

Client : URS AUSTRALIA (NSW) PTY LTD
Project : 43217612

Work Order : ES0709901
ALS Quote Reference : EN/001/07

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Matrix Type: WATER

Matrix Spike (MS) Report

					Actual Results		Recovery Limits		
Analyte name		Laboratory Sample ID	Client Sample ID	LOR	Spike Concentration	Sample Result	Spike Recovery	Static Limits	
							MS	Low	High
EG035F: Dissolved Mercury by FIMS									
EG035F: Dissolved Mercury by FIMS - (QC Lot: 455865)					mg/L	mg/L	%	%	%
Mercury	EP0703036-001	Anonymous		0.0001 mg/L	0.0100	<0.0001	86.7	70	130
EG035F: Dissolved Mercury by FIMS - (QC Lot: 455866)					mg/L	mg/L	%	%	%
Mercury	ES0709901-003	MW2_18/07/07		0.0001 mg/L	0.0100	<0.0001	84.3	70	130
EG035F: Dissolved Mercury by FIMS - (QC Lot: 458087)					mg/L	mg/L	%	%	%
Mercury	ES0709900-001	Anonymous		0.0001 mg/L	0.0100	<0.0001	90.1	70	130
EP074A: Monocyclic Aromatic Hydrocarbons									
EP074A: Monocyclic Aromatic Hydrocarbons - (QC Lot: 457801)					µg/L	µg/L	%	%	%
Benzene	ES0709901-008	MWCD1_19/07/07		5 µg/L	25	<5	85.0	70	130
Toluene				5 µg/L	25	<5	76.0	70	130
EP074E: Halogenated Aliphatic Compounds									
EP074E: Halogenated Aliphatic Compounds - (QC Lot: 457801)					µg/L	µg/L	%	%	%
1,1-Dichloroethene	ES0709901-008	MWCD1_19/07/07		5 µg/L	25	<5	103	70	130
Trichloroethene				5 µg/L	25	<5	82.7	70	130
EP074F: Halogenated Aromatic Compounds									
EP074F: Halogenated Aromatic Compounds - (QC Lot: 457801)					µg/L	µg/L	%	%	%
Chlorobenzene	ES0709901-008	MWCD1_19/07/07		5 µg/L	25	<5	73.5	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 456915)					µg/L	µg/L	%	%	%
Acenaphthene	ES0709901-008	MWCD1_19/07/07		1 µg/L	20	<1.0	81.5	70	130
Pyrene				1 µg/L	20	<1.0	79.7	70	130
EP080/071: Total Petroleum Hydrocarbons									
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 456914)					µg/L	µg/L	%	%	%
C10 - C14 Fraction	ES0709901-008	MWCD1_19/07/07		50 µg/L	200	<50	77.0	70	130
C15 - C28 Fraction				100 µg/L	200	<100	85.0	70	130
C29 - C36 Fraction				50 µg/L	200	<50	75.0	70	130
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 457802)					µg/L	µg/L	%	%	%
C6 - C9 Fraction	ES0709901-008	MWCD1_19/07/07		20 µg/L	250	<20	110	70	130

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Matrix Type: WATER

Matrix Spike (MS) Report

					Actual Results		Recovery Limits	
					Sample Result	Spike Recovery	Static Limits	
						MS	Low	High
Analyte name	Laboratory Sample ID	Client Sample ID	LOR	Spike Concentration				
EP080: BTEX								
EP080: BTEX - (QC Lot: 457802)				µg/L	µg/L	%	%	%
Benzene	ES0709901-008	MWCD1_19/07/07	1 µg/L	25	<1	82.8	70	130
Toluene			2 µg/L	25	<2	77.6	70	130
Ethylbenzene			2 µg/L	25	<2	85.0	70	130
meta- & para-Xylene			2 µg/L	25	<2	82.8	70	130
ortho-Xylene			2 µg/L	25	<2	79.0	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Client	: URS AUSTRALIA (NSW) PTY LTD	Laboratory	: Environmental Division Sydney	Page	: 1 of 11
Contact	: MR ANDREW HOLLOWAY	Contact	: Victor Kedicioglu		
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164	Work order	: ES0709901
				Amendment No.	:
Project	: 43217612	Quote number	: EN/001/07	Date received	: 20 Jul 2007
Order number	: - Not provided -			Date issued	: 28 Jul 2007
C-O-C number	: - Not provided -				
Site	: - Not provided -				
E-mail	: andrew_holloway@urscorp.com	E-mail	: Victor.Kedicioglu@alsenviro.com	No. of samples	
Telephone	: 89255500	Telephone	: +61-2-8784 8555	Received	: 20
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This Interpretive Quality Control Report was issued on 28 Jul 2007 for the ALS work order reference ES0709901 and supersedes any previous reports with this reference.

This report contains the following information:

- 1 Analysis Holding Time Compliance
- 1 Quality Control Type Frequency Compliance
- 1 Summary of all Quality Control Outliers
- 1 Brief Method Summaries

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Interpretive Quality Control Report - Analysis Holding Time

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the sample aliquot was taken. Elapsed time to analysis represents time from sampling where no extraction / digestion is involved or time from extraction / digestion where this is present. For composite samples, sampling date/time is taken as that of the oldest sample contributing to that composite. Sample date/time for laboratory produced leaches are taken from the completion date/time of the leaching process. Outliers for holding time are based on USEPA SW846, APHA, AS and NEPM (1999). Failed outliers, refer to the 'Summary of Outliers'.

Matrix Type: SOIL

Analysis Holding Time and Preservation

Method Container / Client Sample ID(s)		Date Sampled	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EA055-103: Moisture Content								
Soil Glass Jar - Unpreserved RETENTION POND, QC03_2007/07	SWAMP,	19 Jul 2007	----	----	----	23 Jul 2007	26 Jul 2007	Pass
Soil Glass Jar - Unpreserved CANAL		20 Jul 2007	----	----	----	23 Jul 2007	27 Jul 2007	Pass
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved RETENTION POND, QC03_2007/07	SWAMP,	19 Jul 2007	23 Jul 2007	15 Jan 2008	Pass	24 Jul 2007	15 Jan 2008	Pass
Soil Glass Jar - Unpreserved CANAL		20 Jul 2007	23 Jul 2007	16 Jan 2008	Pass	24 Jul 2007	16 Jan 2008	Pass
EG035T: Total Mercury by FIMS								
Soil Glass Jar - Unpreserved RETENTION POND, QC03_2007/07	SWAMP,	19 Jul 2007	23 Jul 2007	16 Aug 2007	Pass	24 Jul 2007	16 Aug 2007	Pass
Soil Glass Jar - Unpreserved CANAL		20 Jul 2007	23 Jul 2007	17 Aug 2007	Pass	24 Jul 2007	17 Aug 2007	Pass
EP071: TPH - Semivolatile Fraction								
Soil Glass Jar - Unpreserved RETENTION POND, QC03_2007/07	SWAMP,	19 Jul 2007	23 Jul 2007	2 Aug 2007	Pass	24 Jul 2007	1 Sep 2007	Pass
Soil Glass Jar - Unpreserved CANAL		20 Jul 2007	23 Jul 2007	3 Aug 2007	Pass	24 Jul 2007	1 Sep 2007	Pass
EP074: Volatile Organic Compounds								
Soil Glass Jar - Unpreserved RETENTION POND, QC03_2007/07	SWAMP,	19 Jul 2007	23 Jul 2007	2 Aug 2007	Pass	25 Jul 2007	2 Aug 2007	Pass
Soil Glass Jar - Unpreserved CANAL		20 Jul 2007	23 Jul 2007	3 Aug 2007	Pass	25 Jul 2007	3 Aug 2007	Pass
EP075(SIM): PAH/Phenols (SIM)								
Soil Glass Jar - Unpreserved RETENTION POND, QC03_2007/07	SWAMP,	19 Jul 2007	23 Jul 2007	2 Aug 2007	Pass	24 Jul 2007	1 Sep 2007	Pass
Soil Glass Jar - Unpreserved CANAL		20 Jul 2007	23 Jul 2007	3 Aug 2007	Pass	24 Jul 2007	1 Sep 2007	Pass
EP080: TPH Volatiles/BTEX								

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Matrix Type: SOIL **Analysis Holding Time and Preservation**

Method	Date Sampled	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?	
EP080: TPH Volatiles/BTEX - continued								
Soil Glass Jar - Unpreserved RETENTION POND, QC03_2007/07	SWAMP,	19 Jul 2007	23 Jul 2007	2 Aug 2007	Pass	25 Jul 2007	2 Aug 2007	Pass
Soil Glass Jar - Unpreserved CANAL		20 Jul 2007	23 Jul 2007	3 Aug 2007	Pass	25 Jul 2007	3 Aug 2007	Pass

Matrix Type: WATER **Analysis Holding Time and Preservation**

Method Container / Client Sample ID(s)	Date Sampled	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EG020A-F: Dissolved Metals by ICP-MS - Suite A							
Clear Plastic Bottle - Nitric Acid; Filtered 306_17/07/07	17 Jul 2007	----	----	----	24 Jul 2007	13 Jan 2008	Pass
Clear Plastic Bottle - Nitric Acid; Filtered MW2_18/07/07, 107A_18/07/07,	MW03_18/07/07, 207_18/07/07 18 Jul 2007	----	----	----	24 Jul 2007	14 Jan 2008	Pass
Clear Plastic Bottle - Nitric Acid; Filtered 317_19/07/07, QC01_19/07/07	MWCD1_19/07/07, 19 Jul 2007	----	----	----	24 Jul 2007	15 Jan 2008	Pass
Clear Plastic Bottle - Nitric Acid; Filtered 205_20/07/07, QC02_20/07/07,	MW01_2007/07, MW12 20 Jul 2007	----	----	----	24 Jul 2007	16 Jan 2008	Pass
Clear Plastic Bottle - Nitric Acid; Unspecified 121_17/07/07	17 Jul 2007	----	----	----	24 Jul 2007	13 Jan 2008	Pass
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered 306_17/07/07	17 Jul 2007	----	----	----	25 Jul 2007	14 Aug 2007	Pass
Clear Plastic Bottle - Nitric Acid; Filtered MW2_18/07/07, 107A_18/07/07,	MW03_18/07/07, 207_18/07/07 18 Jul 2007	----	----	----	25 Jul 2007	15 Aug 2007	Pass
Clear Plastic Bottle - Nitric Acid; Filtered 317_19/07/07, QC01_19/07/07	MWCD1_19/07/07, 19 Jul 2007	----	----	----	25 Jul 2007	16 Aug 2007	Pass
Clear Plastic Bottle - Nitric Acid; Filtered 205_20/07/07, QC02_20/07/07	MW01_2007/07, 20 Jul 2007	----	----	----	25 Jul 2007	17 Aug 2007	Pass
Clear Plastic Bottle - Nitric Acid; Filtered MW12	20 Jul 2007	----	----	----	26 Jul 2007	17 Aug 2007	Pass
Clear Plastic Bottle - Nitric Acid; Unspecified 121_17/07/07	17 Jul 2007	----	----	----	25 Jul 2007	14 Aug 2007	Pass
EP068: Pesticides							
Amber Glass Bottle - Unpreserved 107A_18/07/07	18 Jul 2007	25 Jul 2007	25 Jul 2007	Pass	26 Jul 2007	3 Sep 2007	Pass
EP071: TPH - Semivolatile Fraction							

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Matrix Type: WATER

Analysis Holding Time and Preservation

Method Container / Client Sample ID(s)	Date Sampled	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?	
EP071: TPH - Semivolatile Fraction - continued								
Amber Glass Bottle - Unpreserved 306_17/07/07,	121_17/07/07	17 Jul 2007	25 Jul 2007	24 Jul 2007	Fail by 1 day	25 Jul 2007	3 Sep 2007	Pass
Amber Glass Bottle - Unpreserved MW2_18/07/07, 107A_18/07/07,	MW03_18/07/07, 207_18/07/07	18 Jul 2007	25 Jul 2007	25 Jul 2007	Pass	25 Jul 2007	3 Sep 2007	Pass
Amber Glass Bottle - Unpreserved 317_19/07/07, QC01_19/07/07	MWCD1_19/07/07,	19 Jul 2007	25 Jul 2007	26 Jul 2007	Pass	25 Jul 2007	3 Sep 2007	Pass
Amber Glass Bottle - Unpreserved 205_20/07/07, QC02_20/07/07, MW12	MW01_2007/07, TRIP BLANKS,	20 Jul 2007	25 Jul 2007	27 Jul 2007	Pass	25 Jul 2007	3 Sep 2007	Pass
EP074: Volatile Organic Compounds								
Amber VOC Vial - HCl or NaHSO4 306_17/07/07,	121_17/07/07	17 Jul 2007	----	----	----	25 Jul 2007	31 Jul 2007	Pass
Amber VOC Vial - HCl or NaHSO4 MW2_18/07/07, 107A_18/07/07,	MW03_18/07/07, 207_18/07/07	18 Jul 2007	----	----	----	25 Jul 2007	1 Aug 2007	Pass
Amber VOC Vial - HCl or NaHSO4 MWCD1_19/07/07,	QC01_19/07/07	19 Jul 2007	----	----	----	25 Jul 2007	2 Aug 2007	Pass
Amber VOC Vial - HCl or NaHSO4 205_20/07/07, QC02_20/07/07, MW12	MW01_2007/07, TRIP BLANKS,	20 Jul 2007	----	----	----	25 Jul 2007	3 Aug 2007	Pass
EP075(SIM): PAH/Phenols (GC/MS - SIM)								
Amber Glass Bottle - Unpreserved 121_17/07/07		17 Jul 2007	25 Jul 2007	24 Jul 2007	Fail by 1 day	25 Jul 2007	3 Sep 2007	Pass
Amber Glass Bottle - Unpreserved MW2_18/07/07, 107A_18/07/07,	MW03_18/07/07, 207_18/07/07	18 Jul 2007	25 Jul 2007	25 Jul 2007	Pass	25 Jul 2007	3 Sep 2007	Pass
Amber Glass Bottle - Unpreserved 317_19/07/07, QC01_19/07/07	MWCD1_19/07/07,	19 Jul 2007	25 Jul 2007	26 Jul 2007	Pass	25 Jul 2007	3 Sep 2007	Pass
Amber Glass Bottle - Unpreserved 205_20/07/07, QC02_20/07/07, MW12	MW01_2007/07, TRIP BLANKS,	20 Jul 2007	25 Jul 2007	27 Jul 2007	Pass	25 Jul 2007	3 Sep 2007	Pass
EP080: TPH Volatiles/BTEX								
Amber VOC Vial - HCl or NaHSO4 306_17/07/07,	121_17/07/07	17 Jul 2007	----	----	----	25 Jul 2007	31 Jul 2007	Pass
Amber VOC Vial - HCl or NaHSO4 MW2_18/07/07, 107A_18/07/07,	MW03_18/07/07, 207_18/07/07	18 Jul 2007	----	----	----	25 Jul 2007	1 Aug 2007	Pass

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Analysis Holding Time and Preservation

Method		Date Sampled	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?	
EP080: TPH Volatiles/BTEX - continued									
Amber VOC Vial - HCl or NaHSO4 317_19/07/07, QC01_19/07/07		MWCD1_19/07/07,	19 Jul 2007	----	----	----	25 Jul 2007	2 Aug 2007	Pass
Amber VOC Vial - HCl or NaHSO4 205_20/07/07, QC02_20/07/07, TRIP SPIKE.		MW01_2007/07, TRIP BLANKS, MW12	20 Jul 2007	----	----	----	25 Jul 2007	3 Aug 2007	Pass

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Interpretive Quality Control Report - Frequency of Quality Control Samples

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which this work order was processed. Actual rate should be greater than or equal to the expected rate.

Matrix Type: SOIL **Frequency of Quality Control Samples**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
EA055-103: Moisture Content	3	24	12.5	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG005T: Total Metals by ICP-AES	2	12	16.7	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	7	14.3	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	7	14.3	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP074: Volatile Organic Compounds	1	4	25.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	1	6	16.7	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	9	11.1	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)					
EG005T: Total Metals by ICP-AES	1	12	8.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	7	14.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	7	14.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP074: Volatile Organic Compounds	1	4	25.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	1	6	16.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	9	11.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Method Blanks (MB)					
EG005T: Total Metals by ICP-AES	1	12	8.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	7	14.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	7	14.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP074: Volatile Organic Compounds	1	4	25.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	1	6	16.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	9	11.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Matrix Spikes (MS)					
EG005T: Total Metals by ICP-AES	1	12	8.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	7	14.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	7	14.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP074: Volatile Organic Compounds	1	4	25.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	1	6	16.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	9	11.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement

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Frequency of Quality Control Samples

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
EG020A-F: Dissolved Metals by ICP-MS - Suite A	2	20	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035F: Dissolved Mercury by FIMS	5	50	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	2	18	11.1	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071SG-W: TPH - Total Petroleum Hydrocarbons - Silica Gel Clean Up	1	9	11.1	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP074: Volatile Organic Compounds	2	13	15.4	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	2	14	14.3	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	2	15	13.3	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)					
EG020A-F: Dissolved Metals by ICP-MS - Suite A	1	20	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035F: Dissolved Mercury by FIMS	3	50	6.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides	1	1	100.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	18	5.6	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071SG-W: TPH - Total Petroleum Hydrocarbons - Silica Gel Clean Up	1	9	11.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP074: Volatile Organic Compounds	1	13	7.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	1	14	7.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	15	6.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Method Blanks (MB)					
EG020A-F: Dissolved Metals by ICP-MS - Suite A	1	20	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035F: Dissolved Mercury by FIMS	3	50	6.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides	1	1	100.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	18	5.6	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071SG-W: TPH - Total Petroleum Hydrocarbons - Silica Gel Clean Up	1	9	11.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP074: Volatile Organic Compounds	1	13	7.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	1	14	7.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	15	6.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Matrix Spikes (MS)					
EG020A-F: Dissolved Metals by ICP-MS - Suite A	1	20	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035F: Dissolved Mercury by FIMS	3	50	6.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	18	5.6	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071SG-W: TPH - Total Petroleum Hydrocarbons - Silica Gel Clean Up	1	9	11.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP074: Volatile Organic Compounds	1	13	7.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	1	14	7.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	15	6.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement

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Interpretive Quality Control Report - Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged on the 'Quality Control Report'. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). Flagged outliers on control limits for inorganics tests may be within the NEPM specified data quality objective of recoveries in the range of 70 to 130%. Where this occurs, no corrective action is taken. - Anonymous - Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot.

Non-surrogates

ALS QC Lot	Matrix Type	Laboratory Sample ID	Client Sample ID	Analyte	Data	Limits	Comment
Laboratory Control Samples (LCS)							
EP068B: Organophosphorus Pesticides (OP)	WATER	502875-022	----	Monocrotophos	5.2 %	10-89.1 %	Recovery less than lower control limit
Matrix Spikes (MS)							
EG020F: Dissolved Metals by ICP-MS	WATER	ES0709845-019	Anonymous	Copper	ND	----	MS recovery not determined, background level greater than or equal to 4x spike level.

1 For all matrices, no RPD recovery outliers occur for the duplicate analysis.

1 For all matrices, no method blank result outliers occur.

Surrogates

ALS QC Lot	Matrix Type	Laboratory Sample ID	Client Sample ID	Analyte	Data	Limits	Comment
Surrogates							
EP074S: VOC Surrogates	WATER	ES0709901-008	MWCD1_19/07/07	Toluene-D8	110 %	88-110 %	Recovery greater than upper data quality objective
	WATER	ES0709901-010	MW01_2007/07	Toluene-D8	110 %	88-110 %	Recovery greater than upper data quality objective
EP080S: TPH(V)/BTEX Surrogates	WATER	ES0709901-005	107A_18/07/07	4-Bromofluorobenzene	115 %	86-115 %	Recovery greater than upper data quality objective
	WATER	ES0709901-006	207_18/07/07	1,2-Dichloroethane-D4	124 %	80-120 %	Recovery greater than upper data quality objective
				Toluene-D8	112 %	88-110 %	Recovery greater than upper data quality objective
				4-Bromofluorobenzene	119 %	86-115 %	Recovery greater than upper data quality objective
	WATER	ES0709901-007	317_19/07/07	4-Bromofluorobenzene	116 %	86-115 %	Recovery greater than upper data quality objective
	WATER	ES0709901-008	MWCD1_19/07/07	1,2-Dichloroethane-D4	128 %	80-120 %	Recovery greater than upper data quality objective
				Toluene-D8	110 %	88-110 %	Recovery greater than upper data quality objective
				4-Bromofluorobenzene	118 %	86-115 %	Recovery greater than upper data quality objective
	WATER	ES0709901-011	QC01_19/07/07	1,2-Dichloroethane-D4	123 %	80-120 %	Recovery greater than upper data quality objective
	WATER	ES0709901-013	TRIP BLANKS	1,2-Dichloroethane-D4	125 %	80-120 %	Recovery greater than upper data quality objective
				4-Bromofluorobenzene	118 %	86-115 %	Recovery greater than upper data quality objective
	WATER	ES0709901-014	TRIP SPIKE	Toluene-D8	125 %	88-110 %	Recovery greater than upper data quality objective
				4-Bromofluorobenzene	116 %	86-115 %	Recovery greater than upper data quality objective

Client : URS AUSTRALIA (NSW) PTY LTD
 Project : 43217612

Work Order : ES0709901
 ALS Quote Reference : EN/001/07

Page Number : 9 of 11
 Issue Date : 28 Jul 2007

Outliers : Analysis Holding Time

The following report highlights outliers within this 'Interpretive Quality Control Report - Analysis Holding Time'.

Method Container / Client Sample ID(s)	Date Sampled	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EP071: TPH - Semivolatile Fraction							
Amber Glass Bottle - Unpreserved 306_17/07/07, 121_17/07/07	17 Jul 2007	25 Jul 2007	24 Jul 2007	Fail by 1 day	25 Jul 2007	3 Sep 2007	Pass
EP075(SIM): PAH/Phenols (GC/MS - SIM)							
Amber Glass Bottle - Unpreserved 121_17/07/07	17 Jul 2007	25 Jul 2007	24 Jul 2007	Fail by 1 day	25 Jul 2007	3 Sep 2007	Pass

Outliers : Frequency of Quality Control Samples

The following report highlights outliers within this 'Interpretive Quality Control Report - Frequency of Quality Control Samples'.

- 1 No frequency outliers occur.

Client : URS AUSTRALIA (NSW) PTY LTD
 Project : 43217612

Work Order : ES0709901
 ALS Quote Reference : EN/001/07

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 Issue Date : 28 Jul 2007

Method Reference Summary

The analytical procedures used by ALS Environmental are based on established internationally-recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house procedure are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported herein. Reference methods from which ALSE methods are based are provided in parenthesis.

Matrix Type: SEDIMENT

Method Reference Summary

Preparation Methods

EN69 : Hot Block Digest for metals in soils sediments and sludges - USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)

ORG16 : Methanolic Extraction of Soils for Purge and Trap - (USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.

ORG17B : Tumbler Extraction of Solids (Option B - Non-concentrating) - In-house, Mechanical agitation (tumbler). 10g of sample, Na₂SO₄ and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.

Analytical Methods

EA055-103 : Moisture Content - A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)

EG005T : Total Metals by ICP-AES - (APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)

EG035T : Total Mercury by FIMS - AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)

EP071 : TPH - Semivolatile Fraction - (USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)

EP074 : Volatile Organic Compounds - (USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)

EP075(SIM) : PAH/Phenols (SIM) - (USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)

EP080 : TPH Volatiles/BTEX - (USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)

Matrix Type: WATER

Method Reference Summary

Preparation Methods

ORG14 : Separatory Funnel Extraction of Liquids - USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Client : URS AUSTRALIA (NSW) PTY LTD
Project : 43217612

Work Order : ES0709901
ALS Quote Reference : EN/001/07

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Issue Date : 28 Jul 2007

Matrix Type: WATER

Method Reference Summary

Preparation Methods

ORG14-SG : Separatory Funnel Extraction of Liquids - Silica Gel Cleanup - USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. ALS default excludes sediment which may be resident in the container. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2).

Analytical Methods

EG020A-F : Dissolved Metals by ICP-MS - Suite A - (APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.

EG035F : Dissolved Mercury by FIMS - AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP068 : Pesticides - USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP071 : TPH - Semivolatile Fraction - USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP074 : Volatile Organic Compounds - USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP075(SIM) : PAH/Phenols (GC/MS - SIM) - USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP080 : TPH Volatiles/BTEX - USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

THIS COLUMN FOR LAB USE ONLY	CHAIN OF CUSTODY FORM						Container Size, Type, Preservative										
	FROM:		DATE:		TO:		Environmental Division Sydney Work Order ES0709901										
	URS (AUSTRALIA)		20/07/2007		ALS												
	ACN 000 691 690 Level 3, 116 Miller Street North Sydney NSW 2060 Ph: 8925 5500 Fax: 8925 5555				277-289 Woodpark Rd Smithfield NSW 2164												
Job Code: EN/417/94	Project No: 43217612		Sampler(s): Norm Ronis 0408 603 018				Size										
Due Date:	Project Manager: Andrew Holloway		Signature(s): <i>NRonis</i>				Type										
	Agreement No: URS 2007		Checked:				Preserv										
Custody seal intact?	Released for URS by: <i>NRonis</i>		Received for Laboratory by: <i>Soy Sepino</i>				Analytes	METALS (8)	TPH/BTEX	PAHs	VOCs	OCPs/OPPs	HOLD				
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Date: <i>20/07/07</i> Time: <i>13.00</i>		Date: <i>20/7/7</i> Time: <i>15=20</i>														
Sample cold?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO																
Lab identification	Date	Time	Matrix	Sample Identification	Comments	Total no	Tick required analytes										
①	17/07/2007		W	306_17/07/07		4	X	X		X							
②	17/07/2007		W	121_17/07/07		4	X	X	X	X							
③	18/07/2007		W	MW2_18/07/07		4	X	X	X	X							
④	18/07/2007		W	MW03_18/07/07		4	X	X	X	X							
⑤	18/07/2007		W	107a_18/07/07		5	X	X	X	X	X						
⑥	18/07/2007		W	207_18/07/07		4	X	X	X	X							
⑦	19/07/2007		W	317_19/07/07		4	X	X	X								
⑧	19/07/2007		W	MWCD1_19/07/07	EXTRA VOLUME FOR LAB QC AND MS/MSD	10	X	X	X	X							
⑨	20/07/2007		W	205_20/07/07	LIMITED AMOUNT OF SAMPLE	4	X	X	X	X							
⑩	20/07/2007		W	MW01_20/07/07	LIMITED AMOUNT OF SAMPLE	4	X	X	X	X							
⑪	19/07/2007		W	QC01_19/07/07		4	X	X	X	X							
Comments:						TOTAL											
Courier Job No:						Remarks: * Silca-gel clean-up required SAMPLE ID - QC100 TO BE FORWARDED TO LABMARK Triple volume required for sample, laboratory duplicate and matrix spike				NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES							

THIS COLUMN FOR LAB USE ONLY	CHAIN OF CUSTODY FORM					Container Size, Type, Preservative, and Analysis																																												
Job Code: EN/417/94 Due Date:	FROM: URS (AUSTRALIA) ACN 000 691 690 Level 3, 116 Miller Street North Sydney NSW 2060 Ph: 8925 5500		DATE: 20/07/2007		TO: ALS 277-289 Woodpark Rd Smithfield NSW 2164	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="7">Container Identification</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Size</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Type</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Preserv</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>										Container Identification														Size							Type							Preserv						
	Container Identification																																																	
	Size																																																	
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Preserv																																																		
Project No: 43217612 Project Manager: Andrew Holloway Agreement No: URS 2007		Sampler(s): Norm Ronis 0408 603 018 Signature(s): <i>NRoni</i> Checked:		Size Type Preserv	Analyses	METALS (8) TPH/BTEX PAHs VOCs OCPs/OPPs HOLD																																												
Custody seal intact? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Sample cold? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Released for URS by: <i>NRoni</i> Date: 20/07/07 Time: 13.00 Received for Laboratory by: <i>30-8-07</i> Date: 20/7/7 Time: 15.20																																																
Lab identification	Date	Time	Matrix	Sample Identification	Comments	Total no	Tick required analytes																																											
(12)	20/07/2007		W	QC02_20/07/07		4	X	X	X	X																																								
Acknowledge by: <i>Se son</i> (13)	19/07/2007		W	QC100_19/07/07	TO BE FORWARDED TO LABMARK FOR ANALYSIS	4	X	X	X	X	FORWARD TO LABMARK FOR ANALYSIS																																							
(13)	20/07/2007		W	TRIP BLANKS		3		X	X	X																																								
(14)	20/07/2007		W	TRIP SPIKE		2		X																																										
(15)	19/07/2007		SED	RETENTION POND	SEDIMENT SAMPLE	1	X	X	X	X																																								
(16)	19/07/2007		SED	F/W CREEK OUTFALL	SEDIMENT SAMPLE	1							X																																					
(17)	19/07/2007		SED	SWAMP	SEDIMENT SAMPLE	1	X	X	X	X																																								
(18)	20/07/2007		SED	CANAL	SEDIMENT SAMPLE	1	X	X	X	X																																								
(19)	19/07/2007		SED	QC03_20/07/07	SEDIMENT SAMPLE	1	X	X	X	X																																								
EXTRA: 20-MW12 - 1x500 orange Amber 1x100mL (full)																																																		
Comments: 2x400mL monomials						TOTAL	18																																											
Courier Job No:						Remarks: * Silca-gel clean-up required SAMPLE ID - QC100 TO BE FORWARDED TO LABMARK				NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES																																								



No. 13542.

AQISAUSTRALIAN QUARANTINE
AND INSPECTION SERVICE

SYDNEY License No. N0356.

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

Quarantine Approved premises criteria 5.1 for quarantine containment level 1 (QCI) facilities. Class five criteria cover premises utilised for research, analysis, and/or testing of biological material, soil, animal, plant and human products.

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS**FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION**

Laboratory Report No: E033112
Client Name: URS (Australia) Pty. Ltd
Client Reference: 43217612
Contact Name: Andrew Holloway
Chain of Custody No: na
Sample Matrix: WATER

Cover Page 1 of 4
 plus Sample Results

Date Received: 23/07/2007
Date Reported: 31/07/2007

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occurred within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy: matrix spike: 1 in first 5-20, then 1 every 20 samples
 lcs, crm, method: 1 per analytical batch
 surrogate spike: addition per target organic method

Precision: laboratory duplicate: 1 in first 5-10, then 1 every 10 samples

laboratory triplicate: re-extracted & reported when duplicate RPD values exceed acceptance criteria

Holding Times: soils, waters: Refer to LabMark Preservation & THT table
 VOC's 14 days water / soil
 VAC's 7 days water or 14 days acidified
 VAC's 14 days soil
 SVOC's 7 days water, 14 days soil
 Pesticides 7 days water, 14 days soil
 Metals 6 months general elements
 Mercury 28 days

Confirmation: target organic analysis: GC/MS, or confirmatory column

Sensitivity: EQL: Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL**GLOBAL ACCEPTANCE CRITERIA (GAC)**

Accuracy: spike, lcs, crm general analytes 70% - 130% recovery
 surrogate: phenol analytes 50% - 130% recovery
 organophosphorous pesticide analytes 60% - 130% recovery
 phenoxy acid herbicides 50% - 130% recovery

anion/cation bal: +/- 10% (0-3 meq/l),
 +/- 5% (>3 meq/l)

Precision: method blank: not detected >95% of the reported EQL
 duplicate lab 0-30% (>10xEQL), 0-75% (5-10xEQL)
 RPD (metals): 0-100% (<5xEQL)
 duplicate lab 0-50% (>10xEQL), 0-75% (5-10xEQL)
 RPD: 0-100% (<5xEQL)

QUALITY CONTROL**ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)**

Accuracy: spike, lcs, crm analyte specific recovery data
 surrogate: <3xsd of historical mean

Uncertainty: spike, lcs: measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

DQO: Data Quality Objective	s: matrix spike recovery	p: pending
DQI: Data Quality Indicator	d: laboratory duplicate	lcs: laboratory control sample
EQL: Estimated Quantitation Limit	t: laboratory triplicate	crm: certified reference material
--: not applicable	r: RPD relative % difference	mb: method blank

David Burns
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 david.burns@labmark.com.au

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Authorising Chemist (NATA signatory)
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Simon Mills
Authorising Chemist (NATA signatory)
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This document is issued in accordance with NATA's accreditation requirements.

LabMark PTY LTD ABN 27 079 798 397

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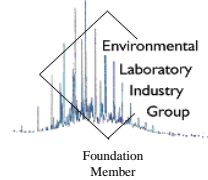
* MELBOURNE: 116 Moray Street, South Melbourne VIC 3205

* Telephone: (03) 9686 8344 * Fax: (03) 9686 7344

Form Q80144, Rev. 0 : Date Issued 10/03/05



CUSTOMER CENTRIC - ANALYTICAL CHEMISTS



Laboratory Report: E033112

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. 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 method and sample matrix type reported, unless noted below.
- 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.

This document is issued in accordance with NATA's accreditation requirements.

LabMark PTY LTD ABN 27 079 798 397

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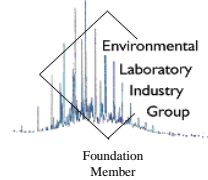
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* Telephone: (03) 9686 8344 * Fax: (03) 9686 7344

Form QS0144, Rev. 0 : Date Issued 10/03/05



CUSTOMER CENTRIC - ANALYTICAL CHEMISTS



Laboratory Report: E033112

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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	Volatile TPH by P&T (vTPH)	1	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	1	0	0%	0	0	0%
3	Polycyclic Aromatic Hydrocarbons (PAH)	1	0	0%	0	0	0%
4	Volatile Organic Compounds (VOC)	1	0	0%	0	0	0%
7	Filtered metals (M7)	1	0	0%	0	0	0%
8	Filtered mercury	1	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. THERE ARE NO 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.

This document is issued in accordance with NATA's accreditation requirements.

LabMark PTY LTD ABN 27 079 798 397

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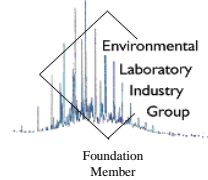
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Form QS0144, Rev. 0 : Date Issued 10/03/05



CUSTOMER CENTRIC - ANALYTICAL CHEMISTS



Laboratory Report: E033112

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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.

This document is issued in accordance with NATA's accreditation requirements.

LabMark PTY LTD ABN 27 079 798 397

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* Telephone: (03) 9686 8344 * Fax: (03) 9686 7344

Form QS0144, Rev. 0 : Date Issued 10/03/05



Laboratory Report No: E033112
Client Name: URS (Australia) Pty. Ltd
Contact Name: Andrew Holloway
Client Reference: 43217612

Page: 1 of 8
plus cover page
Date: 31/07/07

Final
Certificate
of Analysis



This report supercedes reports issued on: N/A

Laboratory Identification		102797	lcs	mb							
Sample Identification		QC100	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		19/7/07	--	--							
Laboratory Extraction (Preparation) Date		25/7/07	25/7/07	25/7/07							
Laboratory Analysis Date		26/7/07	25/7/07	25/7/07							
Method : E003.1 Volatile TPH by P&T (vTPH) C6-C9	EQL 50	<50	97%	<50							

Results expressed in ug/l unless otherwise specified

Comments:

E003.1: Direct injection into P&T/GC/FID.



Laboratory Report No: E033112
Client Name: URS (Australia) Pty. Ltd
Contact Name: Andrew Holloway
Client Reference: 43217612

Page: 2 of 8
plus cover page
Date: 31/07/07

Final
Certificate
of Analysis



This report supercedes reports issued on: N/A

Laboratory Identification		102797	lcs	mb							
Sample Identification		QC100	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		19/7/07	--	--							
Laboratory Extraction (Preparation) Date		26/7/07	26/7/07	26/7/07							
Laboratory Analysis Date		27/7/07	27/7/07	27/7/07							
Method : E004.1											
Petroleum Hydrocarbons (TPH)		EQL									
C10-C14 Fraction	50	<50	--	<50							
C15-C28 Fraction	200	<200	90%	<200							
C29-C36 Fraction	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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Laboratory Identification		102797	lcs	mb							
Sample Identification		QC100	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		19/7/07	--	--							
Laboratory Extraction (Preparation) Date		26/7/07	26/7/07	26/7/07							
Laboratory Analysis Date		30/7/07	26/7/07	26/7/07							
Method : E007.1											
Polyaromatic Hydrocarbons (PAH)		EQL									
Naphthalene	1	<1	93%	<1							
Acenaphthylene	1	<1	95%	<1							
Acenaphthene	1	<1	94%	<1							
Fluorene	1	<1	99%	<1							
Phenanthrene	1	<1	99%	<1							
Anthracene	1	<1	99%	<1							
Fluoranthene	1	<1	102%	<1							
Pyrene	1	<1	102%	<1							
Benz(a)anthracene	1	<1	100%	<1							
Chrysene	1	<1	82%	<1							
Benzo(b)&(k)fluoranthene	2	<2	110%	<2							
Benzo(a) pyrene	1	<1	101%	<1							
Indeno(1,2,3-c,d)pyrene	1	<1	99%	<1							
Dibenz(a,h)anthracene	1	<1	101%	<1							
Benzo(g,h,i)perylene	1	<1	97%	<1							
Sum of reported PAHs	--	--	--	--							
2-FBP (Surr @ 250ug/l)	--	79%	87%	91%							
TP-d14 (Surr @ 250ug/l)	--	88%	95%	95%							

Results expressed in ug/l unless otherwise specified

Comments:

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



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Laboratory Identification		102797	lcs	mb							
Sample Identification		QC100	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		19/7/07	--	--							
Laboratory Extraction (Preparation) Date		25/7/07	25/7/07	25/7/07							
Laboratory Analysis Date		26/7/07	26/7/07	26/7/07							
Method : E016.1											
Volatile Organic Compounds (VOC)	EQL										
Volatile Aromatic Compounds											
Benzene	5	<5	111%	<5							
Toluene	5	<5	111%	<5							
Ethylbenzene	5	<5	120%	<5							
meta- & para- xylene	10	<10	125%	<10							
ortho-xylene	5	<5	126%	<5							
Styrene	5	<5	126%	<5							
Isopropylbenzene	5	<5	129%	<5							
n-propylbenzene	5	<5	128%	<5							
1,3,5-trimethylbenzene	5	<5	128%	<5							
sec-butylbenzene	5	<5	126%	<5							
1,2,4-trimethylbenzene	5	<5	128%	<5							
tert-butylbenzene	5	<5	123%	<5							
p-isopropyltoluene	5	<5	124%	<5							
n-butylbenzene	5	<5	130%	<5							
Naphthalene	5	<5	109%	<5							
Halogenated Aliphatics											
Dichlorodifluoromethane	50	<50	101%	<50							
Chloromethane	50	<50	105%	<50							
Vinyl chloride	50	<50	103%	<50							
Bromomethane	50	<50	125%	<50							
Chloroethane	50	<50	98%	<50							
Trichlorofluoromethane	50	<50	106%	<50							
1,1-dichloroethene	5	<5	108%	<5							
trans-1,2-dichloroethene	5	<5	117%	<5							
1,1-dichloroethane	5	<5	108%	<5							
cis-1,2-dichloroethene	5	<5	108%	<5							



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This report supercedes reports issued on: N/A

Laboratory Identification		102797	lcs	mb							
Sample Identification		QC100	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		19/7/07	--	--							
Laboratory Extraction (Preparation) Date		25/7/07	25/7/07	25/7/07							
Laboratory Analysis Date		26/7/07	26/7/07	26/7/07							
Method : E016.1											
Volatile Organic Compounds (VOC)		EQL									
2,2-dichloropropane	5	<5	119%	<5							
Chloroform	5	<5	111%	<5							
1,1,1-trichloroethane	5	<5	114%	<5							
1,2-dichloroethane	5	<5	113%	<5							
1,1-dichloropropene	5	<5	115%	<5							
Carbon tetrachloride	5	<5	115%	<5							
Trichloroethene	5	<5	113%	<5							
1,2-dichloropropane	5	<5	120%	<5							
Dibromomethane	5	<5	115%	<5							
Bromodichloromethane	5	<5	115%	<5							
cis-1,3-dichloropropene	5	<5	123%	<5							
trans-1,3-dichloropropene	5	<5	117%	<5							
1,1,2-trichloroethane	5	<5	110%	<5							
1,3-dichloropropane	5	<5	112%	<5							
Chlorodibromomethane	5	<5	121%	<5							
Tetrachloroethene	5	<5	118%	<5							
1,2-dibromoethane	5	<5	113%	<5							
1,1,1,2-tetrachloroethane	5	<5	126%	<5							
Bromoform	5	<5	128%	<5							
1,1,2,2-tetrachloroethane	5	<5	125%	<5							
1,2,3-trichloropropane	5	<5	124%	<5							
1,2-dibromo-3-chloropropane	5	<5	118%	<5							
Hexachlorobutadiene	5	<5	122%	<5							
Halogenated Aromatics											
Chlorobenzene	5	<5	125%	<5							
Bromobenzene	5	<5	118%	<5							
2-chlorotoluene	5	<5	121%	<5							



Laboratory Report No: E033112
Client Name: URS (Australia) Pty. Ltd
Contact Name: Andrew Holloway
Client Reference: 43217612

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Laboratory Identification		102797	lcs	mb							
Sample Identification		QC100	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		19/7/07	--	--							
Laboratory Extraction (Preparation) Date		25/7/07	25/7/07	25/7/07							
Laboratory Analysis Date		26/7/07	26/7/07	26/7/07							
Method : E016.1											
Volatile Organic Compounds (VOC)		EQL									
4-chlorotoluene	5	<5	121%	<5							
1,3-dichlorobenzene	5	<5	124%	<5							
1,4-dichlorobenzene	5	<5	106%	<5							
1,2-dichlorobenzene	5	<5	124%	<5							
1,2,4-trichlorobenzene	5	<5	113%	<5							
1,2,3-trichlorobenzene	5	<5	115%	<5							
Oxygenated Compounds											
2-butanone (MEK)	5	<5	107%	<5							
2-pentanone	5	<5	97%	<5							
2-hexanone (MBK)	5	<5	93%	<5							
4-methyl-2-pentanone (MIBK)	5	<5	118%	<5							
Vinyl acetate	5	<5	126%	<5							
Ethyl acetate	5	<5	103%	<5							
tert-butylmethylether (TBME)	5	<5	113%	<5							
Sulphonated Compounds											
Carbon disulfide	5	<5	108%	<5							
Surrogate Standards											
4-BFB (Surr @ 100ug/l)	--	95%	114%	94%							
1,2-DCE-d4 (Surr @ 100ug/l)	--	97%	104%	95%							
Toluene-d8 (Surr @ 100ug/l)	--	96%	102%	99%							

Results expressed in ug/l unless otherwise specified

Comments:

E016.1: Direct analysis by P&T/GC/MS. (NB) Acetone and Dichloromethane not reported unless requested.



Laboratory Report No: E033112
Client Name: URS (Australia) Pty. Ltd
Contact Name: Andrew Holloway
Client Reference: 43217612

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This report supercedes reports issued on: N/A

Laboratory Identification		102797	lcs	mb							
Sample Identification		QC100	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		19/7/07	--	--							
Laboratory Extraction (Preparation) Date		25/7/07	25/7/07	25/7/07							
Laboratory Analysis Date		25/7/07	25/7/07	25/7/07							
Method : E022.1											
Filtered metals (M7)		EQL									
Arsenic	1	*<10	93%	<1							
Cadmium	0.1	0.2	102%	<0.1							
Chromium	1	*<5	94%	<1							
Copper	1	20	97%	<1							
Nickel	1	30	95%	<1							
Lead	1	2	100%	<1							
Zinc	5	98	96%	<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.



Laboratory Report No: E033112
Client Name: URS (Australia) Pty. Ltd
Contact Name: Andrew Holloway
Client Reference: 43217612

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This report supercedes reports issued on: N/A

Laboratory Identification		102797	lcs	mb							
Sample Identification		QC100	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		19/7/07	--	--							
Laboratory Extraction (Preparation) Date		25/7/07	25/7/07	25/7/07							
Laboratory Analysis Date		27/7/07	27/7/07	27/7/07							
Method : E026.1 Filtered mercury Mercury	EQL 0.1	0.3	78%	<0.1							

Results expressed in ug/l unless otherwise specified

Comments:

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



Quality, Service, Support

Report Date : 23/07/2007

Report Time : 2:32:40PM

Sample Receipt Notice (SRN) for E033112



Client Details		Laboratory Reference Information	
Client Name: URS (Australia) Pty. Ltd Client Phone: 02 8925 5500 Client Fax: 02 8925 5555 Contact Name: Andrew Holloway Contact Email: andrew_holloway@urscorp.com Client Address: Level 3, 116 Miller Street North Sydney NSW 2060 Project Name: 43217612 Project Number: - Not provided - CoC 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: E033112 Quotation Number: - Not provided, standard prices apply Laboratory Address: Unit 1, 8 Leighton Pl. Asquith NSW 2077 Phone: 61 2 9476 6533 Fax: 61 2 9476 8219 Sample Receipt Contact: Jakleen El Galada Email: jakleen.galada@labmark.com.au Reporting Contact: Jyothi Lal Email: jyothi.lal@labmark.com.au	
Date Sampled (earliest date): 19/07/2007 Date Samples Received: 23/07/2007 Date Sample Receipt Notice issued: 23/07/2007 Date Preliminary Report Due: 31/07/2007		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

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 used .
Sample container & chemical preservation suitable .

Comments:

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 E016.1: Acetone and Dichloromethane not reported unless requested.

Subcontracted Analyses:

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



Quality, Service, Support

Report Date : 23/07/2007
Report Time : 2:32:40PM

Sample Receipt Notice (SRN) for E033112



The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request. 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	Filtered mercury	Filtered metals (M7)	Polyaromatic Hydrocarbons (PAH)	PREP Not Reported	Petroleum Hydrocarbons (TPH)	Volatile Organic Compounds (VOC)	Volatile TPH by P&T (vTPH)									
102797	19/07		QC100	●	●	●	●	●	●	●									
Totals:				1	1	1	1	1	1	1									

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



Quality, Service, Support

Report Date : 23/07/2007
Report Time : 2:32:40PM

Sample
Receipt
Notice (SRN) for E033112



				Requested Analysis															
				M8 - M7-F_W															
No.	Date	Depth	Client Sample ID																
102797	19/07		QC100	●															
Totals:				1															

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

THIS COLUMN FOR LAB USE ONLY	CHAIN OF CUSTODY FORM					Container Size, Type, Preservative, and Analysis																																																													
Job Code: EN/417/94 Due Date:	FROM: URS (AUSTRALIA) ACN 000 691 690 Level 3, 116 Miller Street North Sydney NSW 2060 Ph: 8925 5500		DATE: 20/07/2007		TO: ALS 277-289 Woodpark Rd Smithfield NSW 2164																																																														
	Project No: 43217612		Sampler(s): Norm Ronis 0408 603 018		Signature(s): <i>NRoni</i> C checked:		Container Identification																																																												
	Project Manager: Andrew Holloway																																																																		
	Agreement No: URS 2007																																																																		
Custody seal intact? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Sample cold? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Released for URS by: <i>NRoni</i> Date: <i>20/07/07</i> Time: <i>1300</i>		Received for Laboratory by: <i>20/7/07</i> Date: <i>20/7/07</i> Time: <i>15:20</i>		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">Size</td> <td colspan="6"></td> </tr> <tr> <td colspan="6"></td> </tr> <tr> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">Type</td> <td colspan="6"></td> </tr> <tr> <td colspan="6"></td> </tr> <tr> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">Preserv</td> <td colspan="6"></td> </tr> <tr> <td colspan="6"></td> </tr> <tr> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">Analytes</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">METALS (8)</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH/BTEX</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">PAHs</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">OCPs/OPPs</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">HOLD</td> </tr> <tr> <td colspan="6"></td> </tr> </table>										Size													Type													Preserv													Analytes	METALS (8)	TPH/BTEX	PAHs	VOCs	OCPs/OPPs	HOLD						
Size																																																																			
Type																																																																			
Preserv																																																																			
Analytes	METALS (8)	TPH/BTEX	PAHs	VOCs	OCPs/OPPs	HOLD																																																													
Lab identification	Date	Time	Matrix	Sample Identification	Comments	Total no	Tick required analytes																																																												
(2) 20/07/2007			W	QC02_20/07/07		4	X	X	X	X																																																									
<i>Acknowledge by:</i> <i>See serial 107975</i> (3) 19/07/2007			W	QC100_19/07/07	TO BE FORWARDED TO LABMARK FOR ANALYSIS	4	X	X	X	X	FORWARD TO LABMARK FOR ANALYSIS																																																								
(13) 20/07/2007			W	TRIP BLANKS		3		X	X	X																																																									
(14) 20/07/2007			W	TRIP SPIKE		2		X																																																											
(15) 19/07/2007			SED	RETENTION POND	SEDIMENT SAMPLE	1	X	X	X	X																																																									
(16) 19/07/2007			SED	F/W CREEK OUTFALL	SEDIMENT SAMPLE	1						X																																																							
(17) 19/07/2007			SED	SWAMP	SEDIMENT SAMPLE	1	X	X	X	X																																																									
(18) 20/07/2007			SED	CANAL	SEDIMENT SAMPLE	1	X	X	X	X																																																									
(19) 19/07/2007			SED	QC03_20/07/07	SEDIMENT SAMPLE	1	X	X	X	X																																																									
EXTRA:																																																																			
20-MW12 - 1x500 orange Amber 1x12 metal (gilt)																																																																			
Comments: 2x40ml monovials						TOTAL	18																																																												
Courier Job No:						Remarks: * Si lca-gel clean-up required SAMPLE ID - QC100 TO BE FORWARDED TO LABMARK				NOTE: SAMPLES MAY CONTAIN DANGEROUS AND HAZARDOUS SUBSTANCES																																																									

Job #
E033122

mm an *23/7/07*

Appendix C

QA/QC and Data Validation

URS		DATA VALIDATION SUMMARY	
Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.			
Project Name: Chullora Railway Shops		Project/Task Number: 43217612	
Analytical Laboratory: ALS and Labmark		Batch/Ref. Number(s): ES0709901 and E033112	
Date Sampled: 17-20/07/07		Sample Type: GROUNDWATER and SEDIMENT	
Sample Handling, Receipt and Holding Times		Yes/No	Comments
COC completed adequately		Yes	
Samples received intact and chilled		Yes	Received at 6.6 °C
Samples analysed within appropriate holding times per analytical methods.		Yes	306 TPH (semivolatile) extraction failed by 1 day and 121 PAH extraction fail by one day.
# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
14	3	2	1
Blanks			
Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)			
Type	Comments		
MB	MBs have acceptable results less than the limits of reporting		
TB	TBs have acceptable results less than the limits of reporting		
Laboratory Control Samples (LCS)			
Analyte	Comments		
LCS	LCS recoveries are all within laboratory control limits except for Monocrotophos 5.2% where the recovery is less than the lower control limit (10%).		
Matrix Spike (MS)			
Analyte	Comments		
MS	MS recoveries are all within laboratory control limits except for Copper where the MS recovery was not determined, background level greater than or equal to 4X spike level.		
Trip Spike /Control Trip Spike			
Analyte	% R	Comments	
Trip Spike		TS results are all within laboratory control limits	
Duplicates			
Laboratory Duplicates	Comments		
	Laboratory duplicates have acceptable results less than the limits of reporting or RPDs within control limits.		
Intra-Laboratory Duplicates			
	Comments		
QC01 and MWCD1	The Intra-laboratory duplicate results are acceptable and are either less than the limits of reporting or the RPDs within control limits.		
Inter-Laboratory Duplicates			
	Comments		
QC100 and MWCD1	The Inter-laboratory duplicate results are acceptable and are either less than the limits of reporting or the RPDs within control limits.		
Surrogate Monitoring Compound Analyses			
Analyte	Comments		
VOC surrogates	Surrogate recoveries were equal to the upper data quality objective for MWCD1 for Toluene-D8 110%, MW01 for Toluene-D8 110%		
TPH/BTEX Surrogates	Surrogate recoveries were greater than the upper data quality objective for 207_18/07/07 1,2-Dichloroethane-D4 124 % Toluene-D8 112 % and 4-Bromofluorobenzene 119 %. 317_19/07/07 4-Bromofluorobenzene 116 %. MWCD1_19/07/07 1,2-Dichloroethane-D4 128 % and 4-Bromofluorobenzene 118 %. QC01_19/07/07 1,2-Dichloroethane-D4 123 %. TRIP BLANKS 1,2-Dichloroethane-D4 125 %, 4-Bromofluorobenzene 118 %. TRIP SPIKE Toluene-D8 125 % and 4-Bromofluorobenzene 116 %		
Overall Comments			
MS recoveries are all within laboratory control limits except for Copper where the MS recovery was not determined, background level gerater than or equal to 4X spike level.			
Well ID 306 TPH extraction failed by 1 day and well ID 121 PAH extraction fail by one day.			
Numerous surrogate recoveries outside the laboratory control limits are marginal and not considered to affect the overall data quality.			
Based on the overall assessment of the QA/QC data the analytical results are acceptable for the investigation program.			

Performed By: Norm Ronis
Date: 31-Aug-07

Reviewed By: Tom Onus
Date: 03-Sep-07

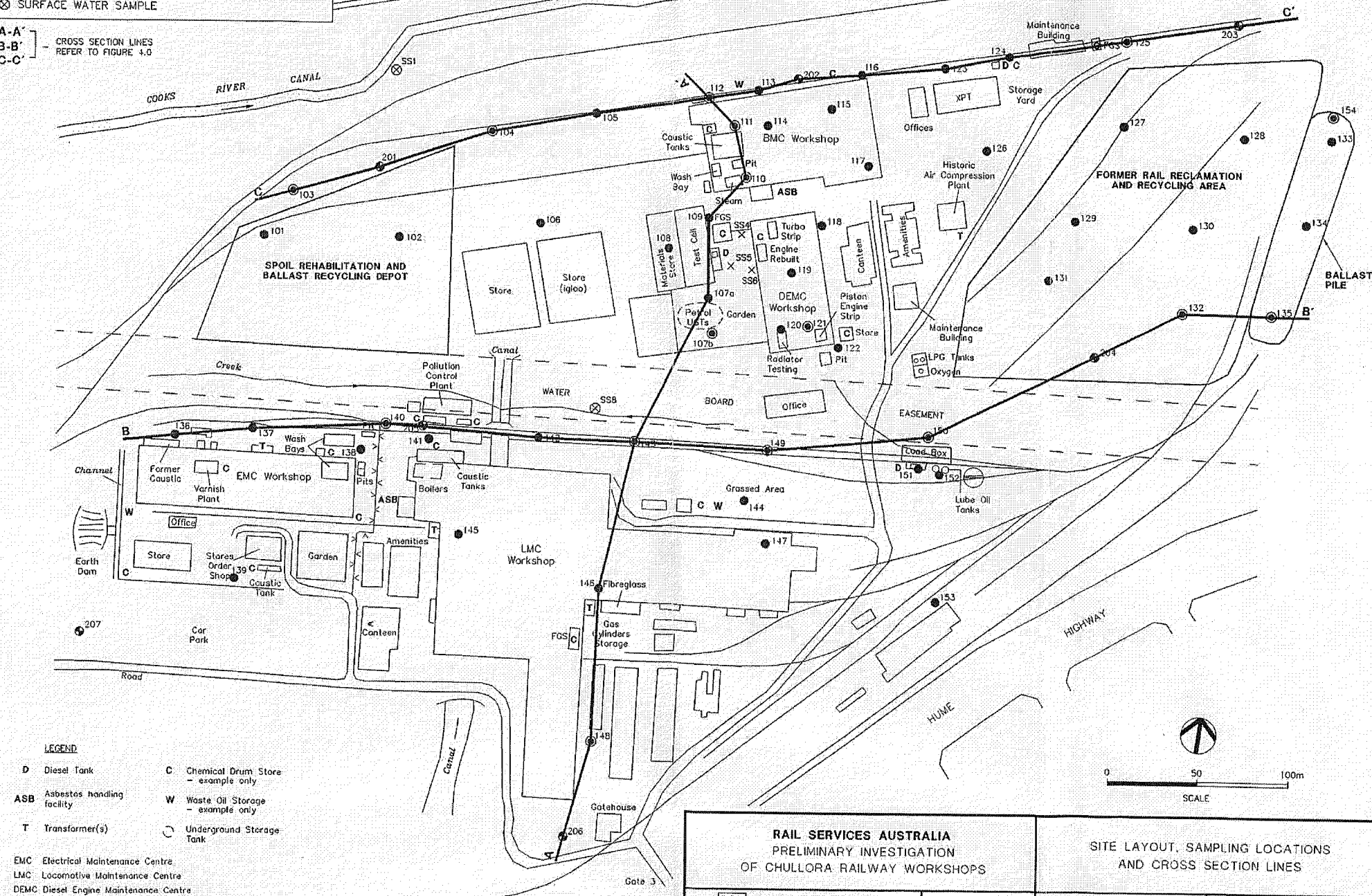
Appendix D

Previous Site Figures

SAMPLING POINTS

- | SOIL | | GROUNDWATER | |
|------|----------------------|-------------|------------------------|
| ● | POINT SOURCE | ⊕ | BEDROCK (DEEP) |
| ● | FILL | ⊙ | POINT SOURCE (SHALLOW) |
| × | SURFACE SOIL SAMPLE | ⊗ | FILL/SOIL (SHALLOW) |
| ⊗ | SURFACE WATER SAMPLE | | |

A-A' - CROSS SECTION LINES
B-B' - REFER TO FIGURE 4.0
C-C' -



LEGEND

- | | |
|---------------------------------------|--------------------------------------|
| D Diesel Tank | C Chemical Drum Store - example only |
| ASB Asbestos handling facility | W Waste Oil Storage - example only |
| T Transformer(s) | ⊙ Underground Storage Tank |
| EMC Electrical Maintenance Centre | |
| LMC Locomotive Maintenance Centre | |
| DEMC Diesel Engine Maintenance Centre | |
| BMC Bogie Maintenance Centre | |

RAIL SERVICES AUSTRALIA PRELIMINARY INVESTIGATION OF CHULLORA RAILWAY WORKSHOPS

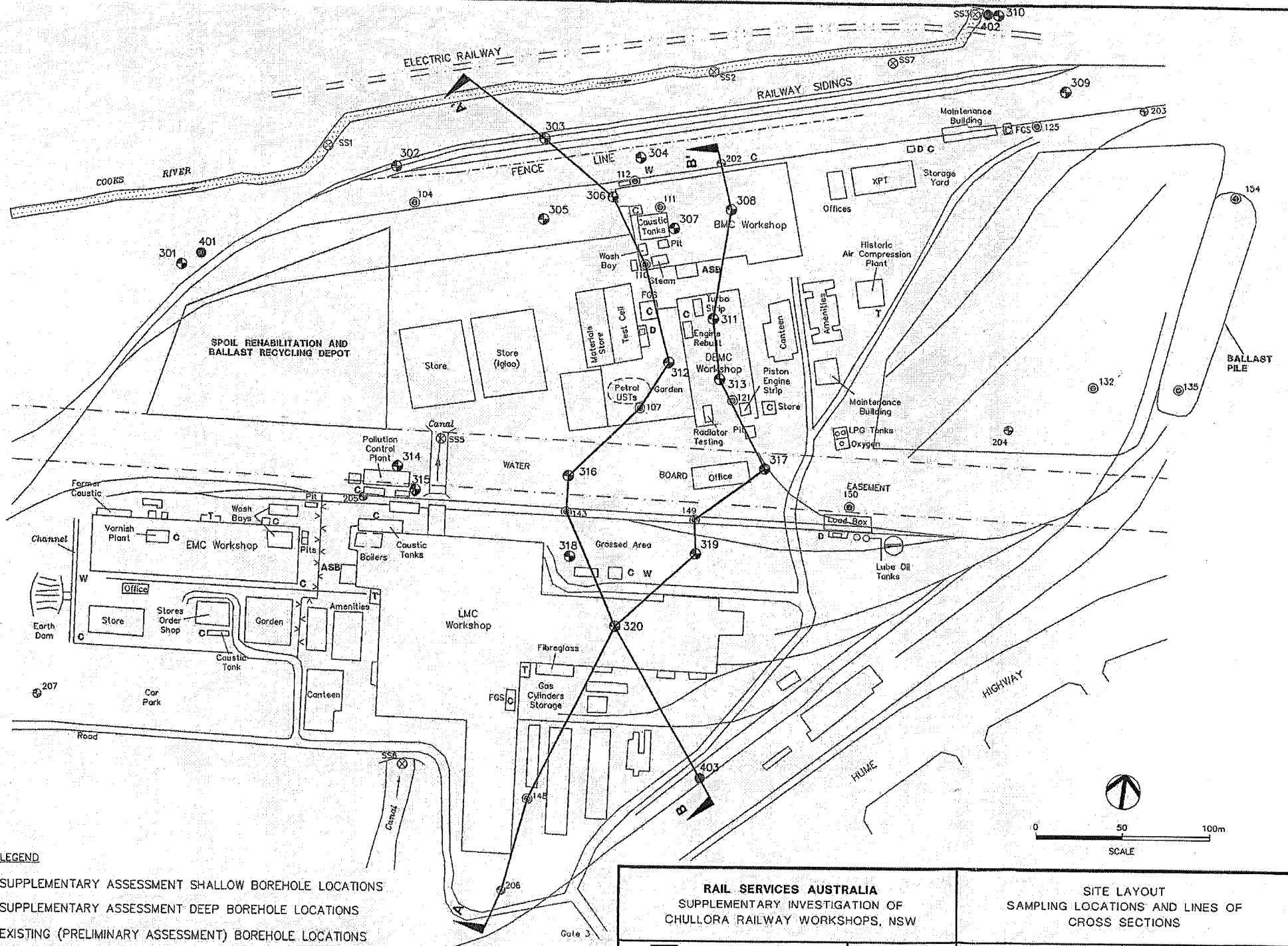


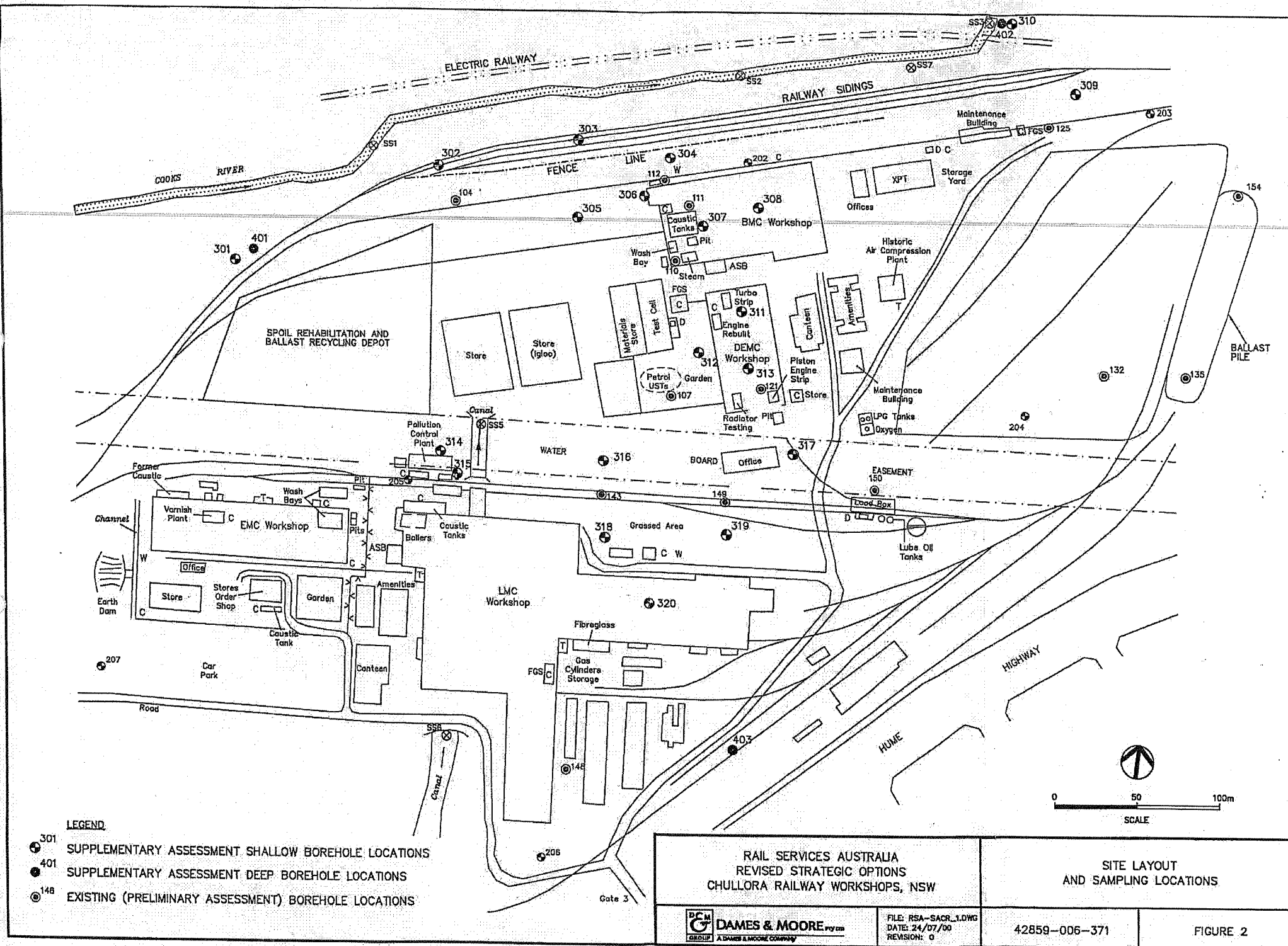
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DATE: 20/9/99
REVISION: 0

SITE LAYOUT, SAMPLING LOCATIONS
AND CROSS SECTION LINES

42359-001-070

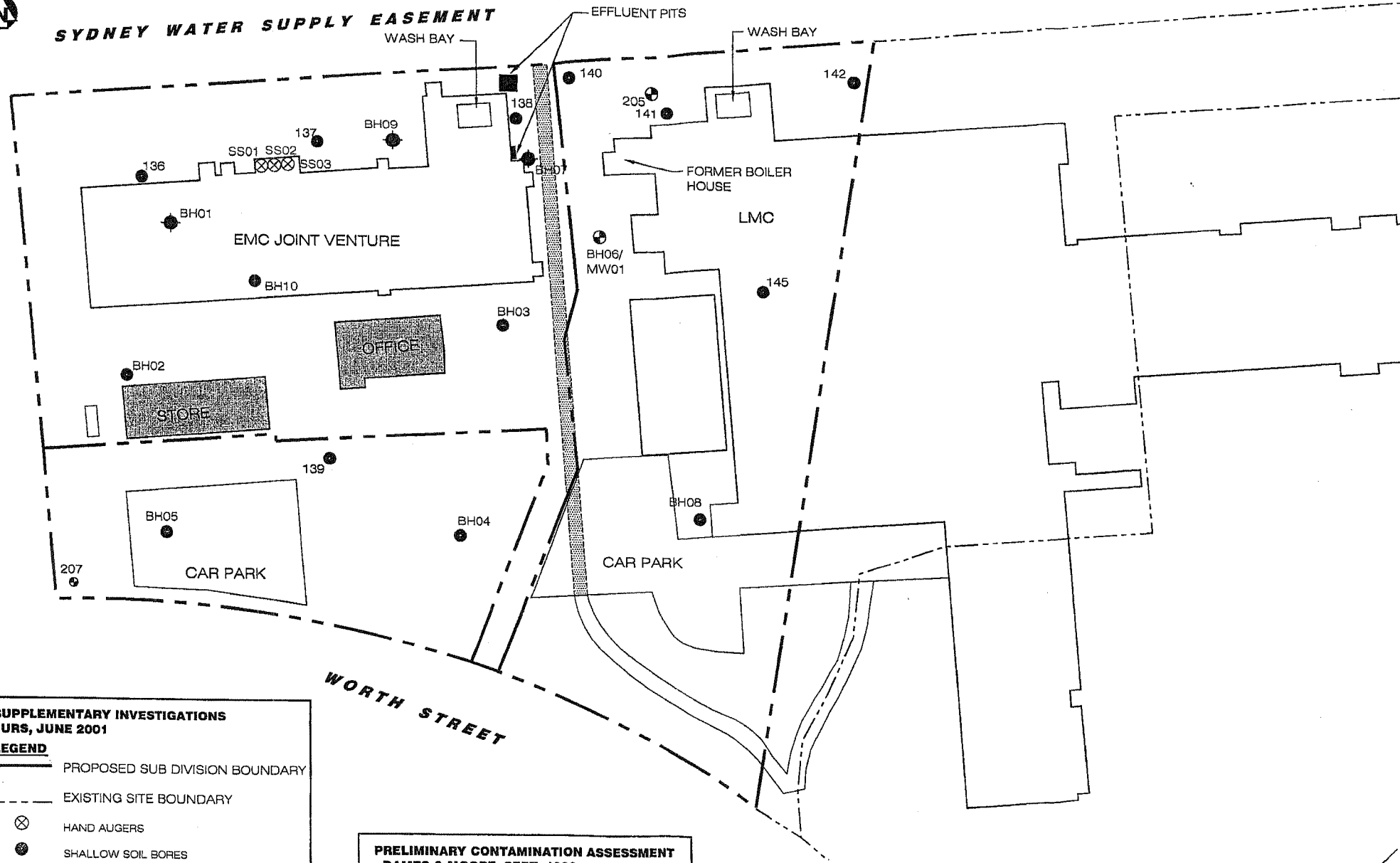
FIGURE 2







SYDNEY WATER SUPPLY EASEMENT



SUPPLEMENTARY INVESTIGATIONS - URS, JUNE 2001

LEGEND

- PROPOSED SUB DIVISION BOUNDARY
- EXISTING SITE BOUNDARY
- HAND AUGERS
- SHALLOW SOIL BORES
- DEEP SOIL BORES
- SOIL BORES & MONITORING WELL
- PROPERTY BOUNDARY
- UNDERGROUND STORMWATER CHANNEL

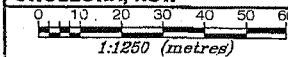
PRELIMINARY CONTAMINATION ASSESSMENT - DAMES & MOORE, SEPT. 1999

LEGEND

- SOIL BORE
- SOIL BORE & MONITORING WELL
(APPROXIMATE LOCATIONS)

CLIENT
RAIL INFRASTRUCTURE CORPORATION
PROJECT
**ENVIRONMENTAL SITE ASSESSMENTS (LOTS 1,2 & 3)
CHULLORA, NSW**

TITLE
**SITE LAYOUT SHOWING
ASSESSMENT LOCATIONS**



DESIGNED: JT
DRAWN: HC
DATE: 18/10/02

APPROVED:
DATE:
STATUS: FINAL

PROJECT: 42859 RIC-008
CAD FILE: 014.DWG
REVISION: A

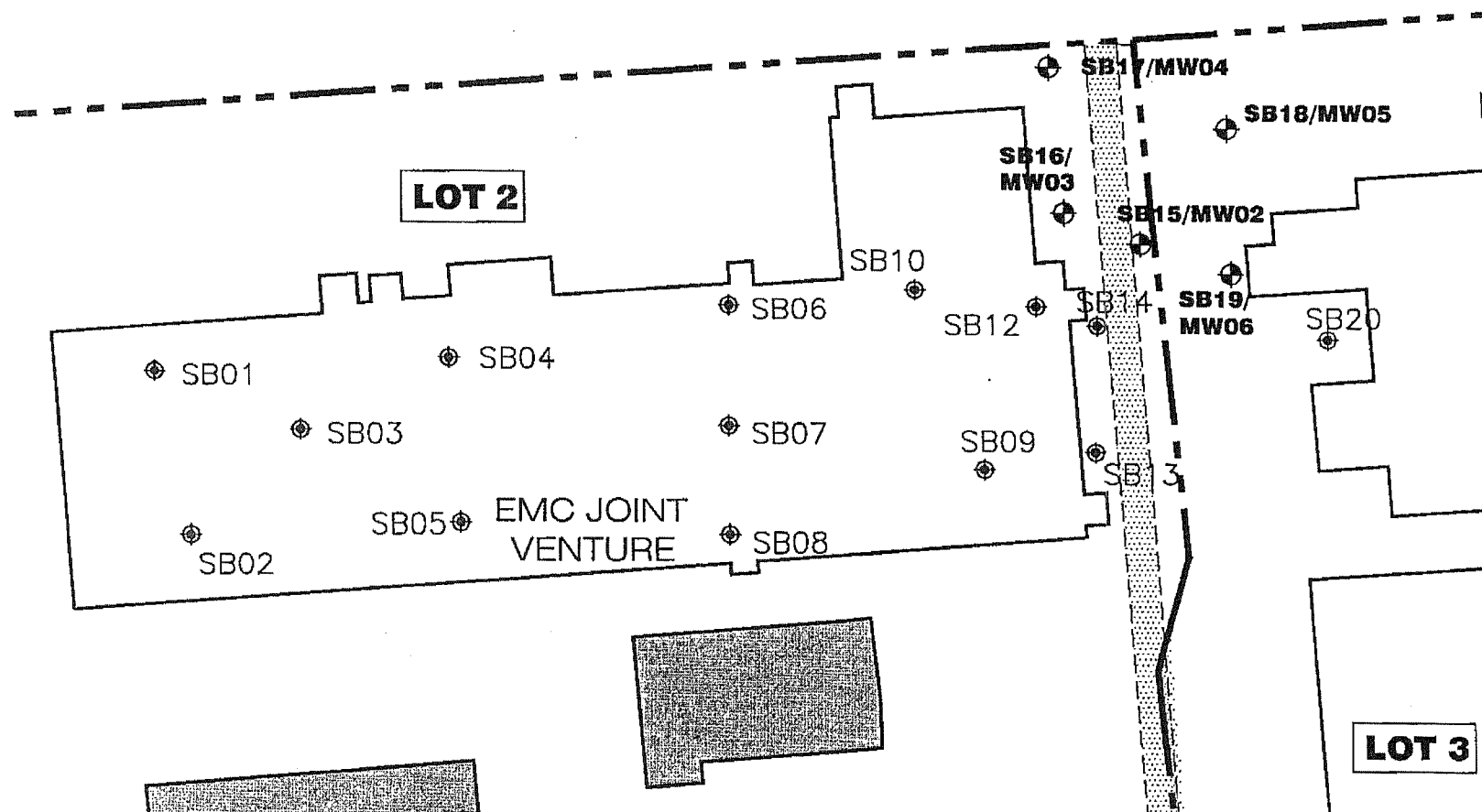
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FIGURE
2


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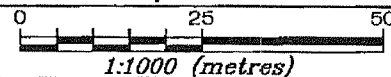
SYDNEY WATER SUPPLY



LEGEND

- ⊕ SOIL BORE LOCATIONS
- ⊕ SOIL BORE/MONITORING WELL LOCATIONS
-  UNDERGROUND STORMWATER CHANNEL

CLIENT
RAIL INFRASTRUCTURE CORPORATION
PROJECT
ENVIRONMENTAL SITE ASSESSMENTS (LOTS 1,2 & 3)
CHULLORA, NSW



DESIGNED: **JKT**
DRAWN: **AW/JT**
DATE: **05/04/02**
APPROVED:
DATE:
STATUS: **FINAL**

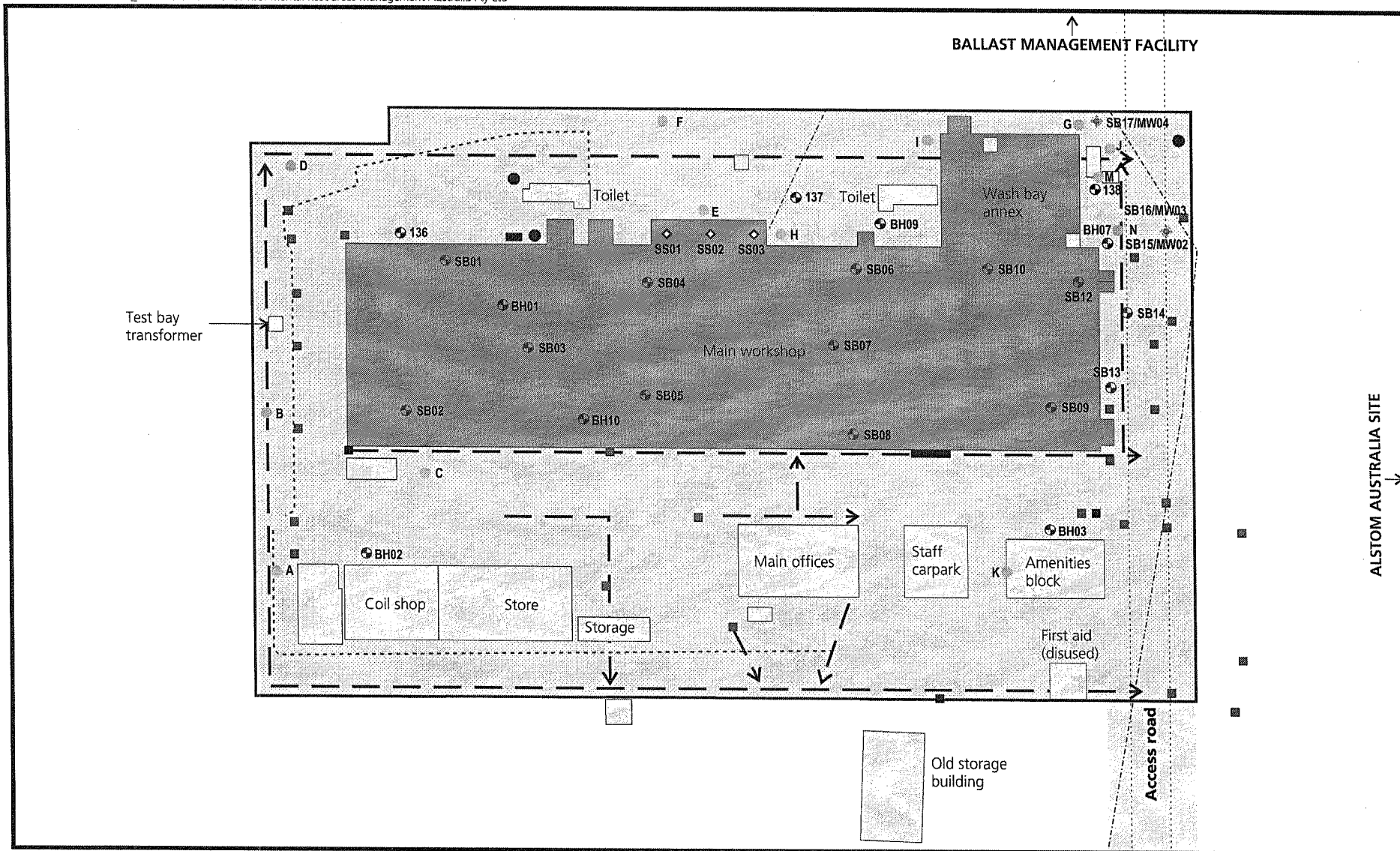
TITLE
**SITE LAYOUT SHOWING
ASSESSMENT
LOCATIONS - JANUARY 2002**

PROJECT: **42859-008**
CAD FILE: **015.DWG**
REVISION: **A**

URS

FIGURE
3

A4



0 20m
Approximate only

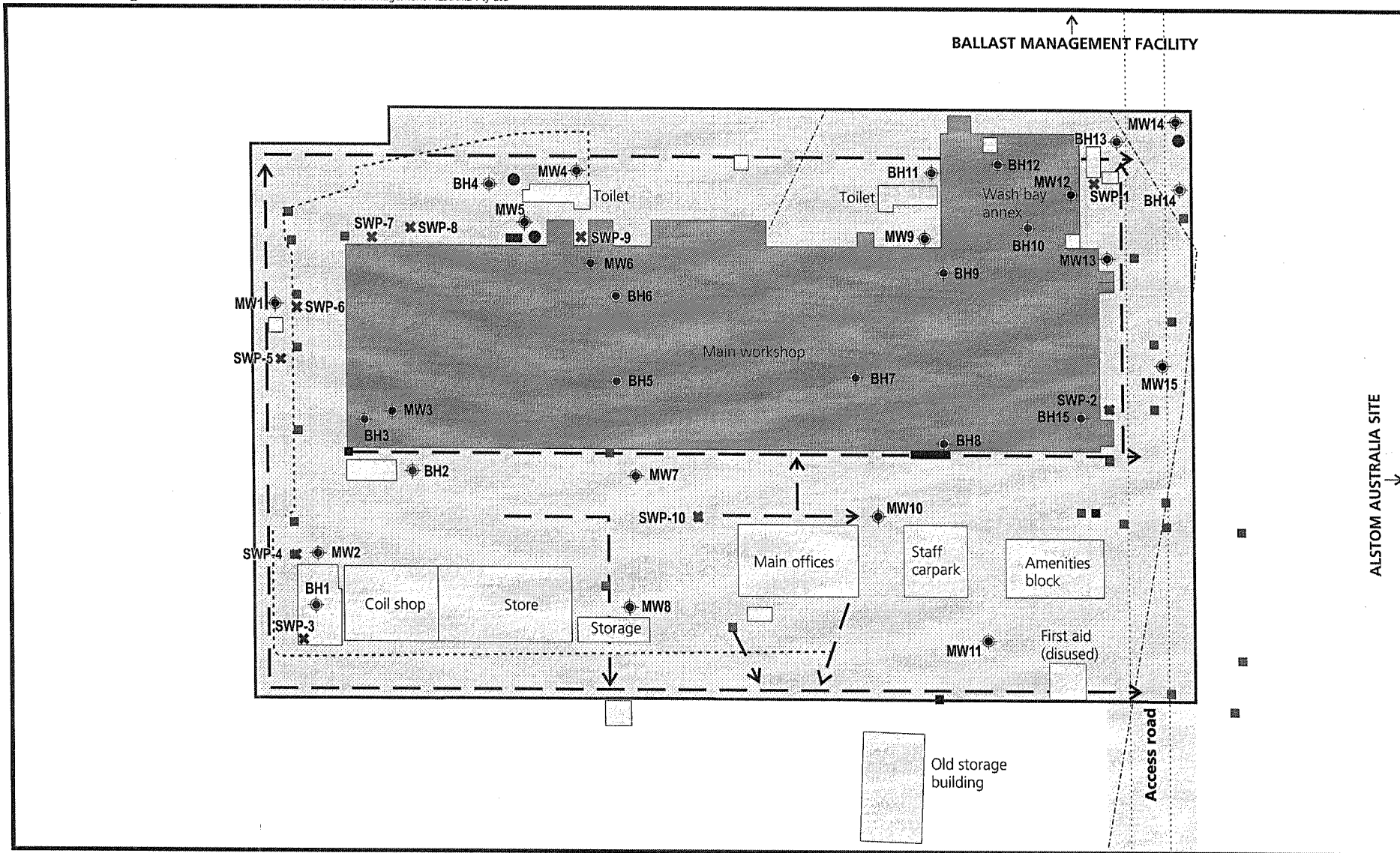
- Site boundary
- Sump
- Fire hydrant
- Sewer pit
- Electricity (overhead)
- Retaining wall
- Approximate stormwater drainage
- Approximate location of stormwater drainage
- NB: Blue shading indicates past site features

- BH01 URS Borehole (June 2001)
- 136 Dames & Moore Borehole (September 1999)
- ◆ SS01 URS Hand augers (June 2002)
- ◆ SB01 URS Borehole (January 2002)
- ◆ SB16/MW03 URS Borehole / Monitoring Well (January 2002)
- A Blackwattle Environmental (June 1998)

Figure 4

Previous Sample Locations (1998 - 2002)

2 Worth Street
Chullora NSW 2190
Project Koala - Phase 2



0 20m
Approximate only

- Site boundary
- Sump
- Fire hydrant
- Sewer pit
- Electricity (overhead)
- Retaining wall
- NB: Blue shading indicates past site features

- Approximate stormwater drainage
- Approximate location of stormwater drainage

- MW1 ERM monitoring well
- BH1 ERM borehole
- ✕ SWP-1 ERM sump/sludge sampling location

Figure 5

ERM Sampling Locations (January 2005)

2 Worth Street
Chullora NSW 2190
Project Koala - Phase 2

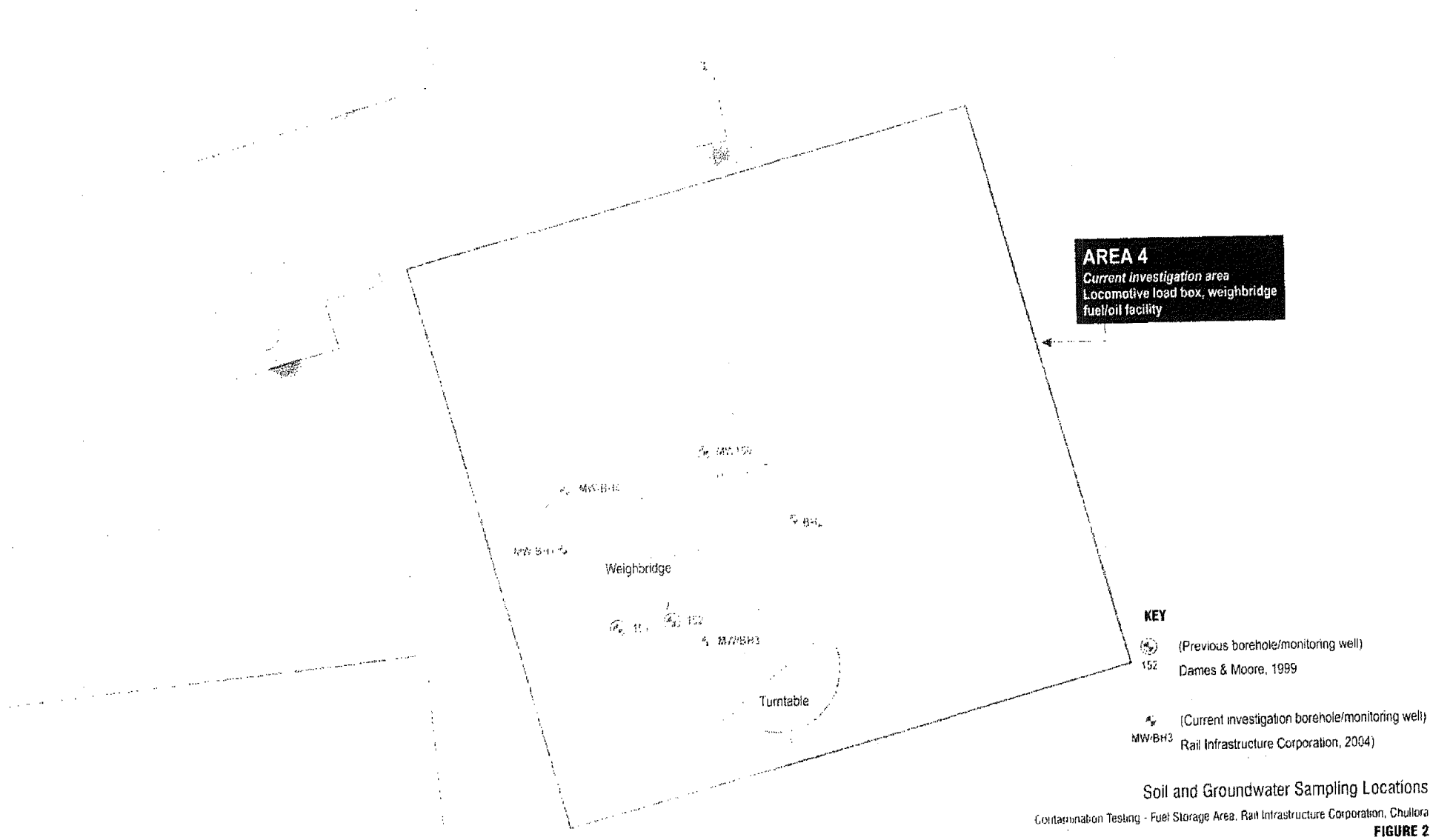
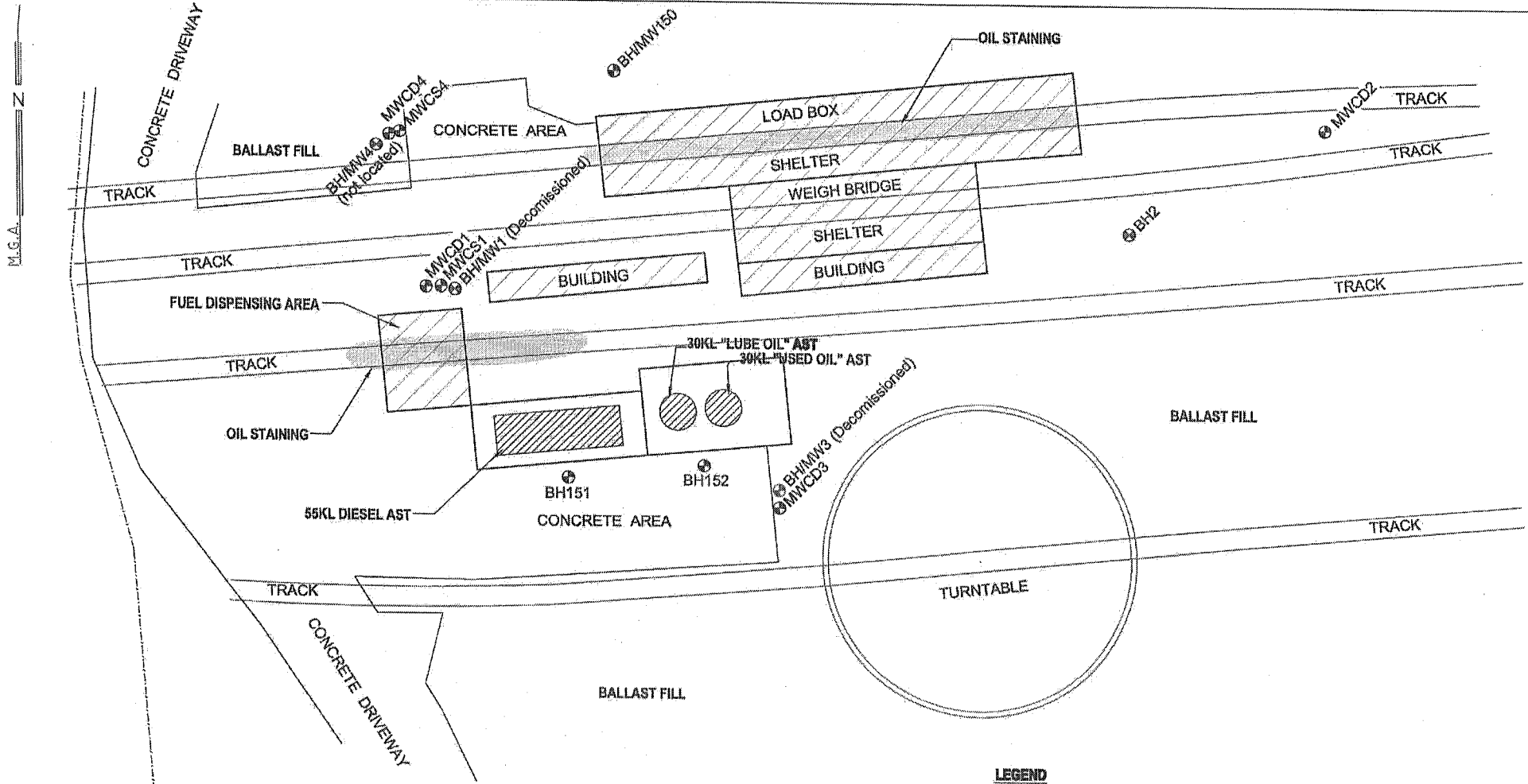
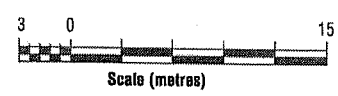


FIGURE 2

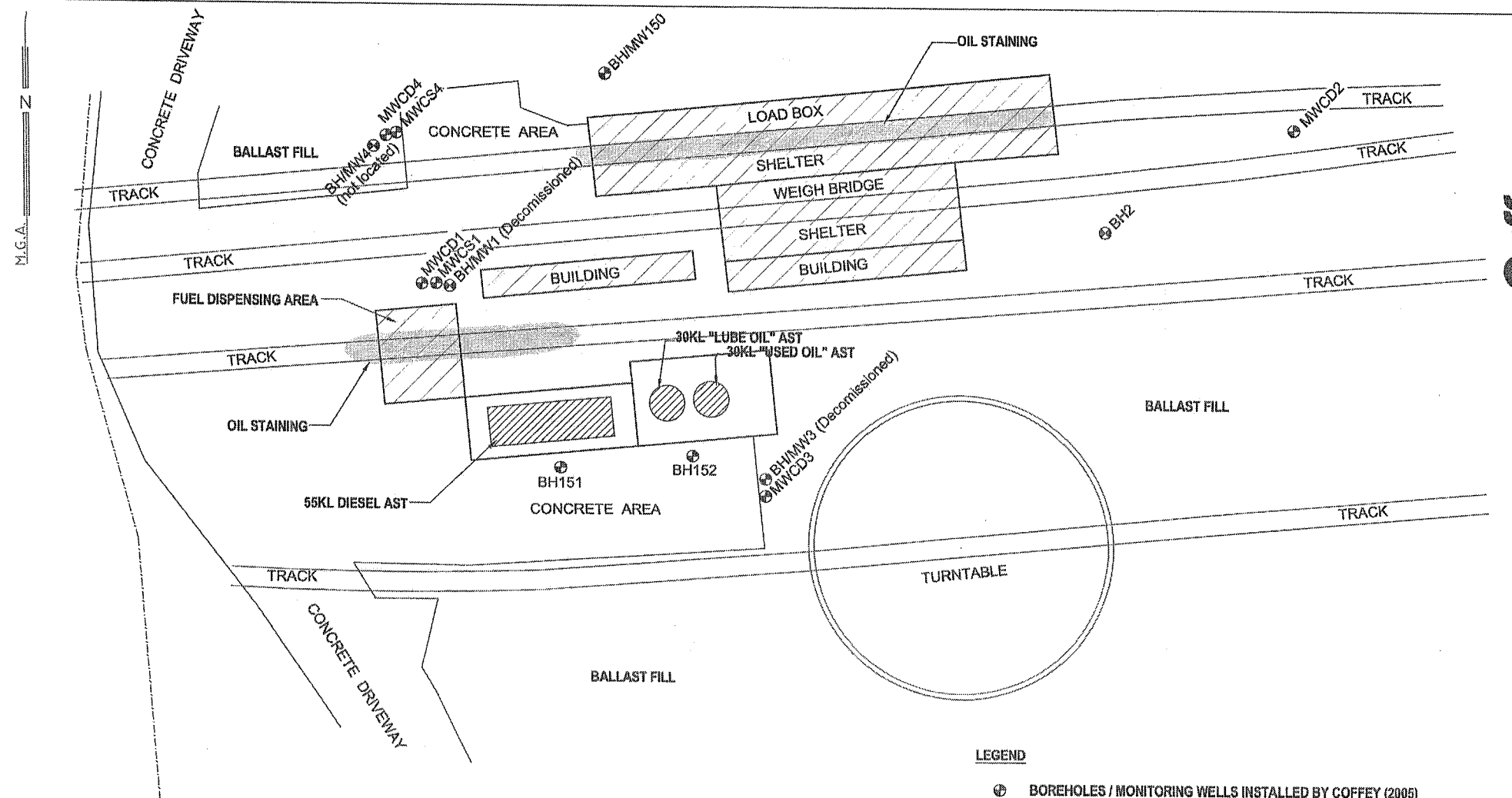


NOTE: ORIENTATION & LEVELS SHOWN HAVE BEEN ADOPTED FROM
 PM 1530 E; 320803.890 N; 6248579.264 R.L. 31.338
 SSM 35752 E; 320906.938 N; 6248481.744 R.L. 36.457
 SSM 141093 E; 320890.048 N; 6248645.490
 SOURCE S.C.I.M.S. 10/02/2005

- LEGEND**
- BOREHOLES / MONITORING WELLS INSTALLED BY COFFEY (2005)
 - ⊕ BOREHOLES / MONITORING WELLS INSTALLED BY RIC (2004)
 - ⊕ BOREHOLES / MONITORING WELLS INSTALLED BY DAMES & MOORE (1999)
 - ⊗ ABOVE GROUND STORAGE TANKS (AST)
- NOTE: LOCATIONS APPROXIMATE ONLY FOR RIC (2004) & DAMES & MOORE (1999)



Coffey Geosciences Pty Ltd							ACN 056 335 516				Geotechnical	Resources	Environmental	Technical	Project Management		
Revision	Description			Drawn	Approved	Date	Drawn	KM/SW	<div>RAILCORP</div> <div>GROUNDWATER INVESTIGATION</div> <div>CHULLORA RAILWAY WORKSHOPS, LOCOMOTIVE LOAD BOX, WEIGHBRIDGE & REFUELLING FACILITY, CHULLORA</div> <div>SITE PLAN</div>							FIGURE 3	
							Approved	JML									
							Date	3/6/05									
							Scale	AS SHOWN									
									Job no: E12957/1-AK								



NOTE: ORIENTATION & LEVELS SHOWN HAVE BEEN ADOPTED FROM

PM 1530 E; 320803.890 N; 6248579.264 R.L. 31.338
 SSM 35752 E; 320906.938 N; 6248481.744 R.L. 36.457
 SSM 141093 E; 320890.048 N; 6248645.498
 SOURCE S.C.I.M.S. 16/02/2005

LEGEND

- ⊕ BOREHOLES / MONITORING WELLS INSTALLED BY COFFEY (2005)
- ⊗ BOREHOLES / MONITORING WELLS INSTALLED BY RIC (2004)
- ⊕ BOREHOLES / MONITORING WELLS INSTALLED BY DAMES & MOORE (1999)
- ⊗ ABOVE GROUND STORAGE TANKS (AST)

NOTE: LOCATIONS APPROXIMATE ONLY FOR RIC (2004) & DAMES & MOORE (1999)



Revision

Description	Drawn	Approved	Date	Drawn	KMSW
				JML	
				15/9/05	
				AS SHOWN	

Coffey Geosciences Pty Ltd ACN 956 335 516

Geotechnical | Resources | Environmental | Technical | Project Management

RAILCORP
 1ST BI-ANNUAL GROUNDWATER MONITORING ROUND
 CHULLORA RAILWAY WORKSHOPS, LOCOMOTIVE LOAD BOX,
 WEIGHBRIDGE & REFUELLING FACILITY, CHULLORA
 SITE PLAN

FIGURE 3

Job no: E12957/1-AO