-08-135
Quote Reference: Q0580.ES
Send Results to: Anne Ashworth/Graeme Malpass (email)
Results Required by*: 24 hrs ☐ 48 hrs ☐ 5 Day ☒ Other ☐
COC Number#: _____
#The COC number will act as a purchase order number if not supplied
Purchase Order No: _____
* Note: TAT of less than 5 days must be pre-arranged with the laboratory and surcharges may apply.

SAMPLE DESCRIPTION					ANALYSIS REQUIRED																
Lab ID	Sample ID	Date & Time Sampled	Soil / Water Other	Comments#	COMPOSITE	TPH – C6-C9	TPH – C10-C36	MAHs	BTEX	PAHs	PCBs	OCs	OPs	Total Phenolics	Speciated Phenols	Metals – Std 17	Metals – Specify **	Mercury	VicEPA 448.3 Screen	C8	Asbestos
190850	TP01-1	15/12/08	S																	X	X
190851	TP02-1	15/12/08																			
190852	TP03-1																				
190853	TP04-1																				
190854	TP05-1																				
190855	TP06-1																				
190856	TP07-1																				
190857	TP08-1																				
190858	TP09-1																				
190859	TP10-1																				
190860	TP11-1																				
190861	TP12-1																				
# Please Provide Field PID Readings where possible					Totals:															12	12
** METALS (Please circle): Al; Sb; <u>As</u> ; Ba; Be; Bi; B; <u>Cd</u> ; Ca; Cs; <u>Cr</u> ; Co; <u>Cu</u> ; Fe; <u>Pb</u> ; Li; Mg; Mn; Mo; <u>Ni</u> ; Pd; P; Pt; K; Se; Si; Ag; Na; Sr; S; Ti; Th; Sn; Tl; W; U; V; <u>Zn</u> ; Hg																					

Chain of Custody

Relinquished by: A. Ashworth Date/Time: 18/12/08 OCP's+OPP's+PCB's+M8
Received by: JD Date/Time: 18/12 1200 Alastair
Relinquished by: _____ Date/Time: _____
Received by: _____ Date/Time: _____
Relinquished by: _____ Date/Time: _____
Received by: _____ Date/Time: _____

Special Requirements (eg. OHS issues etc.)

C8 - TPH+BTEX+PAH's+PhOH's+

Sample Receipt Advice (Lab Use Only)

All Samples Received in Good Condition ☐
All Documentation in Proper Order ☐
Samples Received with an Attempt to Chill ☐
Samples Received Within Holding Times ☐
Average sample temp on receipt: (°C) _____
For enquires please quote Ref. No. 8041074

☐ MELBOURNE

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E: enviro.melbourne@labmark.com.au

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1/21 Smallwood Place Murarie QLD 4172
E: enviro.brisbane@labmark.com.au

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Ph: (02) 9476 6533 Fax: (02) 9476 8219
Unit 1/8 Leighton Place Asquith NSW 2077
E: enviro.sydney@labmark.com.au

Call:
1300 0 LABMARK


ENVIRONMENTAL LABORATORIES

Environmental Analysis Request – Chain Of Custody (COC)

Company: WSP Environmental
Address: Level 1, 41 McLaren St
North Sydney
Contact: Anne Ashworth
Telephone: 8925 6700 **Fax:** _____
Email: anne.ashworth@wspgroup.com

Project Name: Werrington
Project Number: 1-08-135
Quote Reference: Q0580.ES
Send Results to: Anne Ashworth/Graeme Malpass (email)
Results Required by*: 24 hrs ☐ 48 hrs ☐ 5 Day ☒ Other ☐
COC Number*: _____
#The COC number will act as a purchase order number if not supplied
Purchase Order No: _____
* Note: TAT of less than 5 days must be pre-arranged with the laboratory and surcharges may apply.

SAMPLE DESCRIPTION

ANALYSIS REQUIRED

Lab ID	Sample ID	Date & Time Sampled	Soil / Water Other	Comments#	COMPOSITE	TPH – C6-C9	TPH – C10-C36	MAHs	BTEX	PAHs	PCBs	OCs	OPs	Total Phenolics	Speciated Phenols	Metals – Std 17	Metals – Specify **	Mercury	VicEPA 448.3 Screen	C8	Asbestos
190862	TP13-1	15/12/08	S																	X	X
190863	TP14-1																				
190864	TP15-1																				
190865	TP16-1	16/12/08																			
190866	TP17-1																				
190867	TP18-1																				
190868	TP19-1																				
190869	TP20-1																				
190870	TP21-1																				
190871	TP22-1																				
190872	TP23-1																				
190873	TP24-1																				
# Please Provide Field PID Readings where possible					Totals:															12	12

** METALS (Please circle): Al; Sb; As; Ba; Be; Bi; B; Cd; Ca; Cs; Cr; Co; Cu; Fe; Pb; Li; Mg; Mn; Mo; Ni; Pd; P; Pt; K; Se; Si; Ag; Na; Sr; S; Ti; Th; Sn; Tl; W; U; V; Zn

Chain of Custody

Special Requirements (eg. OHS issues etc.)

Sample Receipt Advice (Lab Use Only)

Relinquished by: A. Ashworth Date/Time: 18/12/08
Received by: [Signature] Date/Time: 18/12 1200
Relinquished by: _____ Date/Time: _____
Received by: _____ Date/Time: _____
Relinquished by: _____ Date/Time: _____
Received by: _____ Date/Time: _____

OCP's+OPP's+PCB's+M8
C8 - TPH+BTEX+PAH's+PhOH's+

All Samples Received in Good Condition ☐
All Documentation in Proper Order ☐
Samples Received with an Attempt to Chill ☐
Samples Received Within Holding Times ☐

Average sample temp on receipt: (°C) _____

For enquires please quote Ref. No. E041074

☐ MELBOURNE

Ph: (03) 9538 2277 Fax: (03) 9538 2278
1868 Dandenong Road Clayton VIC 3168
E: enviro.melbourne@labmark.com.au

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E: enviro.brisbane@labmark.com.au

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E: enviro.sydney@labmark.com.au

Call:
1300 0 LABMARK

LabMark
ENVIRONMENTAL LABORATORIES

Environmental Analysis Request – Chain Of Custody (COC)

Company: WSP Environmental
Address: Level 1, 41 McLaren St
North Sydney
Contact: Anne Ashworth
Telephone: 8925 6700 **Fax:** _____
Email: anne.ashworth@wspgroup.com

Project Name: Werrington
Project Number: 1-08-135
Quote Reference: Q0580.ES
Send Results to: Anne Ashworth/Graeme Malpass (email)
Results Required by*: 24 hrs ☐ 48 hrs ☐ 5 Day ☒ Other ☐
* Note: TAT of less than 5 days must be pre-arranged with the laboratory and surcharges may apply.
COC Number#: _____
#The COC number will act as a purchase order number if not supplied
Purchase Order No: _____

SAMPLE DESCRIPTION

ANALYSIS REQUIRED

Lab ID	Sample ID	Date & Time Sampled	Soil / Water Other	Comments#	COMPOSITE	TPH – C6-C9	TPH – C10-C36	MAHs	BTEX	PAHs	PCBs	OCs	OPs	Total Phenolics	Speciated Phenols	Metals – Std 17	Metals – Specify **	Mercury	VicEPA 448.3 Screen	C8	Asbestos
190874	TP25-1	16/12/08	S																	X	X
190875	TP26-1																				
190876	TP27-1																				
190877	TP28-1																				
190878	TP29-1																				
190879	TP30-1																				
190880	TP31-1																				
190881	TP32-1																				
190882	TP33-1																				
190883	TP34-1																				
190884	TP35-1																				
190885	TP36-1																				
# Please Provide Field PID Readings where possible					Totals:															12	12

** METALS (Please circle): Al; Sb; As; Ba; Be; Bi; B; Cd; Ca; Cs; Cr; Co; Cu; Fe; Pb; Li; Mg; Mn; Mo; Ni; Pd; P; Pt; K; Se; Si; Ag; Na; Sr; S; Ti; Th; Sn; Ti; W; U; V; Zn

Chain of Custody

Special Requirements (eg. OHS issues etc.)

Sample Receipt Advice (Lab Use Only)

Relinquished by: A. ASHWORTH Date/Time: 18/12/08 OCP's+OPP's+PCB's+M8
Received by: [Signature] Date/Time: 18/12 1200
Relinquished by: _____ Date/Time: _____
Received by: _____ Date/Time: _____
Relinquished by: _____ Date/Time: _____
Received by: _____ Date/Time: _____

All Samples Received in Good Condition ☐
All Documentation in Proper Order ☐
Samples Received with an Attempt to Chill ☐
Samples Received Within Holding Times ☐
Average sample temp on receipt: (°C) _____
For enquires please quote Ref. No. E041074

☐ MELBOURNE

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1868 Dandenong Road Clayton VIC 3168
E: enviro.melbourne@labmark.com.au

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E: enviro.brisbane@labmark.com.au

☒ SYDNEY

Ph: (02) 9476 6533 Fax: (02) 9476 8219
Unit 1/8 Leighton Place Asquith NSW 2077
E: enviro.sydney@labmark.com.au

Call:
1300 0 LABMARK

LabMark
ENVIRONMENTAL LABORATORIES

Environmental Analysis Request – Chain Of Custody (COC)

Company: WSP Environmental
Address: Level 1, 41 McLaren St
North Sydney
Contact: Anne Ashworth
Telephone: 8925 6700 **Fax:** _____
Email: anne.ashworth@wspgroup.com

Project Name: Werrington
Project Number: 1-08-135
Quote Reference: Q0580.ES
Send Results to: Anne Ashworth/Graeme Malpass (email)
Results Required by*: 24 hrs ☐ 48 hrs ☐ 5 Day ☒ Other ☐
* Note: TAT of less than 5 days must be pre-arranged with the laboratory and surcharges may apply.

COC Number#: _____
#The COC number will act as a purchase order number if not supplied

Purchase Order No: _____

SAMPLE DESCRIPTION

ANALYSIS REQUIRED

Lab ID	Sample ID	Date & Time Sampled	Soil / Water Other	Comments#	COMPOSITE	TPH – C6-C9	TPH – C10-C36	MAHs	BTEX	PAHs	PCBs	OCs	OPs	Total Phenolics	Speciated Phenols	Metals – Std 17	Metals – Specify **	Mercury	McEPA 448.3 Screen	C8	Asbestos
190886	TP37-1	16/12/08	S																	X	
190887	TP38-1																				
190888	TP39-1																				
190889	TP40-1																				
190890	DUP1	15/12/08																		X	
190891	DUP2	16/12/08																		X	
190892	TRIP1	15/12/08																		X	
190893	TRIP2	16/12/08																		X	
190894	TP01-2	15/12/08																		X	X
190895	TP06-2	15/12/08																			
190896	TP10-2																				
190897	TP12-2																				
# Please Provide Field PID Readings where possible					Totals:															28	8

** METALS (Please circle): Al; Sb; As; Ba; Be; Bi; B; Cd; Ca; Cs; Cr; Co; Cu; Fe; Pb; Li; Mg; Mn; Mo; Ni; Pd; P; Pt; K; Se; Si; Ag; Na; Sr; S; Ti; Th; Sn; Ti; W; U; V; Zn

Chain of Custody

Special Requirements (eg. OHS issues etc.)

Sample Receipt Advice (Lab Use Only)

Relinquished by: A. Ashworth Date/Time: 8/12/08 OCP's+OPP's+PCB's+M8
Received by: DR Date/Time: 8/12/2008
Relinquished by: _____ Date/Time: _____
Received by: _____ Date/Time: _____
Relinquished by: _____ Date/Time: _____
Received by: _____ Date/Time: _____

All Samples Received in Good Condition ☐
All Documentation in Proper Order ☐
Samples Received with an Attempt to Chill ☐
Samples Received Within Holding Times ☐

Average sample temp on receipt: (°C) _____

For enquires please quote Ref. No. E041074

Ph: (03) 9538 2277 Fax: (03) 9538 2278
1868 Dandenong Road Clayton VIC 3168
E: enviro.melbourne@labmark.com.au

Ph: (07) 3902 4600 Fax: (07) 3902 4646
1/21 Smallwood Place Murarrie QLD 4172
E: enviro.brisbane@labmark.com.au

Ph: (02) 9476 6533 Fax: (02) 9476 8219
Unit 1/8 Leighton Place Asquith NSW 2077
E: enviro.sydney@labmark.com.au

Call: 1300 0 LABMARK



LabMark
ENVIRONMENTAL LABORATORIES

Company: WSP Environmental

Address: Level 1, 41 McLaren St
North Sydney

Contact: Anne Ashworth

Telephone: 8925 6700 **Fax:** _____

Email: anne.ashworth@wspgroup.com

Project Name: Werrington Project Number: 1-08-135 Quote Reference: Q0580.ES Send Results to: Anne Ashworth/Graeme Malpass	COC Number#: #The COC number will act as a purchase order number if not supplied. Purchase Order No: Results Required by*: 24 hrs ☐ 48 hrs ☐ 5 Day ☒ Other ☐
--	---

* Note: TAT of less than 5 days must be pre-arranged with the laboratory and surcharges may apply.

Please Provide Field PID Readings where possible

** **METALS** (Please circle): Al; Sb; **As**; Ba; Be; Bi; B; **Cd**; Ca; Cs; **Cr**; Co; **Cu**; Fe; **Pb**; Li; Mg; Mn; Mo; **Ni**; Pd; P; Pt; K; Se; Si; Ag; Na; Sr; S; Ti; Th; Sn; Tl; W; U; V; **Zn**

Sample Receipt Advice (Lab Use Only)

Relinquished by: <u>A. ASHWORTH</u>	Date/Time: <u>18/12/08</u>	OCIP's+OPP's+PCB's+M8
Received by: <u>[Signature]</u>	Date/Time: <u>18/12 1200</u>	
Relinquished by: _____	Date/Time: _____	
Received by: _____	Date/Time: _____	
Relinquished by: _____	Date/Time: _____	
Received by: _____	Date/Time: _____	

All Samples Received in Good Condition ☐

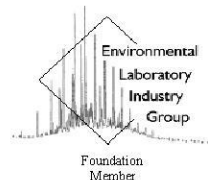
All Documentation in Proper Order ☐

Samples Received with an Attempt to Chill ☐

Samples Received Within Holding Times ☐

Average sample temp on receipt: (°C) _____

For enquires please quote Ref. No. E041074



Laboratory Report: E041385

Cover Page 2 of 4

NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

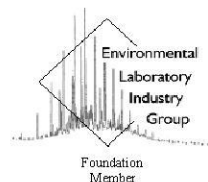
- A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.
- B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.
- C. Laboratory QA/QC samples are specific to this project.
- D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.
- E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.
- F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.
- G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.
- H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.
- I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

- A. SRN issued to client upon sample receipt & login verification.
- B. Preservation & sampling date details specified on COC and SRN, unless noted.
- C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

- A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).
- B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.
- C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.
Reported by Amdel Limited, NATA accreditation No.1526.



Laboratory Report: E041385

Cover Page 3 of 4

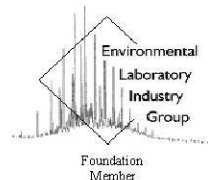
4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **SOIL**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	BTEX by P&T	4	0	0%	0	0	0%
1	Volatile TPH by P&T (vTPH)	4	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	4	0	0%	0	0	0%
3	Polyaromatic Hydrocarbons (PAH)	4	0	0%	0	0	0%
4	Phenols by GC/MS	4	0	0%	0	0	0%
5	Organochlorine Pesticides (OC)	4	0	0%	0	0	0%
6	Organophosphorus Pesticides (OP)	4	0	0%	0	0	0%
7	Polychlorinated Biphenyls (PCB)	4	0	0%	0	0	0%
8	Acid extractable metals (M7)	4	0	0%	0	0	0%
9	Acid extractable metals - mercury	4	0	0%	0	0	0%
10	Moisture	4	--	--	--	--	--

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).



Laboratory Report: E041385

Cover Page 4 of 4

5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

- A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, Corporate Site No. 13535, unless indicated below.
- B. The following test was conducted by Amdel Limited, NATA accreditation No.1526. :- Asbestos, results to follow.

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

Laboratory Report No: E041385
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

Page: 1 of 10
plus cover page
Date: 30/01/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832	lcs	mb				
Sample Identification		MW101	MW102	MW103	MW102	QC	QC				
Depth (m)		0.3	0.3	0.3	3.0	--	--				
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09	--	--				
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Laboratory Analysis Date		28/1/09	28/1/09	28/1/09	28/1/09	27/1/09	27/1/09				
Method : E002.2											
BTEX by P&T		EQL									
Benzene	0.2	<0.2	<0.2	<0.2	<0.2	95%	<0.2				
Toluene	0.5	<0.5	<0.5	<0.5	<0.5	98%	<0.5				
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5	93%	<0.5				
meta- and para-Xylene	1	<1	<1	<1	<1	97%	<1				
ortho-Xylene	0.5	<0.5	<0.5	<0.5	<0.5	97%	<0.5				
Total Xylene	--	--	--	--	--	--	--				
CDFB (Surr @ 10mg/kg)	--	80%	81%	88%	78%	94%	102%				
Method : E003.2											
Volatile TPH by P&T (vTPH)		EQL									
C6 - C9 Fraction	10	<10	<10	<10	<10	86%	<10				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E002.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/PID/MSD.

E003.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID.

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Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832	lcs	mb				
Sample Identification		MW101	MW102	MW103	MW102	QC	QC				
Depth (m)		0.3	0.3	0.3	3.0	--	--				
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09	--	--				
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Laboratory Analysis Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Method : E006.2											
Petroleum Hydrocarbons (TPH)	EQL										
C10 - C14 Fraction	50	<50	<50	<50	<50	79%	<50				
C15 - C28 Fraction	100	<100	<100	<100	<100	--	<100				
C29 - C36 Fraction	100	<100	<100	<100	<100	--	<100				
Sum of TPH C10 - C36	--	--	--	--	--	--	--				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/FID.

Laboratory Report No: E041385
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832	lcs	mb				
Sample Identification		MW101	MW102	MW103	MW102	QC	QC				
Depth (m)		0.3	0.3	0.3	3.0	--	--				
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09	--	--				
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Laboratory Analysis Date		28/1/09	28/1/09	28/1/09	28/1/09	27/1/09	27/1/09				
Method : E007.2											
Polyaromatic Hydrocarbons (PAH)	EQL										
Naphthalene	0.5	<0.5	<0.5	<0.5	<0.5	85%	<0.5				
Acenaphthylene	0.5	<0.5	<0.5	<0.5	<0.5	85%	<0.5				
Acenaphthene	0.5	<0.5	<0.5	<0.5	<0.5	84%	<0.5				
Fluorene	0.5	<0.5	<0.5	<0.5	<0.5	88%	<0.5				
Phenanthrene	0.5	<0.5	<0.5	<0.5	<0.5	87%	<0.5				
Anthracene	0.5	<0.5	<0.5	<0.5	<0.5	89%	<0.5				
Fluoranthene	0.5	<0.5	<0.5	<0.5	<0.5	87%	<0.5				
Pyrene	0.5	<0.5	<0.5	<0.5	<0.5	88%	<0.5				
Benz(a)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	89%	<0.5				
Chrysene	0.5	<0.5	<0.5	<0.5	<0.5	109%	<0.5				
Benzo(b)&(k)fluoranthene	1	<1	<1	<1	<1	88%	<1				
Benzo(a) pyrene	0.5	<0.5	<0.5	<0.5	<0.5	86%	<0.5				
Indeno(1,2,3-c,d)pyrene	0.5	<0.5	<0.5	<0.5	<0.5	79%	<0.5				
Dibenz(a,h)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	91%	<0.5				
Benzo(g,h,i)perylene	0.5	<0.5	<0.5	<0.5	<0.5	73%	<0.5				
Sum of reported PAHs	--	--	--	--	--	--	--				
2-FBP (Surr @ 5mg/kg)	--	92%	78%	96%	95%	77%	80%				
TP-d14 (Surr @ 5mg/kg)	--	94%	73%	94%	90%	84%	85%				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E007.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Report No: E041385
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832	lcs	mb				
Sample Identification		MW101	MW102	MW103	MW102	QC	QC				
Depth (m)		0.3	0.3	0.3	3.0	--	--				
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09	--	--				
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Laboratory Analysis Date		28/1/09	28/1/09	28/1/09	28/1/09	28/1/09	28/1/09				
Method : E008.2											
Phenols by GC/MS	EQL										
Phenol	0.5	<0.5	<0.5	<0.5	<0.5	87%	<0.5				
2-chlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	89%	<0.5				
2-methylphenol	0.5	<0.5	<0.5	<0.5	<0.5	82%	<0.5				
3-&4-methylphenol	1.0	<1.0	<1.0	<1.0	<1.0	83%	<1.0				
2-nitrophenol	0.5	<0.5	<0.5	<0.5	<0.5	90%	<0.5				
2,4-dimethylphenol	0.5	<0.5	<0.5	<0.5	<0.5	91%	<0.5				
2,4-dichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	89%	<0.5				
4-chloro-3-methylphenol	0.5	<0.5	<0.5	<0.5	<0.5	79%	<0.5				
2,4,6-trichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	81%	<0.5				
2,4,5-trichlorophenol	0.5	<0.5	<0.5	<0.5	<0.5	82%	<0.5				
Pentachlorophenol	1	<1	<1	<1	<1	60%	<1				
Sum of reported phenols	--	--	--	--	--	--	--				
2-FP (Surr @ 5mg/kg)	--	86%	68%	86%	82%	79%	77%				
Phenol-d5 (Surr @ 5mg/kg)	--	69%	64%	81%	60%	78%	72%				
2,4,6-TBP (Surr @ 5mg/kg)	--	84%	64%	74%	77%	82%	73%				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Report No: E041385
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832	lcs	mb				
Sample Identification		MW101	MW102	MW103	MW102	QC	QC				
Depth (m)		0.3	0.3	0.3	3.0	--	--				
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09	--	--				
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Laboratory Analysis Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Method : E013.2											
Organochlorine Pesticides (OC)	EQL										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	130%	<0.05				
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	127%	<0.05				
b-BHC	0.05	<0.05	<0.05	<0.05	<0.05	104%	<0.05				
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	<0.05	107%	<0.05				
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	130%	<0.05				
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	123%	<0.05				
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	93%	<0.05				
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	118%	<0.05				
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	94%	<0.05				
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	115%	<0.05				
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	118%	<0.05				
Dieldrin	0.05	<0.05	<0.05	<0.05	<0.05	93%	<0.05				
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	92%	<0.05				
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	100%	<0.05				
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	116%	<0.05				
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	98%	<0.05				
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	88%	<0.05				
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	91%	<0.2				
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	94%	<0.2				
DBC (Surr @ 0.2mg/kg)	--	120%	110%	122%	118%	111%	119%				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

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Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832	lcs	mb				
Sample Identification		MW101	MW102	MW103	MW102	QC	QC				
Depth (m)		0.3	0.3	0.3	3.0	--	--				
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09	--	--				
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Laboratory Analysis Date		29/1/09	29/1/09	29/1/09	29/1/09	29/1/09	29/1/09				
Method : E014.2											
Organophosphorus Pesticides (OP)	EQL										
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	93%	<0.5				
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	111%	<0.5				
Demeton (total)	1	<1	<1	<1	<1	103%	<1				
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	114%	<0.5				
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	95%	<0.5				
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	101%	<0.5				
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	108%	<0.5				
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	90%	<0.5				
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	98%	<0.5				
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	94%	<0.5				
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	95%	<0.5				
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	87%	<0.5				
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	113%	<0.5				
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	89%	<0.5				
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	105%	<0.5				
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	91%	<0.5				
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	121%	<0.5				
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	106%	<0.5				
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	95%	<0.5				
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	90%	<0.5				
TPP (Surr @ 2mg/kg)	--	105%	108%	102%	105%	108%	105%				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E041385
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832	lcs	mb				
Sample Identification		MW101	MW102	MW103	MW102	QC	QC				
Depth (m)		0.3	0.3	0.3	3.0	--	--				
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09	--	--				
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Laboratory Analysis Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09				
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5				
Arochlor 1232	0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5				
Arochlor 1242	0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5				
Arochlor 1248	0.5	<0.5	<0.5	<0.5	<0.5	111%	<0.5				
Arochlor 1254	0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5				
Arochlor 1260	0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5				
Sum of reported PCBs	--	--	--	--	--	--	--				
DBC (Surr @ 0.2mg/kg)	--	120%	110%	122%	118%	118%	119%				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E041385
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832	crm	lcs	mb			
Sample Identification		MW101	MW102	MW103	MW102	QC	QC	QC			
Depth (m)		0.3	0.3	0.3	3.0	--	--	--			
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09	--	--	--			
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09			
Laboratory Analysis Date		28/1/09	28/1/09	28/1/09	28/1/09	28/1/09	28/1/09	28/1/09			
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	5	4	5	1	74%	88%	<1			
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	100%	105%	<0.1			
Chromium	1	19	17	17	2	84%	85%	<1			
Copper	2	8	5	12	4	74%	85%	<2			
Nickel	1	2	2	5	2	79%	84%	<1			
Lead	2	10	10	19	5	94%	99%	<2			
Zinc	5	7	5	11	6	75%	99%	<5			

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Report No: E041385
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832	crm	lcs	mb			
Sample Identification		MW101	MW102	MW103	MW102	QC	QC	QC			
Depth (m)		0.3	0.3	0.3	3.0	--	--	--			
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09	--	--	--			
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09	27/1/09			
Laboratory Analysis Date		27/1/09	27/1/09	27/1/09	27/1/09	28/1/09	28/1/09	28/1/09			
Method : E026.2											
Acid extractable metals - mercury		EQL									
Mercury	0.05	<0.05	<0.05	<0.05	<0.05	99%	102%	<0.05			

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Report No: E041385
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: Werrington 1-08-135

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This report supercedes reports issued on: N/A

Laboratory Identification		193829	193830	193831	193832						
Sample Identification		MW101	MW102	MW103	MW102						
Depth (m)		0.3	0.3	0.3	3.0						
Sampling Date recorded on COC		21/1/09	21/1/09	21/1/09	21/1/09						
Laboratory Extraction (Preparation) Date		27/1/09	27/1/09	27/1/09	27/1/09						
Laboratory Analysis Date		28/1/09	28/1/09	28/1/09	28/1/09						
Method : E005.2											
Moisture	EQL										
Moisture	--	13	7	9	14						

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Sample Receipt Notice (SRN) for E041385



Quality, Service, Support

Client Details		Laboratory Reference Information	
Client Name: WSP Environmental Pty Ltd Client Phone: 02 8925 6700 Client Fax: 02 8925 6799 Contact Name: Anne Ashworth Contact Email: anne.ashworth@wspgroup.com Client Address: Level 1/ 41 McLaren St North Sydney NSW 2295 Project Name: Werrington Project Number: 1-08-135 CoC Serial Number: - Not provided - Purchase Order: - Not provided - Surcharge: No surcharge applied (results by 6:30pm on due date) Sample Matrix: SOIL		Please have this information ready when contacting Labmark. Laboratory Report: E041385 Quotation Number: Q0580.ES Laboratory Address: Unit 1, 8 Leighton Pl. Asquith NSW 2077 Phone: 61 2 9476 6533 Fax: 61 2 9476 8219 Sample Receipt Contact: Ros Schacht Email: Ros.Schacht@labmark.com.au Reporting Contact: Leanne Boag Email: leanne.boag@labmark.com.au	
Date Sampled (earliest date): 21/01/2009 Date Samples Received: 22/01/2009 Date Sample Receipt Notice issued: 23/01/2009 Date Preliminary Report Due: 30/01/2009 Client TAT Request Date: 30/01/2009		NATA Accreditation: 13542 TGA GMP License: 185-336 (Sydney) APVMA License: 6105 (Sydney) AQIS Approval: NO356 (Sydney) AQIS Entry Permit: 200521534 (Sydney)	

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 09EA2510

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: No cooling media .
Samples received warm.
Security seals not required. Direct Labmark's custody taken .
Sample container & chemical preservation suitable .

Comments: Asbestos subcontracted to LabMark SA

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of \$1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur \$5.00/ sample/ 3 months. Additional refrigerated storage shall incur \$30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

Subcontracted Analyses:

Reported by Amdel Limited, NATA accreditation No.1526.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample Receipt Notice (SRN) for E041385



Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE				Requested Analysis																				
No.	Date	Depth	Client Sample ID	BTEX by P&T	Acid extractable metals - mercury	Acid extractable metals (M7)	Moisture	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Polychlorinated Biphenyls (PCB)	Phenols by GC/MS	PREP Not Reported	Petroleum Hydrocarbons (TPH)	Volatile TPH by P&T (vTPH)	External Asbestos								
193829	21/01	0.3	MW101	●	●	●	●	●	●	●	●	●	●	●	●	●								
193830	21/01	0.3	MW102	●	●	●	●	●	●	●	●	●	●	●	●	●								
193831	21/01	0.3	MW103	●	●	●	●	●	●	●	●	●	●	●	●	●								
193832	21/01	3.0	MW102	●	●	●	●	●	●	●	●	●	●	●	●	●								
193833	21/01		Asb01										●			●								
Totals:				4	4	4	4	4	4	4	4	4	5	4	4	5								

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample
Receipt
Notice (SRN) for **E041385**



Quality, Service, Support

				Requested Analysis															
No.	Date	Depth	Client Sample ID	M8 - M7-T_S															
193829	21/01	0.3	MW101	●															
193830	21/01	0.3	MW102	●															
193831	21/01	0.3	MW103	●															
193832	21/01	3.0	MW102	●															
Totals:				4															

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

☐ MELBOURNE

Ph: (03) 9538 2277 Fax: (03) 9538 2278
1868 Dandenong Road Clayton VIC 3168
E: enviro.melbourne@labmark.com.au

☐ BRISBANE

Ph: (07) 3902 4600 Fax: (07) 3902 4646
1/21 Smallwood Place Murarrie QLD 4172
E: enviro.brisbane@labmark.com.au

☒ SYDNEY

Ph: (02) 9476 6533 Fax: (02) 9476 8219
Unit 1/8 Leighton Place Asquith NSW 2077
E: enviro.sydney@labmark.com.au

Call:
1300 0 LABMARK


ENVIRONMENTAL LABORATORIES

Environmental Analysis Request – Chain Of Custody (COC)

Company: WSP Environmental
Address: Level 1, 41 McLaren St
North Sydney
Contact: Anne Ashworth
Telephone: 8925 6700 **Fax:** _____
Email: anne.ashworth@wspgroup.com

Project Name: Werrington
Project Number: 1-08-135
Quote Reference: Q0580.ES
Send Results to: Anne Ashworth/Graeme Malpass (email)
Results Required by*: 24 hrs ☐ 48 hrs ☐ 5 Day ☒ Other ☐
* Note: TAT of less than 5 days must be pre-arranged with the laboratory and surcharges may apply.

COC Number#: _____
#The COC number will act as a purchase order number if not supplied

Purchase Order No: _____

SAMPLE DESCRIPTION

ANALYSIS REQUIRED

Lab ID	Sample ID	Date & Time Sampled	Soil / Water Other	Comments#	COMPOSITE	TPH – C6-C9	TPH – C10-C36	MAHs	BTEX	PAHs	PCBs	OCs	OPs	Total Phenolics	Speciated Phenols	Metals – Std 17	Metals – Specify **	Mercury	VicEPA 448.3 Screen	C8	Asbestos
193829	MW1010.3	21/1/09	S																	X	X
193830	MW1020.3																			X	X
193831	MW1030.3																			X	X
193832	MW10213																			X	X
193833	AG601	21/1/09																			X

Please Provide Field PID Readings where possible

Totals:

** METALS (Please circle): Al; Sb; As; Ba; Be; Bi; B; Cd; Ca; Cs; Cr; Co; Cu; Fe; Pb; Li; Mg; Mn; Mo; Ni; Pd; P; Pt; K; Se; Si; Ag; Na; Sr; S; Ti; Th; Sn; Ti; W; U; V; Zn

Chain of Custody

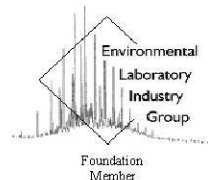
Special Requirements (eg. OHS issues etc.)

Sample Receipt Advice (Lab Use Only)

Relinquished by: [Signature] Date/Time: 22/1/09 OCP's+OPP's+PCB's+M8
Received by: [Signature] Date/Time: 22/1/09
Relinquished by: _____ Date/Time: _____
Received by: [Signature] Date/Time: 22-1-09 15:15
Relinquished by: _____ Date/Time: _____
Received by: _____ Date/Time: _____

All Samples Received in Good Condition ☒
All Documentation in Proper Order ☒
Samples Received with an Attempt to Chill ☒
Samples Received Within Holding Times ☒

Average sample temp on receipt: (°C) 27.0
For enquires please quote Ref. No. EC41385



Laboratory Report: E041483

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NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

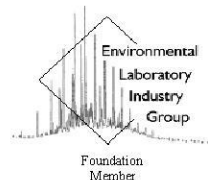
- A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.
- B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.
- C. Laboratory QA/QC samples are specific to this project.
- D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.
- E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.
- F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.
- G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomalous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.
- H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.
- I. LabMark shall maintain an official copy of this Certificate of Analysis for all traceable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

- A. SRN issued to client upon sample receipt & login verification.
- B. Preservation & sampling date details specified on COC and SRN, unless noted.
- C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

- A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).
- B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.
- C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.



Laboratory Report: E041483

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4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **WATER**

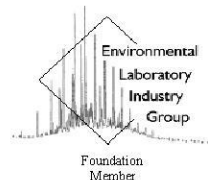
Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	BTEX by P&T	4	0	0%	0	0	0%
1	Volatile TPH by P&T (vTPH)	4	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	4	0	0%	0	0	0%
3	Polycyclic Aromatic Hydrocarbons (PAH)	4	0	0%	0	0	0%
4	Volatile Halogenated Compounds (VHC)	4	0	0%	0	0	0%
6	Filtered metals (M7)	4	0	0%	0	0	0%
7	Filtered mercury	4	0	0%	0	0	0%
8	Total Phenolics	4	0	0%	0	0	0%

GLOSSARY:

- #d number of discrete duplicate extractions/analyses performed.
- %d-ratio NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
- #t number of triplicate extractions/analyses performed.
- #s number of spiked samples analysed.
- %s-ratio USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, Corporate Site No. 13535, unless indicated below.



Laboratory Report: E041483

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Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

Laboratory Report No: E041483
Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: UWS Werrington 1-08-135

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Laboratory Identification		195044	195045	195046	195047	lcs	mb				
Sample Identification		MW101	MW102	MW103	DUP1	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		30/1/09	30/1/09	30/1/09	30/1/09	--	--				
Laboratory Extraction (Preparation) Date		3/2/09	3/2/09	3/2/09	3/2/09	3/2/09	3/2/09				
Laboratory Analysis Date		3/2/09	3/2/09	3/2/09	3/2/09	3/2/09	3/2/09				
Method : E029.1/E016.1											
BTEX by P&T		EQL									
Benzene	1	<1	<1	<1	<1	93%	<1				
Toluene	1	<1	<1	<1	<1	93%	<1				
Ethylbenzene	1	<1	<1	<1	<1	92%	<1				
meta- & para-Xylene	2	<2	<2	<2	<2	96%	<2				
ortho-Xylene	1	<1	<1	<1	<1	99%	<1				
Total Xylene	--	--	--	--	--	--	--				
4-BFB (Surr @ 50ug/l)	--	119%	125%	128%	130%	101%	129%				
Method : E029.1/E016.1											
Volatile TPH by P&T (vTPH)		EQL									
C6-C9	50	<50	<50	<50	<50	123%	<50				

Results expressed in ug/l unless otherwise specified

Comments:

E029.1/E016.1: Direct injection into P&T/GC/FID/MSD.

E029.1/E016.1: Direct injection into P&T/GC/MSD.

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Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: UWS Werrington 1-08-135

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Laboratory Identification		195044	195045	195046	195047	lcs	mb				
Sample Identification		MW101	MW102	MW103	DUP1	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		30/1/09	30/1/09	30/1/09	30/1/09	--	--				
Laboratory Extraction (Preparation) Date		4/2/09	4/2/09	4/2/09	4/2/09	4/2/09	4/2/09				
Laboratory Analysis Date		4/2/09	4/2/09	4/2/09	4/2/09	4/2/09	4/2/09				
Method : E004.1											
Petroleum Hydrocarbons (TPH)		EQL									
C10-C14 Fraction	50	<50	<50	<50	<50	--	<50				
C15-C28 Fraction	200	<200	<200	<200	<200	78%	<200				
C29-C36 Fraction	50	<50	<50	<50	<50	--	<50				
Sum of TPH C10 - C36	--	--	--	--	--	--	--				

Results expressed in ug/l unless otherwise specified

Comments:

E004.1: Triple extraction with DCM. Analysis by GC/FID.

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Contact Name: Anne Ashworth
Client Reference: UWS Werrington 1-08-135

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Laboratory Identification		195044	195045	195046	195047	lcs	mb				
Sample Identification		MW101	MW102	MW103	DUP1	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		30/1/09	30/1/09	30/1/09	30/1/09	--	--				
Laboratory Extraction (Preparation) Date		4/2/09	4/2/09	4/2/09	4/2/09	4/2/09	4/2/09				
Laboratory Analysis Date		4/2/09	4/2/09	4/2/09	4/2/09	4/2/09	4/2/09				
Method : E007.1											
Polyaromatic Hydrocarbons (PAH)	EQL										
Naphthalene	1	<1	<1	<1	<1	95%	<1				
Acenaphthylene	1	<1	<1	<1	<1	102%	<1				
Acenaphthene	1	<1	<1	<1	<1	103%	<1				
Fluorene	1	<1	<1	<1	<1	106%	<1				
Phenanthrene	1	<1	<1	<1	<1	103%	<1				
Anthracene	1	<1	<1	<1	<1	102%	<1				
Fluoranthene	1	<1	<1	<1	<1	101%	<1				
Pyrene	1	<1	<1	<1	<1	104%	<1				
Benz(a)anthracene	1	<1	<1	<1	<1	102%	<1				
Chrysene	1	<1	<1	<1	<1	127%	<1				
Benzo(b)&(k)fluoranthene	2	<2	<2	<2	<2	97%	<2				
Benzo(a) pyrene	1	<1	<1	<1	<1	94%	<1				
Indeno(1,2,3-c,d)pyrene	1	<1	<1	<1	<1	99%	<1				
Dibenz(a,h)anthracene	1	<1	<1	<1	<1	125%	<1				
Benzo(g,h,i)perylene	1	<1	<1	<1	<1	92%	<1				
Sum of reported PAHs	--	--	--	--	--	--	--				
2-FBP (Surr @ 250ug/l)	--	114%	108%	110%	120%	108%	104%				
TP-d14 (Surr @ 250ug/l)	--	106%	103%	110%	110%	108%	103%				

Results expressed in ug/l unless otherwise specified

Comments:

E007.1: Triple extraction with DCM. Analysis by GC/MS.

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Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: UWS Werrington 1-08-135

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Laboratory Identification		195044	195045	195046	195047	lcs	mb				
Sample Identification		MW101	MW102	MW103	DUP1	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		30/1/09	30/1/09	30/1/09	30/1/09	--	--				
Laboratory Extraction (Preparation) Date		3/2/09	3/2/09	3/2/09	3/2/09	3/2/09	3/2/09				
Laboratory Analysis Date		3/2/09	3/2/09	3/2/09	3/2/09	3/2/09	3/2/09				
Method : E010.1											
Volatile Halogenated Compounds (VHC)		EQL									
Dichlorodifluoromethane	50	<50	<50	<50	<50	97%	<50				
Chloromethane	50	<50	<50	<50	<50	96%	<50				
Vinyl chloride	50	<50	<50	<50	<50	83%	<50				
Bromomethane	50	<50	<50	<50	<50	89%	<50				
Chloroethane	50	<50	<50	<50	<50	96%	<50				
Trichlorofluoromethane	50	<50	<50	<50	<50	97%	<50				
1,1-dichloroethene	5	<5	<5	<5	<5	97%	<5				
trans-1,2-dichloroethene	5	<5	<5	<5	<5	97%	<5				
1,1-dichloroethane	5	<5	<5	<5	<5	97%	<5				
cis-1,2-dichloroethene	5	<5	<5	<5	<5	97%	<5				
2,2-dichloropropane	5	<5	<5	<5	<5	94%	<5				
Chloroform	5	<5	<5	<5	<5	97%	<5				
1,1,1-trichloroethane	5	<5	<5	<5	<5	98%	<5				
1,2-dichloroethane	5	<5	<5	<5	<5	98%	<5				
1,1-dichloropropene	5	<5	<5	<5	<5	99%	<5				
Carbon tetrachloride	1	<1	<1	<1	<1	97%	<1				
Trichloroethene	5	<5	<5	<5	<5	98%	<5				
1,2-dichloropropane	5	<5	<5	<5	<5	97%	<5				
Dibromomethane	5	<5	<5	<5	<5	98%	<5				
Bromodichloromethane	5	<5	<5	<5	<5	99%	<5				
cis-1,3-dichloropropene	5	<5	<5	<5	<5	99%	<5				
trans-1,3-dichloropropene	5	<5	<5	<5	<5	99%	<5				
1,1,2-trichloroethane	5	<5	<5	<5	<5	101%	<5				
1,3-dichloropropane	5	<5	<5	<5	<5	100%	<5				
Chlorodibromomethane	5	<5	<5	<5	<5	99%	<5				
Tetrachloroethene	5	<5	<5	<5	<5	96%	<5				
1,2-dibromoethane	5	<5	<5	<5	<5	101%	<5				

Laboratory Report No: E041483
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Contact Name: Anne Ashworth
Client Reference: UWS Werrington 1-08-135

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Laboratory Identification		195044	195045	195046	195047	lcs	mb				
Sample Identification		MW101	MW102	MW103	DUP1	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		30/1/09	30/1/09	30/1/09	30/1/09	--	--				
Laboratory Extraction (Preparation) Date		3/2/09	3/2/09	3/2/09	3/2/09	3/2/09	3/2/09				
Laboratory Analysis Date		3/2/09	3/2/09	3/2/09	3/2/09	3/2/09	3/2/09				
Method : E010.1											
Volatile Halogenated Compounds (VHC)		EQL									
Chlorobenzene	5	<5	<5	<5	<5	100%	<5				
1,1,1,2-tetrachloroethane	5	<5	<5	<5	<5	100%	<5				
Bromoform	5	<5	<5	<5	<5	105%	<5				
1,1,2,2-tetrachloroethane	5	<5	<5	<5	<5	103%	<5				
1,2,3-trichloropropane	5	<5	<5	<5	<5	103%	<5				
1,3-dichlorobenzene	5	<5	<5	<5	<5	98%	<5				
1,4-dichlorobenzene	5	<5	<5	<5	<5	99%	<5				
1,2-dichlorobenzene	5	<5	<5	<5	<5	100%	<5				
1,2-dibromo-3-chloropropane	5	<5	<5	<5	<5	104%	<5				
Hexachlorobutadiene	5	<5	<5	<5	<5	97%	<5				
1,2-DCE-d4 (Surr @ 100ug/l)	--	119%	125%	128%	130%	100%	129%				
Toluene-d8 (Surr @ 100ug/l)	--	110%	110%	109%	109%	99%	110%				
4-BFB (Surr @ 100ug/l)	--	98%	93%	90%	91%	101%	101%				

Results expressed in ug/l unless otherwise specified

Comments:

E010.1: Direct injection into P&T/GC/MS. (NB) Dichloromethane not reported unless requested.

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Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: UWS Werrington 1-08-135

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Laboratory Identification		195044	195045	195046	195047	lcs	mb				
Sample Identification		MW101	MW102	MW103	DUP1	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		30/1/09	30/1/09	30/1/09	30/1/09	--	--				
Laboratory Extraction (Preparation) Date		4/2/09	4/2/09	4/2/09	4/2/09	4/2/09	4/2/09				
Laboratory Analysis Date		5/2/09	5/2/09	5/2/09	5/2/09	5/2/09	5/2/09				
Method : E022.1											
Filtered metals (M7)		EQL									
Arsenic	1	*<20	*<20	*<20	*<20	106%	<1				
Cadmium	0.1	0.4	0.4	0.4	0.2	94%	<0.1				
Chromium	1	*<5	*<5	*<5	*<5	105%	<1				
Copper	1	*<10	*<10	*<10	*<10	108%	<1				
Nickel	1	*<5	*<5	*<5	*<5	109%	<1				
Lead	1	6	1	9	7	102%	<1				
Zinc	5	33	48	30	22	105%	<5				

Results expressed in ug/l unless otherwise specified

Comments: *EQL increased due to matrix interference.

E022.1: Filtered HNO3 preserved sample directly analysed by ICP-MS.

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Contact Name: Anne Ashworth
Client Reference: UWS Werrington 1-08-135

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Laboratory Identification		195044	195045	195046	195047	lcs	mb				
Sample Identification		MW101	MW102	MW103	DUP1	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		30/1/09	30/1/09	30/1/09	30/1/09	--	--				
Laboratory Extraction (Preparation) Date		4/2/09	4/2/09	4/2/09	4/2/09	4/2/09	4/2/09				
Laboratory Analysis Date		5/2/09	5/2/09	5/2/09	5/2/09	5/2/09	5/2/09				
Method : E026.1											
Filtered mercury	EQL										
Mercury	0.1	*<0.2	*<0.2	*<0.2	*<0.2	95%	<0.1				

Results expressed in ug/l unless otherwise specified

Comments: *EQL increased due to matrix interference.

E026.1: Analysis by CV-ICP-MS or FIMS following BrCl pre-treatment.

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Client Name: WSP Environmental Pty Ltd
Contact Name: Anne Ashworth
Client Reference: UWS Werrington 1-08-135

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Laboratory Identification		195044	195045	195046	195047	lcs	mb				
Sample Identification		MW101	MW102	MW103	DUP1	QC	QC				
Depth (m)		--	--	--	--	--	--				
Sampling Date recorded on COC		30/1/09	30/1/09	30/1/09	30/1/09	--	--				
Laboratory Extraction (Preparation) Date		3/2/09	3/2/09	3/2/09	3/2/09	3/2/09	3/2/09				
Laboratory Analysis Date		4/2/09	4/2/09	4/2/09	4/2/09	4/2/09	4/2/09				
Method : E041.1											
Total Phenolics		EQL									
Total Phenolics		0.01	0.01	0.01	<0.01	106%	<0.01				

Results expressed in mg/l unless otherwise specified

Comments:

E041.1: Acidic distillate determined by colour.

Sample Receipt Notice (SRN) for E041483



Quality, Service, Support

Client Details		Laboratory Reference Information	
Client Name: WSP Environmental Pty Ltd Client Phone: 02 8925 6700 Client Fax: 02 8925 6799 Contact Name: Anne Ashworth Contact Email: anne.ashworth@wspgroup.com Client Address: Level 1/ 41 McLaren St North Sydney NSW 2295 Project Name: UWS Werrington Project Number: 1-08-135 CoC Serial Number: - Not provided - Purchase Order: - Not provided - Surcharge: No surcharge applied (results by 6:30pm on due date) Sample Matrix: WATER		Please have this information ready when contacting Labmark. Laboratory Report: E041483 Quotation Number: Q0580.ES Laboratory Address: Unit 1, 8 Leighton Pl. Asquith NSW 2077 Phone: 61 2 9476 6533 Fax: 61 2 9476 8219 Sample Receipt Contact: Ros Schacht Email: Ros.Schacht@labmark.com.au Reporting Contact: Leanne Boag Email: leanne.boag@labmark.com.au	
Date Sampled (earliest date): 30/01/2009 Date Samples Received: 30/01/2009 Date Sample Receipt Notice issued: 02/02/2009 Date Preliminary Report Due: 05/02/2009 Client TAT Request Date: 05/02/2009		NATA Accreditation: 13542 TGA GMP License: 185-336 (Sydney) APVMA License: 6105 (Sydney) AQIS Approval: NO356 (Sydney) AQIS Entry Permit: 200521534 (Sydney)	

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 09EA2608

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals not required. Direct Labmark's custody taken .
Sample container & chemical preservation suitable .

Comments: No 250mL H2SO4 preserved plastic bottle received for DUP1 - unlabelled bottle to be analysed as DUP1 (Total Phenols) unless otherwise instructed

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of \$1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur \$5.00/ sample/ 3 months. Additional refrigerated storage shall incur \$30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

VOC E010.1: Dichloromethane not reported unless requested.

Subcontracted Analyses:

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample Receipt Notice (SRN) for E041483



Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE				Requested Analysis															
No.	Date	Depth	Client Sample ID	BTEX by P&T	Filtered mercury	Filtered metals (M7)	Polyaromatic Hydrocarbons (PAH)	PREP Not Reported	Total Phenolics	Petroleum Hydrocarbons (TPH)	Volatile Halogenated Compounds (VHC)	Volatile TPH by P&T (vTPH)							
195044	30/01		MW101	●	●	●	●	●	●	●	●	●							
195045	30/01		MW102	●	●	●	●	●	●	●	●	●							
195046	30/01		MW103	●	●	●	●	●	●	●	●	●							
195047	30/01		DUP1	●	●	●	●	●	●	●	●	●							
Totals:				4	4	4	4	4	4	4	4	4							

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample
Receipt
Notice (SRN) for **E041483**



Quality, Service, Support

				Requested Analysis															
No.	Date	Depth	Client Sample ID	M8 - M7-F_W															
195044	30/01		MW101	●															
195045	30/01		MW102	●															
195046	30/01		MW103	●															
195047	30/01		DUP1	●															
Totals:				4															

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

☒ **SYDNEY**

Ph: (02) 9476 6533 Fax: (02) 9476 8219
Unit 1/8 Leighton Place Asquith NSW 2077
E: enviro.sydney@labmark.com.au



LabMark
ENVIRONMENTAL LABORATORIES

Project Name: NWS Wernington COC Number#: _____
Project Number: 1-08-135 #The COC number will act as a purchase order number if not supplied
Quote Reference: _____ Purchase Order No: Q0580.ES
Send Results to: Anne Ashworth (email)
Results Required by*: 24 hrs ☐ 48 hrs ☐ 5 Day ☒ Other ☐ _____
* Note: TAT of less than 5 days must be pre-arranged with the laboratory and surcharges may apply.

* Note: TAT of less than 5 days must be pre-arranged with the laboratory and surcharges may apply.

the laboratory and surcharges may apply.

[illegible]

Please Provide Field PID Readings where possible

Totals:

**** METALS** (Please circle): Al; Sb; As; Ba; Be; Bi; B; Cd; Ca; Cs; Cr; Co; Cu; Fe; Pb; Li; Mg; Mn; Mo; Ni; Pd; P; Pt; K; Se; Si; Ag; Na; Sr; S; Ti; Th; Sn; Tl; W; U; V; Zn

All Samples Received in Good Condition ☒

All Documentation in Proper Order ☒

Samples Received with an Attempt to Chill ☒

Samples Received Within Holding Times ☐

Average sample temp on receipt: (°C) 12.0
For enquires please quote Ref. No. E04148

Amdel Ltd

ABN 30 008 127 802

Unit 2, 35 Cormack Road, Wingfield SA, 5013
PO Box 552, Port Adelaide BC, SA 5015
Phone: (08) 8440 7145 Facsimile: (08) 8440 7197

ASBESTOS IDENTIFICATION REPORT

CLIENT: LabMark

DATE: 6 January 2009

ADDRESS: 8 Leighton Place, Asquith NSW 2077

REPORT NO: 8AA1203X

PROJECT NO: E041074

PAGE NO: 1 of 5

RESULTS:

LabMark ID	Sample	Sample size (e) g	Description	Asbestos detected*
190850	TP01-1	20	Brown and tan sand-sized particles and clay lumps	No
190851	TP02-1	40	Brown sand and gravel-sized particles and clay lumps	No
190852	TP03-1	20	Brown and orange sandy clay lumps	No
190853	TP04-1	25	Grey and brown sand and gravel-sized particles	No
190854	TP05-1	20	Dark grey sand and gravel-sized particles and clay lumps	No
190855	TP06-1	10	Grey and brown sand and gravel-sized particles	No
190856	TP07-1	25	Grey, off-white and brown sand and gravel-sized particles	No
190857	TP08-1	25	Grey and off-white sand and gravel-sized particles	No
190858	TP09-1	30	Grey and brown sand and gravel-sized particles	No
190859	TP10-1	30	Off-white and brown sand and gravel-sized particles	No
190860	TP11-1	20	Brown sand and gravel-sized particles	No

APPROVED IDENTIFIER: Michael Till

APPROVED SIGNATORY:
Michael Till

The approximate dimensions (in mm) stated above refer to the size of (a) a single piece (b) largest of several particles (c) largest of many particles (d) volume in ml of unconsolidated particles (e) weight in grams of unconsolidated particles

* Detected by polarized light microscopy. ** No asbestos was detected by polarized light microscopy, but identification may not be possible due to adhering resins. Confirmation by another analytical technique is advised. ^Synthetic mineral fibre was detected by polarized light microscopy.

Note: Chrysotile is a fibrous silicate mineral commonly known as white asbestos, amosite is a fibrous silicate commonly known as brown or grey asbestos and crocidolite is a fibrous silicate commonly known as blue asbestos. SMF is commonly known as glass fibre.

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SCOPE OF ACCREDITATION: Class 7.82.31: Qualitative identification of asbestos types in bulk samples by polarized light microscopy, including dispersion staining.



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ASBESTOS IDENTIFICATION REPORT

CLIENT: LabMark

DATE: 6 January 2009

ADDRESS: 8 Leighton Place, Asquith NSW 2077

REPORT NO: 8AA1203X

PROJECT NO: E041074

PAGE NO: 2 of 5

RESULTS:

LabMark ID	Sample	Sample size (e) g	Description	Asbestos detected*
190861	TP12-1	25	Brown sand and gravel-sized particles	No
190862	TP13-1	25	Mottled off-white and brown clay lumps	No
190863	TP14-1	25	Grey, off-white and brown sand and gravel-sized particles	No
190864	TP15-1	25	Mottled pale brown and pale grey sandy clay lumps	No
190865	TP16-1	20	Mottled pale brown and pale grey sandy clay lumps	No
190866	TP17-1	20	Grey, off-white and brown sand and gravel-sized particles	No
190867	TP18-1	20	Off-white and brown sand and gravel-sized particles	No
190868	TP19-1	30	Mottled pale grey and orange sandy clay lumps	No
190869	TP20-1	25	Grey, off-white and brown sand and gravel-sized particles	No
190870	TP21-1	25	Grey and brown sand and gravel-sized particles and orange clay lumps	No

APPROVED IDENTIFIER: Michael Till

APPROVED SIGNATORY:
Michael Till

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ASBESTOS IDENTIFICATION REPORT

CLIENT: LabMark

DATE: 6 January 2009

ADDRESS: 8 Leighton Place, Asquith NSW 2077

REPORT NO: 8AA1203X

PROJECT NO: E041074

PAGE NO: 3 of 5

RESULTS:

LabMark ID	Sample	Sample size (e) g	Description	Asbestos detected*
190871	TP22-1	35	Grey and brown sand and gravel-sized particles and brown clay lumps	No
190872	TP23-1	50	Off-white and brown sand and gravel-sized particles	No
190873	TP24-1	54	Brown, grey and yellow sand and gravel-sized particles and clay lumps	No
190874	TP25-1	52	Off-white and brown sand and gravel-sized particles	No
190875	TP26-1	36	Pale grey and brown sandy clay lumps	No
190876	TP27-1	27	Brown sand and gravel-sized particles and clay lumps	No
190877	TP28-1	40	Mottled pale brown and pale grey sandy clay lumps	No
190878	TP29-1	36	Off-white and brown sand and gravel-sized particles	No
190879	TP30-1	34	Off-white and brown sand and gravel-sized particles	No
190880	TP31-1	44	Off-white and brown sand and gravel-sized particles	No

APPROVED IDENTIFIER: Michael Till

APPROVED SIGNATORY:
Michael Till

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ASBESTOS IDENTIFICATION REPORT

CLIENT: LabMark

DATE: 6 January 2009

ADDRESS: 8 Leighton Place, Asquith NSW 2077

REPORT NO: 8AA1203X

PROJECT NO: E041074

PAGE NO: 4 of 5

RESULTS:

LabMark ID	Sample	Sample size (e) g	Description	Asbestos detected*
190881	TP32-1	38	Off-white and brown sand and gravel-sized particles and clay lumps	No
190882	TP33-1	34	Pale grey sandy clay lumps	No
190883	TP34-1	34	Off-white and brown sand and gravel-sized particles	No
190884	TP35-1	40	Off-white and brown sand and gravel-sized particles	No
190885	TP36-1	36	Mottled off-white, brown and orange sandy clay lumps	No
190886	TP37-1	30	Brown and grey sand and gravel-sized particles and clay lumps	No
190887	TP38-1	32	Off-white and brown sand and gravel-sized particles	No
190888	TP39-1	45	Brown sand and gravel-sized particles and clay lumps	No
190889	TP40-1	40	Pale grey sand and gravel-sized particles	No
190894	TP01-2	36	Mottled pale grey, orange and pale brown clay lumps	No

APPROVED IDENTIFIER: Michael Till

APPROVED SIGNATORY:
Michael Till

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Amdel Ltd

ABN 30 008 127 802

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PO Box 552, Port Adelaide BC, SA 5015
Phone: (08) 8440 7145 Facsimile: (08) 8440 7197

ASBESTOS IDENTIFICATION REPORT

CLIENT: LabMark

DATE: 6 January 2009

ADDRESS: 8 Leighton Place, Asquith NSW 2077

REPORT NO: 8AA1203X

PROJECT NO: E041074

PAGE NO: 5 of 5

RESULTS:

LabMark ID	Sample	Sample size (e) g	Description	Asbestos detected*
190895	TP06-2	25	Pale grey, white and yellow sand and gravel-sized particles and clay lumps	No
190896	TP10-2	29	Mottled pale grey, orange and pale brown clay lumps	No
190897	TP12-2	38	Mottled red and pale grey clay lumps	No
190898	TP20-2	38	Brown sand and gravel-sized particles	No
190899	TP22-2	42	Pale grey, white and yellow sand and gravel-sized particles and clay lumps	No
190900	TP25-2	25	Mottled brown and pale brown clay lumps	No
190901	TP32-2	37	Pale brown clay lumps	No
190902	TP39-2	30	Brown and grey sand and gravel-sized particles and clay lumps	No
190903	TP40-2	60	Pale grey, yellow and orange sand and gravel-sized particles	No

APPROVED IDENTIFIER: Michael Till

APPROVED SIGNATORY:
Michael Till

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ASBESTOS IDENTIFICATION REPORT

CLIENT: LabMark

DATE: 2nd February 2009

ADDRESS: 8 Leighton Place, Asquith NSW 2077

REPORT NO: 9AA0078A

PROJECT NO: E 041385

PAGE NO: 1 of 1

RESULTS:

LabMark ID	Sample	Sample depth	Sample size (e) g	Description	Asbestos detected*
193829	MW101	0.3	102	Brown clay lump and vegetation fragments	No
193830	MW102	0.3	53	Brown silt to gravel-sized particles and vegetation fragments	No
193831	MW103	0.3	105	Brown silt to gravel-sized particles and vegetation fragments	No
193832	MW102	3.0	75	Yellow sand-sized particles	No
193833	Asb01		(a) 110x55x6	Grey fibrous sheeting (weathered)	Chrysotile, amosite, crocidolite

APPROVED IDENTIFIER: Naciye Haliloff

APPROVED SIGNATORY:
Michael Till

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EnviroLab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 25326

Client:

WSP Environmental
Level 1, 41 McLaren St
North Sydney
NSW 2060

Attention: Anne Ashworth / Graeme Malpass

Sample log in details:

Your Reference:	<u>1-08-135, Werrington</u>
No. of samples:	2 Soils
Date samples received:	19/12/08
Date completed instructions received:	19/12/08

Analysis Details:

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

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by:	8/01/09
Date of Preliminary Report:	Not Issued
Issue Date:	30/12/08

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Tests not covered by NATA are denoted with *.

Results Approved By:


Jacinta Hurst
Operations Manager

EnviroLab Reference: 25326
Revision No: R 00



Page 1 of 16

vTPH & BTEX in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	25326-1 Trip 1 15/12/2008 Soil	25326-2 Trip 2 16/12/2008 Soil
Date extracted	-	22/12/2008	22/12/2008
Date analysed	-	22/12/2008	22/12/2008
vTPH C ₆ - C ₉	mg/kg	<25	<25
Benzene	mg/kg	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	113	107

sTPH in Soil (C10-C36)			
Our Reference:	UNITS	25326-1	25326-2
Your Reference	-----	Trip 1	Trip 2
Date Sampled	-----	15/12/2008	16/12/2008
Type of sample		Soil	Soil
Date extracted	-	22/12/2008	22/12/2008
Date analysed	-	23/12/2008	23/12/2008
TPH C ₁₀ - C ₁₄	mg/kg	<50	<50
TPH C ₁₅ - C ₂₈	mg/kg	<100	<100
TPH C ₂₉ - C ₃₆	mg/kg	<100	<100
Surrogate α -Terphenyl	%	93	101

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	25326-1 Trip 1 15/12/2008 Soil	25326-2 Trip 2 16/12/2008 Soil
Date extracted	-	22/12/2008	22/12/2008
Date analysed	-	23/12/2008	23/12/2008
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Surrogate p- Terphenyl-d ₁₄	%	99	102

Organochlorine Pesticides in soil	UNITS	25326-1	25326-2
Our Reference:	-----	Trip 1	Trip 2
Your Reference	-----	15/12/2008	16/12/2008
Date Sampled		Soil	Soil
Type of sample			
Date extracted	-	22/12/2008	22/12/2008
Date analysed	-	22/12/2008	22/12/2008
HCB	mg/kg	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	98	101

Organophosphorus Pesticides			
Our Reference:	UNITS	25326-1	25326-2
Your Reference	-----	Trip 1	Trip 2
Date Sampled	-----	15/12/2008	16/12/2008
Type of sample		Soil	Soil
Date extracted	-	22/12/2008	22/12/2008
Date analysed	-	22/12/2008	22/12/2008
Diazinon	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	98	101

PCBs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	25326-1 Trip 1 15/12/2008 Soil	25326-2 Trip 2 16/12/2008 Soil
Date extracted	-	22/12/2008	22/12/2008
Date analysed	-	22/12/2008	22/12/2008
Arochlor 1016	mg/kg	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	98	101

Total Phenolics in Soil	UNITS	25326-1	25326-2
Our Reference:	-----	Trip 1	Trip 2
Your Reference	-----	15/12/2008	16/12/2008
Date Sampled		Soil	Soil
Type of sample			
Date extracted	-	22/12/2008	22/12/2008
Date analysed	-	23/12/2008	23/12/2008
Total Phenolics (as Phenol)	mg/kg	<5.0	<5.0

Acid Extractable metals in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	25326-1 Trip 1 15/12/2008 Soil	25326-2 Trip 2 16/12/2008 Soil
Date digested	-	22/12/2008	22/12/2008
Date analysed	-	22/12/2008	22/12/2008
Arsenic	mg/kg	6	8
Cadmium	mg/kg	<0.5	<0.5
Chromium	mg/kg	16	28
Copper	mg/kg	18	9
Lead	mg/kg	18	20
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	15	4
Zinc	mg/kg	25	23

Moisture Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	25326-1 Trip 1 15/12/2008 Soil	25326-2 Trip 2 16/12/2008 Soil
Date prepared	-	22/12/2008	22/12/2008
Date analysed	-	22/12/2008	22/12/2008
Moisture	%	17	14

Method ID	Methodology Summary
GC.16	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
GC-5	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC.8	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC-6	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
LAB.30	Total Phenolics - determined colorimetrically following distillation.
Metals.20 ICP-AES	Determination of various metals by ICP-AES.
Metals.21 CV-AAS	Determination of Mercury by Cold Vapour AAS.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTPH & BTEX in Soil						Base II Duplicate II %RPD		
Date extracted	-			22/12/2008	25326-1	22/12/2008 22/12/2008	LCS-4	22/12/2008
Date analysed	-			22/12/2008	25326-1	22/12/2008 22/12/2008	LCS-4	22/12/2008
vTPH C ₆ - C ₉	mg/kg	25	GC.16	<25	25326-1	<25 <25	LCS-4	88%
Benzene	mg/kg	0.5	GC.16	<0.5	25326-1	<0.5 <0.5	LCS-4	60%
Toluene	mg/kg	0.5	GC.16	<0.5	25326-1	<0.5 <0.5	LCS-4	97%
Ethylbenzene	mg/kg	1	GC.16	<1.0	25326-1	<1.0 <1.0	LCS-4	94%
m+p-xylene	mg/kg	2	GC.16	<2.0	25326-1	<2.0 <2.0	LCS-4	100%
o-Xylene	mg/kg	1	GC.16	<1.0	25326-1	<1.0 <1.0	LCS-4	109%
Surrogate aaa-Trifluorotoluene	%		GC.16	75	25326-1	113 117 RPD: 3	LCS-4	132%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
sTPH in Soil (C ₁₀ -C ₃₆)						Base II Duplicate II %RPD		
Date extracted	-			22/12/08	25326-1	22/12/2008 22/12/2008	LCS-2	22/12/08
Date analysed	-			23/12/08	25326-1	23/12/2008 23/12/2008	LCS-2	23/12/08
TPH C ₁₀ - C ₁₄	mg/kg	50	GC.3	<50	25326-1	<50 <50	LCS-2	89%
TPH C ₁₅ - C ₂₈	mg/kg	100	GC.3	<100	25326-1	<100 <100	LCS-2	95%
TPH C ₂₉ - C ₃₆	mg/kg	100	GC.3	<100	25326-1	<100 <100	LCS-2	96%
Surrogate o-Terphenyl	%		GC.3	93	25326-1	93 100 RPD: 7	LCS-2	90%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			22/12/08	25326-1	22/12/2008 22/12/2008	LCS-2	22/12/08
Date analysed	-			23/12/08	25326-1	23/12/2008 23/12/2008	LCS-2	23/12/08
Naphthalene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	LCS-2	95%
Acenaphthylene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	LCS-2	96%
Phenanthrene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	LCS-2	95%
Anthracene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	LCS-2	93%
Pyrene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	LCS-2	97%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Benzo(a)anthracene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	LCS-2	101%
Benzo(b+k)fluoranthene	mg/kg	0.2	GC.12 subset	<0.2	25326-1	<0.2 <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12 subset	<0.05	25326-1	<0.05 <0.05	LCS-2	97%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12 subset	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d ₁₄	%		GC.12 subset	104	25326-1	99 104 RPD: 5	LCS-2	107%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	-			22/12/2008	25326-1	22/12/2008 22/12/2008	LCS-2	22/12/2008
Date analysed	-			22/12/2008	25326-1	22/12/2008 22/12/2008	LCS-2	22/12/2008
HCB	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	111%
gamma-BHC	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	103%
Heptachlor	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	107%
delta-BHC	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	108%
Heptachlor Epoxide	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	115%
gamma-Chlordane	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	113%
Dieldrin	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	120%
Endrin	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	116%
pp-DDD	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	115%
Endosulfan II	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	LCS-2	115%
Methoxychlor	mg/kg	0.1	GC-5	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		GC-5	103	25326-1	98 103 RPD: 5	LCS-2	101%

Envirolab Reference: 25326
Revision No: R 00



QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organophosphorus Pesticides						Base II Duplicate II %RPD		
Date extracted	-			22/12/2008	25326-1	22/12/2008 22/12/2008	LCS-2	22/12/2008
Date analysed	-			22/12/2008	25326-1	22/12/2008 22/12/2008	LCS-2	22/12/2008
Diazinon	mg/kg	0.1	GC.8	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Dimethoate	mg/kg	0.1	GC.8	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Chlorpyrifos-methyl	mg/kg	0.1	GC.8	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Ronnel	mg/kg	0.1	GC.8	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Chlorpyrifos	mg/kg	0.1	GC.8	<0.1	25326-1	<0.1 <0.1	LCS-2	97%
Fenitrothion	mg/kg	0.1	GC.8	<0.1	25326-1	<0.1 <0.1	LCS-2	73%
Bromophos-ethyl	mg/kg	0.1	GC.8	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Ethion	mg/kg	0.1	GC.8	<0.1	25326-1	<0.1 <0.1	LCS-2	106%
Surrogate TCLMX	%		GC.8	103	25326-1	98 103 RPD: 5	LCS-2	103%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			22/12/2008	25326-1	22/12/2008 22/12/2008	LCS-2	22/12/2008
Date analysed	-			22/12/2008	25326-1	22/12/2008 22/12/2008	LCS-2	22/12/2008
Arochlor 1016	mg/kg	0.1	GC-6	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	GC-6	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	GC-6	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	GC-6	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	GC-6	<0.1	25326-1	<0.1 <0.1	LCS-2	100%
Arochlor 1260	mg/kg	0.1	GC-6	<0.1	25326-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		GC-6	103	25326-1	98 103 RPD: 5	LCS-2	113%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			22/12/08	[NT]	[NT]	LCS-1	22/12/08
Date analysed	-			23/12/08	[NT]	[NT]	LCS-1	23/12/08
Total Phenolics (as Phenol)	mg/kg	5	LAB.30	<5.0	[NT]	[NT]	LCS-1	94%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			22/12/08	25326-1	22/12/2008 22/12/2008	LCS-3	22/12/08
Date analysed	-			22/12/08	25326-1	22/12/2008 22/12/2008	LCS-3	22/12/08
Arsenic	mg/kg	4	Metals.20 ICP-AES	<4	25326-1	6 7 RPD: 15	LCS-3	101%
Cadmium	mg/kg	0.5	Metals.20 ICP-AES	<0.5	25326-1	<0.5 <0.5	LCS-3	102%
Chromium	mg/kg	1	Metals.20 ICP-AES	<1	25326-1	16 16 RPD: 0	LCS-3	108%
Copper	mg/kg	1	Metals.20 ICP-AES	<1	25326-1	18 18 RPD: 0	LCS-3	109%
Lead	mg/kg	1	Metals.20 ICP-AES	<1	25326-1	18 19 RPD: 5	LCS-3	106%
Mercury	mg/kg	0.1	Metals.21 CV-AAS	<0.1	25326-1	<0.1 <0.1	LCS-3	103%
Nickel	mg/kg	1	Metals.20 ICP-AES	<1	25326-1	15 16 RPD: 6	LCS-3	106%
Zinc	mg/kg	1	Metals.20 ICP-AES	<1	25326-1	25 28 RPD: 11	LCS-3	107%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results
Moisture						Base II Duplicate II %RPD
Date prepared	-			22/12/2008	25326-1	22/12/2008 22/12/2008
Date analysed	-			22/12/2008	25326-1	22/12/2008 22/12/2008
Moisture	%	0.1	LAB.8	<0.10	25326-1	17 17 RPD: 0

Report Comments:

Asbestos was analysed by Approved Identifier: Not applicable for this job

INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than

RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria:

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

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

Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for

SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.



Appendix E QA/QC Report

DRAFT



Appendix E: QA/QC Assessment Report

Site: UWS Werrington, NSW

Project: 1-08-135 Preliminary Phase 2 Environmental Assessment, UWS Werrington

E.1 BACKGROUND

Data assessment involves identification and evaluation of field and laboratory data quality, as required by WSP Environmental Pty Ltd (WSP) due diligence processes, and to ensure that sample data is of the highest calibre.

Data assessment consists of comparing laboratory QA/QC results to documented USEPA SW-846 guidelines, USEPA CLP National Functional Guidelines for Inorganic and Organic Data Review, and other internationally recognised publications. Reference to Australian “in-house” laboratory methods may be applied which are revisable through laboratory NATA assessments. All laboratory sample and QA/QC data packages have been issued as finalised and checked laboratory reports by the following NATA Registered Laboratories for this project, unless otherwise stated:

- Laboratory: Labmark Pty Ltd NATA accreditation number: 13542
- Laboratory: Envirolab Services Pty Ltd, NATA accreditation number: 2901

E.2 DEFINITIONS

This section outlines various definitions that have been adopted throughout this assessment report. The following definitions are in accordance with current USEPA SW-846 methods (1994) and those that are described by Keith, *Environmental Sampling and Analysis, A Practical Guide* (1991).

The Practical Quantitation Limit ‘PQL’, Limit of Reporting ‘LOR’, and Estimated Quantitation Limit ‘EQL’ all refer to the concentration above which reported results can be expressed with a minimum 95% confidence level. For the purposes of this report, all references to PQLs, LORs, and EQLs shall be referred to as the laboratory reporting limit and shall all be considered to be equivalent. The laboratory reporting limits are generally set at 10 times the SD (standard deviation) for the Method Detection Limit ‘MDL’ for specific analytes.

Users of laboratory data should be aware that values measured at or near the LOR may have two inherent limitations. Firstly, “the uncertainty of the measurement value can approach, and even equal, the reported value. Secondly, confirmation of the analytes reported is virtually impossible unless identification uses highly selective methods. These issues diminish when reliably measurable amounts of analytes are present. Accordingly, legal and regulatory actions should be limited to data at or above the reliable detection limit,” Keith (1991).

E.2.1 Accuracy

Definition: The nearness of an averaged result to the true value, where all random errors have been statistically removed.

Unless the true value is known, accuracy may take on a meaning equivalent to the term bias due to the existence of systematic errors. Accuracy is measured by percent recovery ‘%R’. Accuracy data is expected to vary within the range of 70-130 %R for inorganics/metals and 60-140% for organics unless otherwise stated.

E.2.2 Precision

Definition: The degree to which data generated from replicate or repetitive measurements differ from one another due to random errors.

Precision is measured using the standard deviation 'SD' or Relative Percent Difference '%RPD'. Based on the Keith (1991) text, replicate data is presented in below, unless otherwise stated.

Organics
Concentrations > or = 10 times EQL, RPD criteria of 50%
10 times EQL > Concentrations > or = 5 times EQL, RPD criteria of 75%
Concentrations < 5 times EQL, RPD criteria of 100%
Inorganics
Concentrations > or = 10 times EQL, RPD criteria of 30%
10 times EQL > Concentrations > or = 5 times EQL, RPD criteria of 75%
Concentrations < 5 times EQL, RPD criteria of 100%

E.2.3 Matrix Spikes

Environmental samples are spiked with laboratory grade standards to determine the interactive effects between the sample matrix and the analytes being measured. Matrix Spikes 'MS' are reported as a percent recovery %R, 1 in every 20 samples for this project. Sample batches submitted of less than 20 samples may be reported with a MS spike from another batch.

Percent Recovery is expressed as:

$$\%R = \frac{(SSR-SR)}{SA} \times 100$$

where: SSR=spiked sample result
SR =sample result (blank)
SA =spike added

E.2.4 Duplicates

Laboratory duplicate samples measure precision, which is calculated as standard deviation SD or Relative Percent Difference %RPD. Duplicates are collected in a single sample container in the field and are analysed as two separate extractions, 1 in every 20 samples in the laboratory for this project.

Relative Percent Difference is expressed as:

$$\%RPD = \frac{(D1-D2)}{(D1+D2)/2} \times 100$$

where: D1=sample concentration



D2=duplicate sample concentration

E.2.5 Field Duplicates & Triplicates

Field generated check samples, which measure repeatability over a short time period. At least 10% of samples were submitted from a larger quantity of sample which are collected from the same sampling point, removed by a single action, where possible, and divided into two (duplicate) or three (triplicate) separate and unrelated sample containers for analysis at a secondary laboratory (intra-laboratory precision).

For this project, 2 soil duplicates, 2 soil triplicates and 1 groundwater duplicate were collected.

E.2.6 Surrogates

Surrogates are QC monitoring spikes, which are added at the beginning of the sample extraction process in the laboratory where applicable. Surrogates are measured as Percent Recovery %R.

Percent Recovery is expressed as: $\%R = \frac{SSR}{SA} \times 100$

SA

where: SSR=spiked sample result

SA =spike added

In the event that a surrogate recovery fails to comply with acceptable control limits, the following remedies shall proceed:

- Laboratory to review data,
- No further action necessary if all surrogate recoveries greater than the minimum specified %R and all sample concentration results reported are less than the laboratory reporting limit,
- Professional expertise is required where surrogate recoveries are reported below the acceptable control limits and may require additional analysis or re-testing.

E.3 ANALYTICAL PROCEDURES

The laboratories selected to provide analytical services for this project were:

- Primary laboratory: Labmark Pty Ltd, Sydney, with asbestos analysis subcontracted to Amdel Pty Ltd (NATA No. 1526).
- Secondary laboratory: Envirolab Services Pty Ltd, Sydney

WSP selected these laboratories based on the following criteria:

- NATA registration for routine test methods and commonly encountered sample matrices,
- Qualifications and experience of laboratory staff;
- Satisfactory compliance to WSP quality objectives for this project.

E.3.1 Laboratory Methodologies

All laboratory test methods were NATA registered at the time of analysis.

All samples submitted for analysis for this project were analysed by one or more of the following laboratory methods:



Analyte	LabMark Reference – Soil	EnviroLab Reference - Soil	LabMark Reference – Groundwater
BTEX	E002.2 analysis by P&T/GC/PID/MSD	GC.16: Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.	E029.1/E016.1: Direct injection into P&T/GC/FID/MSD.
vTPH	E003.2: analysis by P&T/GC/FID	GC.16: Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.	E029.1/E016.1: Direct injection into P&T/GC/MSD.
TPH	E006.2: analysis by GC/FID	GC.3: Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.	E004.1: Triple extraction with DCM. Analysis by GC/FID.
Phenols	E008.2 analysis by GC/MS	LAB.30: determined colorimetrically following distillation.	E041.1: Acidic distillate determined by colour.
Metals	E022.2: analysis by ICP/MS	Metals.20 ICP-AES: Determination of various metals by ICP-AES.	E022.1: Filtered HNO ₃ preserved sample directly analysed by ICP-MS.
Hg	E026.2: analysis by CV-ICP-MS or FIMS	Metals.21 CV-AAS: Determination of Mercury by Cold Vapour AAS.	E026.1: Analysis by CV-ICP-MS or FIMS following BrCl pre-treatment.
PAHs	E007.2: analysis by GC/MS	GC.12 subset: Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.	E007.1: Triple extraction with DCM. Analysis by GC/MS.
OCPs	E013.2: analysis by GC/dual ECD	GC-5: Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.	N/A
OPPs	E014.2, analysis by GC/MSD	GC.8: Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.	N/A
PCBs	E013.2, analysis by GC/dual ECD	GC-6: Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.	N/A
VHC	N/A	N/A	E010.1: Direct injection into P&T/GC/MS. (NB) Dichloromethane not reported unless requested.
Asbestos	Class 7.82.31: Qualitative identification of asbestos types in bulk samples by polarized light microscopy, including dispersion staining.	N/A	N/A



E.3.2 Data Validation

A total of 2 field soil duplicate samples, 2 soil triplicates and 1 groundwater duplicate were analysed for one or more of the following determinations: BTEX, TPH, PAHs, phenols, VHCs and metals. Refer to the RPD spreadsheet attached (Table 1), which identifies blind sample replicate %RPD values.

In the soil samples, the majority of RPD values were within WSP's acceptance targets, with most concentrations below laboratory detection limits.

The guideline acceptance targets for field duplicates are generally 30% – 50% of mean concentration of analyte determined by both laboratories. This variation can be expected to be higher for organic analysis than for inorganics, and for low concentration of analytes (refer to section G.2.2).

WSP's acceptance targets, as detailed in the attached tables, are used only to flag results warranting further examination.

As per sampling guidelines, duplicate samples are split in the field but are not mixed (homogenised) due to the potential for loss of volatile (and even semi-volatile) compounds. Large pieces of rubble or other fill material are not removed from the sample in order to ensure that it remains representative of sub-surface conditions in the field.

Variation in original sample and field duplicate results is attributed to a combination of a number of possible factors relating to the sample composition, analyte behaviour and inherent uncertainties in the analytical methods as detailed in the spike recovery discussion above. Particularly where sample results are close to the PQL, a higher RPD value can be tolerated as low absolute differences will result in high RPD values.

Where both the original sample and duplicate results are outside the most sensitive criteria, the RPD value calculated takes on secondary importance. It merely demonstrates that field conditions are variable due to the nature of the subsurface material, and that analyte concentrations in that area are highly likely to be above/below the criteria.

Where only one of the original or duplicate sample results is outside the most sensitive criteria, the conservative approach is taken and actual concentrations in the field are assumed to exceed the criteria. In this circumstance, and where the RPD value is low, field concentrations are likely to vary around the guideline in a narrow range; where the RPD value is high, the likely field concentrations are considered too variable to be accurately predicted, but should be assumed to exceed the guideline for the sake of conservatism.

E.3.3 Sample Integrity and Containers

Chain of custody documentation was signed and dated by Labmark stating that all samples:

- were received cool and in good order;
- were presented in adequate sample containers;
- that all samples submitted for volatiles were correctly contained with no headspace; and,
- that all samples were labelled appropriately according to current quality field sampling protocols.

E.3.4 Holding Times

All samples were received by the relevant laboratory within holding times.

E.3.5 Matrix Spikes

The laboratory spike %recovery results were found to be within acceptable control limits. If laboratory spike %recovery results did exceed the adopted control limits, the samples were re-analysed or internal laboratory triplicate results were re-issued.



E.3.6 Laboratory Control Samples

The laboratory control sample %recovery results were found to be within acceptable control limits, unless otherwise identified in Table 1, Appendix G or the laboratory reports. If laboratory control %recovery results did exceed the adopted control limits, the samples were re-analysed or internal laboratory triplicate results were re-issued.

E.3.7 Laboratory Duplicates

The laboratory sample duplicate results were found to provide acceptable RPD values compared to control limits set by the relevant laboratories which relate to one or more of the following analyses: BTEX, TPH, PAHs, and metals. Also refer to batch reports and QA/QC results where applicable.

E.3.8 Surrogates (%R)

Surrogate recoveries were reported for volatile TPH, BTEX, PAH's and VOCs. The reported surrogate recoveries were found to be acceptable for the purposes of this project unless otherwise stated in the analytical certificates.

E.4 CONCLUSIONS

Analytical data reported by LabMark and Envirolab laboratories was judged to have met the essential criteria for data quality commissioned by WSP for the assessment of reference project **1-08-135 UWS Werrington, NSW**.

In summary, data assessment examined laboratory results, COC documentation, and field QA/QC. The following comments can be viewed as an overall summary of the quality of the analytical component for this project.

- Sample integrity and container requirements were documented as acceptable.
- Holding time compliances were documented as acceptable. All samples were received by the laboratory within the relevant holding times.
- Matrix spike and laboratory control sample recovery values indicated that sample accuracy was acceptable.
- Laboratory surrogate recovery values indicated that laboratory accuracy was acceptable.
- Sample duplicate and laboratory batch results indicated that sample precision was acceptable.
- All laboratory QA/QC method blanks and field blanks were found to be acceptable.
- A qualitative review of blind sample duplicate RPD values indicated that field precision was acceptable.
- Laboratory audits have documented the laboratory systems and results as being acceptable which supports the quality of data produced for this project.

In summary, the QA/QC data reported by LabMark laboratories for most of the documented soil and water samples were determined to be of sufficient quality to be considered acceptable to comply with WSP data quality objectives (DQO) for project **1-08-135 UWS Werrington, NSW**. The variability observed is not considered to be significant as all results were below the guideline values.

This report therefore concludes that the QA/QC data and field duplicate and triplicate results are free of unacceptable systematic and method biases.

Table E1: RPDs for soil analyses 1-08-135 UWS Werrington

Field ID	TP06-1	DUP1	Trip 1	RPD	RPD	TP19-1	DUP2	Trip 2	RPD	RPD
LocCode	TP06-1	TP06-1	DUP1	Duplicate	Triplicate	TP19-1	TP19-1	DUP2	Duplicate	Triplicate
Sample Date	15/12/2008	15/12/2008	15/12/2008			16/12/2008	16/12/2008	16/12/2008		

Chem_Group	ChemName	Units	EQL										
	Bromophos-ethyl	mg/kg	0.1	-	-	<0.1	-	-	-	-	<0.1		
	Demeton (total)	mg/kg	1	<1	<1	-			<1	<1	-		
BTEX	Benzene	mg/kg	0.2	<0.2	<0.2	<0.5			<0.2	<0.2	<0.5		
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<1		
	Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-
	Xylene (m & p)	mg/kg	1	<1	<1	<2	-	-	<1	<1	<2	-	-
	Xylene (o)	mg/kg	0.5	<0.5	<0.5	<1	-	-	<0.5	<0.5	<1	-	-
	Xylene Total	mg/kg		<1.5 - 0	<1.5 - 0	<1	-	-	<1.5 - 0	<1.5 - 0	<1	-	-
Chlorinated Hydrocarbons	Hexachlorobenzene	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
Metals	Lead	mg/kg	1	30	16	18	61%	50%	10	21	20	71%	67%
	Arsenic	mg/kg	1	12	5	6	82%	67%	8	9	8	12%	0%
	Cadmium	mg/kg	0.1	<0.1	<0.1	<0.5			<0.1	<0.1	<0.5	-	-
	Chromium (III+VI)	mg/kg	1	28	13	16	73%	55%	27	37	28	31%	4%
	Copper	mg/kg	1	28	15	18	60%	43%	7	7	9	0%	25%
	Mercury	mg/kg	0.05	0.06	<0.05	<0.1			<0.05	<0.05	<0.1	-	-
	Nickel	mg/kg	1	21	11	15	63%	33%	3	2	4	40%	29%
	Zinc	mg/kg	1	34	24	25	34%	31%	12	15	23	22%	63%
OCP	4,4-DDE	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	a-BHC	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Aldrin	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Aldrin + Dieldrin	mg/kg		<0.1	<0.1	<0.2	-	-	<0.1	<0.1	<0.2	-	-
	b-BHC	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Chlordane (cis)	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Chlordane (trans)	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	d-BHC	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	DDD	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	DDT	mg/kg	0.1	<0.2	<0.2	<0.1	-	-	<0.2	<0.2	<0.1	-	-
	DDT+DDE+DDD	mg/kg		<0.3	<0.3	<0.3	-	-	<0.3	<0.3	<0.3	-	-
	Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Endosulfan I	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Endosulfan II	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Endosulfan sulphate	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Endrin	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Endrin aldehyde	mg/kg	0.1	-	-	<0.1	-	-	-	-	<0.1	-	-
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Heptachlor	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.1	-	-
	Methoxychlor	mg/kg	0.1	<0.2	<0.2	<0.1	-	-	<0.2	<0.2	<0.1	-	-

Table E1: RPDs for soil analyses 1-08-135 UWS Werrington

Field ID	TP06-1	DUP1	Trip 1	RPD	RPD	TP19-1	DUP2	Trip 2	RPD	RPD
LocCode	TP06-1	TP06-1	DUP1	Duplicate	Triplicate	TP19-1	TP19-1	DUP2	Duplicate	Triplicate
Sample Date	15/12/2008	15/12/2008	15/12/2008			16/12/2008	16/12/2008	16/12/2008		

Chem_Group	ChemName	Units	EQL										
Organophosphorus Pesticides	Chlorpyrifos	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Chlorpyrifos-methyl	mg/kg	0.1	-	-	<0.1	-	-	-	-	<0.1	-	-
	Diazinon	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Dimethoate	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Disulfoton	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Ethion	mg/kg	0.1	-	-	<0.1	-	-	-	-	<0.1	-	-
	Fenitrothion	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Phorate	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Ronnel	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Stirophos	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
PAH/Phenols	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	2-methylphenol	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	3-&4-methylphenol	mg/kg	1	<1	<1	-	-	-	<1	<1	-	-	-
	Acenaphthene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Acenaphthylene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Anthracene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Benz(a)anthracene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Benzo(a) pyrene	mg/kg	0.05	<0.5	<0.5	<0.05	-	-	<0.5	<0.5	<0.05	-	-
	Benzo(b)&(k)fluoranthene	mg/kg	0.2	<1	<1	<0.2	-	-	<1	<1	<0.2	-	-
	Benzo(g,h,i)perylene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Chrysene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Dibenz(a,h)anthracene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Fluoranthene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Fluorene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Naphthalene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	PAHs (Sum of total)	mg/kg		0	0	-	-	-	0	0	-	-	-
	Phenanthrene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Phenol	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Phenolics Total	mg/kg	5	0	0	<5	-	-	0	0	<5	-	-
	Pyrene	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
PCB	Arochlor 1016	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Arochlor 1232	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Arochlor 1242	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Arochlor 1248	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Arochlor 1254	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	Arochlor 1260	mg/kg	0.1	<0.5	<0.5	<0.1	-	-	<0.5	<0.5	<0.1	-	-
	PCBs (Sum of total)	mg/kg		0	0	-	-	-	0	0	-	-	-

Table E1: RPDs for soil analyses 1-08-135 UWS Werrington

Field ID	TP06-1	DUP1	Trip 1	RPD	RPD	TP19-1	DUP2	Trip 2	RPD	RPD
LocCode	TP06-1	TP06-1	DUP1	Duplicate	Triplicate	TP19-1	TP19-1	DUP2	Duplicate	Triplicate
Sample Date	15/12/2008	15/12/2008	15/12/2008			16/12/2008	16/12/2008	16/12/2008		

Chem_Group	ChemName	Units	EQL										
Pesticides	Azinophos methyl	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Dichlorvos	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Fenthion	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Malathion	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Methyl parathion	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Monocrotophos	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Parathion	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Prothiofos	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
SVOC	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Coumaphos	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Ethoprop	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Mevinphos (Phosdrin)	mg/kg	0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-
	Pentachlorophenol	mg/kg	1	<1	<1	-	-	-	<1	<1	-	-	-
TPH	TPH C 6 - C 9 Fraction	mg/kg	10	<10	<10	<25	-	-	<10	<10	<25	-	-
	TPH C10 - C14 Fraction	mg/kg	50	<50	<50	<50	-	-	<50	<50	<50	-	-
	TPH C15 - C28 Fraction	mg/kg	100	<100	<100	<100	-	-	<100	<100	<100	-	-
	TPH C29-C36 Fraction	mg/kg	100	<100	<100	<100	-	-	<100	<100	<100	-	-
	TPH+C10 - C36 (Sum of total)	mg/kg		<250 - 0	<250 - 0	<250	-	-	<250 - 0	<250 - 0	<250	-	-

Notes:

Organics*

Concentrations > or = 10 times EQL, RPD criteria of 50%

10 times EQL > Concentrations > or = 5 times EQL, RPD criteria of 75%

Concentrations < 5 times EQL, RPD criteria of 100%

Metals*

Concentrations > or = 10 times EQL, RPD criteria of 30%

10 times EQL > Concentrations > or = 5 times EQL, RPD criteria of 75%

Concentrations < 5 times EQL, RPD criteria of 100%

155.6%

Highlighted Values Exceed Guidelines

Table E2: RPDs for groundwater analyses 1-08-135 UWS Werrington

Field_ID	DUP1	MW103	RPD
Sample Date	30/01/2009	30/01/2009	

Method	ChemName	Units	EQL			
INORGANICS	Phenolics Total	µg/L	10	<10	10	
MET	Arsenic (Filtered)	µg/L	1	<20	<20	
	Cadmium (Filtered)	µg/L	0.1	0.2	0.4	67%
	Chromium (III+VI) (Filtered)	µg/L	1	<5	<5	
	Copper (Filtered)	µg/L	1	<10	<10	
	Lead (Filtered)	µg/L	1	7	9	25%
	Mercury (Filtered)	µg/L	0.1	<0.2	<0.2	
	Nickel (Filtered)	µg/L	1	<5	<5	
	Zinc (Filtered)	µg/L	5	22	30	31%
SVOC	Acenaphthene	µg/L	1	<1	<1	
	Acenaphthylene	µg/L	1	<1	<1	
	Anthracene	µg/L	1	<1	<1	
	Benz(a)anthracene	µg/L	1	<1	<1	
	Benzo(a) pyrene	µg/L	1	<1	<1	
	Benzo(b)&(k)fluoranthene	µg/L	2	<2	<2	
	Benzo(g,h,i)perylene	µg/L	1	<1	<1	
	Chrysene	µg/L	1	<1	<1	
	Dibenz(a,h)anthracene	µg/L	1	<1	<1	
	Fluoranthene	µg/L	1	<1	<1	
	Fluorene	µg/L	1	<1	<1	
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	
	Naphthalene	µg/L	1	<1	<1	
	PAHs (Sum of total)	µg/L		0	0	
	Phenanthrene	µg/L	1	<1	<1	
	Pyrene	µg/L	1	<1	<1	
SVOC-LL	TPH C10 - C14 Fraction	µg/L	50	<50	<50	
	TPH C15 - C28 Fraction	µg/L	200	<200	<200	
	TPH C29-C36 Fraction	µg/L	50	<50	<50	
	TPH+C10 - C36 (Sum of total)	µg/L		<300	<300	
VOC	1,1,1,2-tetrachloroethane	µg/L	5	<5	<5	
	1,1,1-trichloroethane	µg/L	5	<5	<5	
	1,1,2,2-tetrachloroethane	µg/L	5	<5	<5	
	1,1,2-trichloroethane	µg/L	5	<5	<5	
	1,1-dichloroethane	µg/L	5	<5	<5	
	1,1-dichloroethene	µg/L	5	<5	<5	
	1,1-dichloropropene	µg/L	5	<5	<5	
	1,2,3-trichloropropane	µg/L	5	<5	<5	
	1,2-dibromo-3-chloropropane	µg/L	5	<5	<5	
	1,2-dibromoethane	µg/L	5	<5	<5	
	1,2-dichlorobenzene	µg/L	5	<5	<5	
	1,2-dichloroethane	µg/L	5	<5	<5	
	1,2-dichloropropane	µg/L	5	<5	<5	
	1,3-dichlorobenzene	µg/L	5	<5	<5	
	1,3-dichloropropane	µg/L	5	<5	<5	
	1,4-dichlorobenzene	µg/L	5	<5	<5	

Field_ID	DUP1	MW103	RPD
Sample Date	30/01/2009	30/01/2009	

Method	ChemName	Units	EQL			
	2,2-dichloropropane	µg/L	5	<5	<5	
	Benzene	µg/L	1	<1	<1	
	Bromodichloromethane	µg/L	5	<5	<5	
	Bromoform	µg/L	5	<5	<5	
	Bromomethane	µg/L	50	<50	<50	
	Carbon tetrachloride	µg/L	1	<1	<1	
	Chlorobenzene	µg/L	5	<5	<5	
	Chlorodibromomethane	µg/L	5	<5	<5	
	Chloroethane	µg/L	50	<50	<50	
	Chloroform	µg/L	5	<5	<5	
	Chloromethane	µg/L	50	<50	<50	
	cis-1,2-dichloroethene	µg/L	5	<5	<5	
	cis-1,3-dichloropropene	µg/L	5	<5	<5	
	Dibromomethane	µg/L	5	<5	<5	
	Dichlorodifluoromethane	µg/L	50	<50	<50	
	Ethylbenzene	µg/L	1	<1	<1	
	Hexachlorobutadiene	µg/L	5	<5	<5	
	TCE	µg/L	5	<5	<5	
	Tetrachloroethene	µg/L	5	<5	<5	
	Toluene	µg/L	1	<1	<1	
	TPH C 6 - C 9 Fraction	µg/L	50	<50	<50	
	trans-1,2-dichloroethene	µg/L	5	<5	<5	
	trans-1,3-dichloropropene	µg/L	5	<5	<5	
	Trichlorofluoromethane	µg/L	50	<50	<50	
	Vinyl chloride	µg/L	50	<50	<50	
	Xylene (m & p)	µg/L	2	<2	<2	
	Xylene (o)	µg/L	1	<1	<1	
	Xylene Total	µg/L		<3	<3	

Notes:

Organics*

Concentrations > or = 10 times EQL, RPD criteria of 50%

10 times EQL > Concentrations > or = 5 times EQL, RPD criteria of 75%

Concentrations < 5 times EQL, RPD criteria of 100%

Metals*

Concentrations > or = 10 times EQL, RPD criteria of 30%

10 times EQL > Concentrations > or = 5 times EQL, RPD criteria of 75%

Concentrations < 5 times EQL, RPD criteria of 100%

155.6%

Highlighted Values Exceed Guidelines