# Field Equipment Calibration and Decontamination



PROJECT N	IAME: UV	in Growth Edm	oodson Park	PROJECT NO: 43		8 	
FIELD DAT	ES: 30/10	1/13	OHOUGH TOPPE	FIELD STAFF: m			
*	710	7(2					
CALIBRATI	ON SUMMAI	RY					
EQUIPMEN	T: PID						
CALIBRATI	ON STANDA	RD: 100ppm 150	obutylene.				
			0,=				
DATE	TIME	READING (ppm <sub>v</sub> )	COMMENTS				
31/10/13	0840	Pre 101.2 Post 99.	9 ok-				
01/11/13	0955	Pre 102-1 Post 100	.I ok.				
, ,							
							-
				e/			
•							
DECONTAM	INATION SU	IMMARY					
EQUIPMEN'	Г:						
1. Was the e	auipment dec	contaminated appropriately pric	or to sampling at each location?	,	Υ	N	NA
		ed by scraping, brushing or wip			Ү	N N	NA NA
		staminated with grease, tar or s			' Y	N N	NA NA
			esticide-grade acetone:hexane	?	Ý	N	IVA
4. Was phos	ohate-free de	tergent used to wash the equip	ment?		Υ	N	NA
5. Was the e	5. Was the equipment rinsed with clean water? Y N NA						NA
6. Was the e	. Was the equipment then rinsed with deionised water?						
7. Were all s	ample contain	ners cleaned and acid or solven	t washed prior to sample collec	tion?	Y	N	NA
WERE ANY ADDITIONAL DECONTAMINATION MEASURES REQUIRED? PROVIDE DETAILS.							





Chatswand NSW 2067 Fh: (02) 9910 6200 Envirolab Services 660001 Supplies and Supplies of the S COOLER SEAL - Yes ...... No ...... Intach ....... Broken ........ ETITA : PANISCO .. Pashs Dasal Sarst barrans OF:
COOLER TEMP ...... deg C
TRANSPORT CO
TR FOR RECEIVING LAB USE ONLY: While was francher and this BY: -- Span D. 411/13 AISA BELOGINA Jeb No. COOLER SEAL - Yes ....... No ...... NOTES COOLER TEMP 10.0 deg.C Pe October III 11 1/201 2013 1 4/11/13 733 XXX 5000 S976 THE FIND. 43008 Growsto Send invoice To: CAOR JOSE LINE STATES 10. 1. ABORATORY BATCH NO. 1. ABORATOR X X X X  $\overline{\lambda}$ X CHAIN OF CUSTODY X X 3787 1407 X 3787 1407 × X X X Rolling: by Sear D. Guidinang TYPE & PRESERVATIVE 뷀 PROJECT NO.:
PROJECT NAME:
OF BAND REPORT TO:
SENO REPORD BY:
DATE NEEDED BY:
DATE NEEDED BY:
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: MATRIX EATEN IMSO FormsO13 - Chain of Custody 20-105lat 1-1-0-1 Eldt 20-17512 10-1-6-0 AIDI रामा भाम 121-4-1219T TOTA 0.4-0.5 7015 040S 12:07:0111 15-25 MAY TP162.7-2.5 TPLS 0-1-0.2 10-1-5-0 MAI इनिमानीयर 701-0.7 SAMPLETO

45/0743

a of 1 # Sapsay

COOLER SEAL - Yes ..... Intact ...... Broken ... Intact ...... Broken **△JBSsG** FOR RECEIVING LAB USE ONLY: OF:
Container & Preservative Codes: P - Martic; 3 - Sold Jan; B - Gass Botte; N - Mith And Provid; C - Solum Hafraddo Provid; VC - Mydrochbrite And Provid Wal; VS - Sulfuric And Provid; S - Sulfuric And Provid; E - EDIA Provid; S - Storte Botte; O - Other COOLER SEAL - Yes ..... No ...... O NAMONICA COOLER TEMP O dag C OBO DEPER N d 93 DECEIVED I 1 KOV 2013 23 DATE: 4/11/13 975K 2920/2019 EMAIL ×  $\frac{\lambda}{X}$ टनदळ्ट >  $g\mathcal{H}_{\mathcal{U}}$ SHED λ X λ λ λ λ λ λ × λ LABORATORY BATCH NO SEND INVOICE TO: GAS (A) JOST CON-A+ PHONE: 02 82450300 hasiledois mois/ 1869 1869 لان 19 اطاله المال CHAIN OF CUSTODY NAME: OF: NAME: X 3781 /HOT 入 × ZIDIZINI LIGIDIZI XX  $\lambda$ X X Ŧ TYPE & PRESERVATIVE METHOD OF SHIPMENT CONSIGNMENT NOTE NO. TRANSPORT CO.
CONSIGNMENT NOTE NO. Handing C. Loss. Com. 201. 19 Con. 201. MATRIX DATE TIME DATE NEEDED BY: STANDARA
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: 43005 Orban Growth 7 ا انج آ ر د DATE: 7P250.4-6.5(05.06 718.1.8.197 20-4-0 1291 TP22 6-9-10 2.0-1.0 22 dt 18260.5-0.4 702501-0.2 TP25 1-12 TP25 33-3.4 15-9'E 95 OT 77260-9-1.0 TP26 0-1-0-2 PROJECT NO.:
PROJECT NAME:
SEND REPORT TO: SAMPLE ID 7912 1-1-2 @ Sco 3/4 3005 OF: JBS&G NAME: 4 ١٨

IMSO FormsO13 - Chain of Custody

BY:....Sean 0.1/14/13 97.57

4089884 4341843

3 of t		June Hero	_											The state of the s		FOR RECEIVING LAB USE ONL	COOLER SEAL - Yes, No Intact Broken	COOLER SEAL - Yes No Intact Broken	COOLER TEMP deg.C
STODY	SAMPLERS FL W 10  SAMPLERS FL W 10  PHONE: 02 82450300  EMAIL:	Salas Sa	1640 1640 1640 1640 1640 1640 1640 1640	X   X   X   X   X   X   X   X   X   X		\times   \								X			o Ecs	NAME: DATE:	OF: privd Viel; VS = Sulluric Acid Prsvd Viel; S = Sulluric Acid Prsvd; 2
CHAIN OF CUSTODY	D INVOICE TO: GOOD INCOICE TO		DATE TIME TYPE & PRESERVATIVE DH X	×		*	X			XX				X	METHOD OF CUIDMENT.	CONSIGNMENT NOTE NO.	TRANSPORT CO.	CONSIGNMENT NOTE NO.	Contesting & Preservebive Codes: P = Plostic; 1 = Soil Jar; 8 = Glass Bottle; N = Next CAD Payod; C = Sodium Mydroside Privid; VC = Mydrochloric And Privid VS = Sulfuric And Privid; S = Sulfuric And Privid; Z = Sulfuric A
esal a Sesal a Solata	PROJECT NO.: 42008 PROJECT NAME: Urban Growth SEND REPORT TO:	COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:	SAMPLE ID MATRIX I	-	[V202:4-35]	TP21 0-1-0-2	79.1.4-1.5	1821 29-3.0	TP213.4-2.5	7.0-1-0.1010	791910-1.5	TP19 3.9-4.0.	P1-8-1717	TP31 0.1-0.2	RELINOUISHED BY:	NAME: DATE:	OF: JBS&G	NAME: DATE:	Container & Preservative Codes: P = Plastic; J = Soil Jar; & =

IMSO FormsO13 - Chain of Custady

BY:...Seen\_D....J/11/13 9,52 MEGETWEN MINKY 2013

#598243 PUBSEG Sqrsoy

tharding e losg. com. us ellate losg com. as mallandro e losg. co. as

CHAIN OF CUSTODY

COOLER SEAL - Yes..... No ...... Intact ....... Broken .... FOR RECEIVING LAB USE ONLY OF: JBS&G

NAME:
DATE:
CONSIGNMENT NOTE NO.

OF:
Container & Preservative Codest P = Plastic; 1 = Spit Jan 7 = - Class Bettle, N = Natic Acid Pravil; C = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil Val; VS = Suffurite Acid Pravil; S = Suffurite Acid Pravil; C = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil Val; VS = Suffurite Acid Pravil; C = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil Val; VS = Suffurite Acid Pravil; C = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil; VS = Suffurite Acid Pravil; C = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil; VS = Suffurite Acid Pravil; C = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil; VS = Suffurite Acid Pravil; C = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil; VS = Suffurite Acid Pravil; C = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil; VC = Hydrochiaric Acid Pravil; VC = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil; VC = Hydrochiaric Acid Pravil; VC = Sodium Hydrockee Pravil; VC = Hydrochiaric Acid Pravil; VC = Sodium Hydrochiaric Acid Pravil; VC = Sodium Hydrochiaric Acid Pravil; VC = Sodium Hydrochiaric Acid Pravil; VC = Hydrochiaric Acid Pravil; VC = Sodium Hydr NOTES J32 210800 2101  $\lambda$ Nd × 24 × D3 0756 50001592 SEND INVOICE TO: grage) Laboratory BATCH NO. SAMPLERS 2 SAMPLERS 2 SEA50300 QC LEVEL:  $\times \lambda$ X X X X X  $\overline{\lambda}$ mojon larom olph larom 1941 1941 X χ × NAME: KON ( BIEX NEGOLS X λ X 퓬 TYPE & PRESERVATIVE METHOD OF SHIPMENT: CONSIGNMENT NOTE NO. DATE TIME PROJECT NO.: 43COSE
PROJECT NAME: 13 DAY (TYDUATIVE SEND REPORT TO: SEND ATE NEEDED BY: CANCON OF COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: 34/10/18 अलिड खावाद 2010/18 3 3 RELINQUISHED BY: DATE: 1730 - 0.9 - 1.0 130-0.1-0.2 1820-15-1.6 TP17-1-8-1-97 TP19 1.9-2.0. 01-50 1107 Rinsate SAMPLE ID Trop Trap. S NAME

BY: Sea-0-1/4/3 9:51



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 100099

Client:

JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney

NSW 2000

Attention: Tom Harding, Ellen Luu

Sample log in details:

Your Reference: 43008, Urban Growth

No. of samples: 6 Soils

Date samples received / completed instructions received 04/11/2013 / 04/11/2013

**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: / Issue Date: 11/11/13 / 11/11/13

Date of Preliminary Report: Not Issued

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## **Results Approved By:**

Jacinta/Hurst Laboratory Manager



Asbestos ID - soils WA Our Reference: Your Reference Depth Date Sampled	UNITS	100099-1 TP14 0.1-0.2 31/10/2013	100099-2 TP12 0.1-0.2 31/10/2013	100099-4 TP25 0.4-0.5 31/10/2013	100099-5 TP22 0.1-0.2 31/10/2013	100099-6 TP19 0.4-0.5 31/10/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	8/11/2013	8/11/2013	8/11/2013	8/11/2013	8/11/2013
Sample mass tested	g	630.27g	601.20g	584.52g	593.55g	A)393.51g B)3.57g
Sample Description	-	Brown fine- grained soil & rocks	Brown fine- grained soil & rocks	Brown fine- grained soil & rocks	Brown fine- grained clayey soil & rocks	A) Brown clay soil, B) fragment
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	A) Chrysotile asbestos detected B)Chrysotile asbestos detected			
Trace Analysis	-	No respirable fibres detected				

Envirolab Reference: 100099 Page 2 of 5

Method ID	Methodology Summary
	Asbestos ID - Minimum 500mL soil sample was analysed as recommended by "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg as per AS4964-2004.

Envirolab Reference: 100099 Page 3 of 5

QUALITY CONTROL Asbestos ID - soils WA	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]

Envirolab Reference: 100099 Page 4 of 5

#### **Report Comments:**

This report is consistent with the analytical procedures and reporting recommendations in the Western Australian Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009.

Note: All samples analysed as received. However, sample 100099-6 are below the minimum 500mL sample volume as per Western Australia's DOH guidelines.

Sample 100099-6; The supplied sample was sub-sampled (100099-6A & 100099-6B) in order to accurately report the analytical results representative of the entire sample, as per AS4964-2004.

Sample 100099-6; Chrysotile asbestos identified in matted material (total weight 1.1068g). It is estimated that the matted material contains up to 70% asbestos fibres by weight. This calculates to 0.7748g of asbestos fibres, which in 393.51g of soil is 1.97g/kg (i.e. > reporting limit for the method of 0.1g/kg).

Asbestos ID was analysed by Approved Identifier: Paul Ching
Asbestos ID was authorised by Approved Signatory: Matt Mansfield

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested NA: Test not required RPD: Relative Percent Difference NA: Test not required

<: Less than 

>: Greater than 

LCS: Laboratory Control Sample

#### **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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable. Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

Chatswood MSW 3. Fh: (02) 9910 62 12 45hle ··· Envirolas Serv OF:
Container & Preservative Codes: P. Presile; J. = Soil Jar; B. = Glass Bottle; N. = Nitric Acid Pravd; C. = Soidum Hydroxide Pravd; V.C. = Hydrochloric Acid Pravd Vial; V.S. = Sulfuric Acid Pravd; E. = EDYA Pravd; ST. = Stelle Bottle; O. = Other Intact Broken COOLER SEAL - Yes ...... No ...... Intact ...... Broken ..... ENVIROUAB FOR RECEIVING LAB USE ONLY; NOTES COOLER SEAL - Yes ..... No COOLER TEMP ...... deg C 140 7F) Bakajian Re RECEIVED BY 075Y LABORATORY BATCH NO NAME: SOON & SEND INVOICE TO: OPPOSE SECURITY PHONE: 02 82450300 TOH/187EX TOH/187E 2830/2020 × NAME: HIPM CHAIN OF CUSTODY X × x HALL 10101 X 又 × × TYPE & PRESERVATIVE METHOD OF SHIPMENT CONSIGNMENT NOTE NO. TRANSPORT CO. CONSIGNMENT NOTE NO. thurding @ jbsg.com. 27 TIME SEND REPORT TO: 1 PLOY CLUD SEN DATE NEEDED BY: SANG LC SALCI) COMMENTS / SPECIAL HANDLING / STORAGE OR DISPUSAL: UNDA GROWN UNDA GROWN DATE MATRIX TP270.4-05 TP270.4-10 TP272.4-2.5 RELINQUISHED BY 1829 1.9-20 1829 2.4-2-5 1829 2.7-30 1024 24-22 TP320-02 20-10 1201 1P 24 0 405 729 0.4-0 7P 2414-15 102901-0-2 SEND REPORT TO: DATE NEEDED BY: SAMPLE ID Q 50034 PROJECT NO.: PROJECT NAME: OF: JBS&G NAME: NAME:

**QUESSE** 

IMSO Forms013 - Chain of Custody

Date Received:

Securit (: This pt/Broken/None

MOCHING CONST. CHAIN OF CUSTODY PROJECT NO.: 45005
PROJECT NAME: 07644 GNOWSK
SEND REPORT TO: 7-14-04-04-04
DATE NEEDED BY: 5-04-04
COMMENTS / SPECIAL HANDLING / STORAGE OF DIE tharding @ josg, con. en

SSSC (A)

	NOTES  I to Envirolob.  I to Relebroh  Intact Broken	
	ACCOLER SEAL - Ves No Intact Broken	THE PARTY OF THE P
EMAIL,	ASIO DATE: COOLER SERIO COOLER	
LABORATORY BATCH NO. SAMPLERS 64 E PRONE: 02 82450300 OC LEVEL:	Habywa Wali 15 - Sulming Add Viels 5 - Sulmi	
Two States Control	TYPE & PRESERVATIVE DH  TYPE & PRESERVATIVE DH  X  X  X  X  X  X  X  X  X  X  X  X  X	
SEND INVOICE TO: CAS	OCT METHON METHON NSPORT CO. SIGNMENT NOTE NO VSPORT CO. SIGNMENT NOTE NO VSPORT CO. THE NAME AND STORY CO.	
SEND REPORT TO: 1-10-04-4 GYDUJEK, SEN DATE NEEDED BY: 5-04-4 COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:	SAMPLE ID MATRIX D S. M.C. 2. CO. 1. C. 2. C. 1. C. 2. C.	
SEND REPORT TO: DATE NEEDED BY: COMMENTS / SPECIAL	SAMPLE ID  RAIS IFCZ  TNIPS  TOPS  T	IMSO FormsO13

IMSO FormsO13 - Chain of Custody



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 100279

Client:

JBS & G (NSW & WA) Pty Ltd

Level 1, 50 Margaret St Sydney NSW 2000

Attention: THarding

Sample log in details:

Your Reference: 43008, Urban Growth

No. of samples: 2 Soils

Date samples received / completed instructions received 05/11/2013 / 05/11/2013

**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: / Issue Date: 12/11/13 / 11/11/13

Date of Preliminary Report: Not issued

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## **Results Approved By:**

Jacinta Hurst Laboratory Manager



vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	100279-2
Your Reference		QS004A
Depth		-
Date Sampled		1/11/2013
Type of sample		Soil
Date extracted	-	06/11/2013
Date analysed	-	09/11/2013
TRHC6 - C9	mg/kg	<25
TRHC6 - C10	mg/kg	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	99

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	100279-2
Your Reference		QS004A
Depth		-
Date Sampled		1/11/2013
Type of sample		Soil
Date extracted	-	06/11/2013
Date analysed	-	07/11/2013
TRHC10 - C14	mg/kg	<50
TRHC15 - C28	mg/kg	<100
TRHC29 - C36	mg/kg	<100
TRH>C10-C16	mg/kg	<50
TRH>C10 - C16 less Naphthalene (F2)	mg/kg	<50
TRH>C16-C34	mg/kg	<100
TRH>C34-C40	mg/kg	<100
Surrogate o-Terphenyl	%	93

	1	
PAHs in Soil		
Our Reference:	UNITS	100279-2
Your Reference		QS004A
Depth		-
Date Sampled		1/11/2013
Type of sample		Soil
Date extracted	-	06/11/2013
Date analysed	-	07/11/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL(+)VE
Surrogate p-Terphenyl-d14	%	98

Onner a blania - Deskinida - in a sil		
Organochlorine Pesticides in soil Our Reference:	UNITS	100279-2
Your Reference		QS004A
Depth		-
Date Sampled		1/11/2013
Type of sample		Soil
Date extracted	-	06/11/2013
Date analysed	-	07/11/2013
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Surrogate TCMX	%	81

PCBs in Soil		
Our Reference:	UNITS	100279-2
Your Reference		QS004A
Depth		-
Date Sampled		1/11/2013
Type of sample		Soil
Date extracted	-	06/11/2013
Date analysed	-	07/11/2013
Arochlor 1016	mg/kg	<0.1
Arochlor 1221	mg/kg	<0.1
Arochlor 1232	mg/kg	<0.1
Arochlor 1242	mg/kg	<0.1
Arochlor 1248	mg/kg	<0.1
Arochlor 1254	mg/kg	<0.1
Arochlor 1260	mg/kg	<0.1
Surrogate TCLMX	%	81

Acid Extractable metals in soil		
Our Reference:	UNITS	100279-2
Your Reference		QS004A
Depth		-
Date Sampled		1/11/2013
Type of sample		Soil
Date digested	-	06/11/2013
Date analysed	-	06/11/2013
Arsenic	mg/kg	6
Cadmium	mg/kg	<0.4
Chromium	mg/kg	10
Copper	mg/kg	18
Lead	mg/kg	14
Mercury	mg/kg	<0.1
Nickel	mg/kg	7
Zinc	mg/kg	42

Moisture		
Our Reference:	UNITS	100279-2
Your Reference		QS004A
Depth		-
Date Sampled		1/11/2013
Type of sample		Soil
Date prepared	-	06/11/2013
Date analysed	-	07/11/2013
Moisture	%	15

Asbestos ID - soils WA		
Our Reference:	UNITS	100279-1
Your Reference		TP29
Depth		0.1-0.2
Date Sampled		1/11/2013
Type of sample		Soil
Date analysed	-	08/11/2013
Sample mass tested	g	647.94g
Sample Description	-	Brown
		coarse-
		grained soil
Asbestos ID in soil	-	No asbestos
		detected at
		reporting limit
		of 0.1g/kg
Trace Analysis	-	No respirable
		fibres
		detected

Method ID	Methodology Summary
Org-016	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. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.  F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.  Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals-020 ICP- AES	Determination of various metals by ICP-AES.
Metals-021 CV- AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-003	Asbestos ID - Minimum 500mL soil sample was analysed as recommended by "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg as per AS4964-2004.

**Client Reference:** 43008, Urban Growth PQL QUALITY CONTROL **UNITS** METHOD Blank Duplicate **Duplicate results** Spike Sm# Spike % Sm# Recovery vTRH(C6-C10)/BTEXN in Base II Duplicate II %RPD Soil Date extracted 06/11/2 [NT] [NT] LCS-4 06/11/2013 013 Date analysed 09/11/2 LCS-4 09/11/2013 [NT] [NT] 013 Org-016 94% TRHC6 - C9 mg/kg 25 <25 [NT] [NT] LCS-4 TRHC6 - C10 Org-016 94% mg/kg 25 <25 [NT] [NT] LCS-4 105% Benzene 0.2 Org-016 <0.2 LCS-4 mg/kg [NT] [NT] Org-016 96% Toluene mg/kg 0.5 < 0.5 [NT] [NT] LCS-4 Org-016 90% Ethylbenzene mg/kg 1 <1 [NT] [NT] LCS-4 2 Org-016 <2 LCS-4 91% m+p-xylene mg/kg [NT] [NT] Org-016 o-Xylene mg/kg 1 <1 [NT] [NT] LCS-4 90% naphthalene mg/kg 1 Org-014 <1 [NT] [NT] [NR] [NR] % Org-016 108 LCS-4 101% [NT] Surrogate aaa-[NT] Trifluorotoluene Spike % QUALITY CONTROL **UNITS** PQL METHOD Blank **Duplicate Duplicate results** Spike Sm# Sm# Recovery svTRH(C10-C40)in Soil Base II Duplicate II %RPD [NT] 06/11/2 [NT] LCS-4 06/11/2013 Date extracted 013 07/11/2 07/11/2013 Date analysed LCS-4 [NT] [NT] 013 Org-003 TRHC10 - C14 mg/kg 50 <50 [NT] [NT] LCS-4 110% Org-003 TRHC15 - C28 mg/kg 100 <100 [NT] [NT] LCS-4 115% 100 Org-003 <100 LCS-4 134% TRHC29 - C36 mg/kg [NT] [NT] Org-003 TRH>C10-C16 mg/kg 50 <50 [NT] [NT] LCS-4 110% TRH>C16-C34 mg/kg 100 Org-003 <100 [NT] [NT] LCS-4 115% 100 Org-003 <100 LCS-4 134% TRH>C34-C40 mg/kg [NT] [NT] Org-003 Surrogate o-Terphenyl % 96 [NT] [NT] LCS-4 116% QUALITY CONTROL UNITS PQL METHOD Blank Duplicate Duplicate results Spike Sm# Spike % Sm# Recovery PAHs in Soil Base II Duplicate II %RPD 06/11/2 Date extracted [NT] [NT] LCS-4 06/11/2013 013 07/11/2 LCS-4 07/11/2013 Date analysed [NT] [NT] 013 mg/kg Org-012 103% Naphthalene 0.1 < 0.1 [NT] [NT] LCS-4 subset Org-012 Acenaphthylene <0.1 [NR] mg/kg 0.1 [NT] [NT] [NR] subset Org-012 Acenaphthene mg/kg 0.1 < 0.1 [NT] [NT] [NR] [NR] subset Fluorene Org-012 < 0.1 LCS-4 101% mg/kg 0.1 [NT] [NT] subset Phenanthrene 0.1 Org-012 < 0.1 [NT] LCS-4 99% mg/kg [NT]

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mg/kg

mg/kg

0.1

0.1

Anthracene

Fluoranthene

subset Org-012

subset

Org-012

subset

< 0.1

<0.1

[NT]

[NT]

[NT]

[NT]

[NR]

100%

[NR]

LCS-4

Client Reference: 43008, Urban Growth								
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	101%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	90%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-4	94%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl- d14	%		Org-012 subset	96	[NT]	[NT]	LCS-4	96%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil					311#	Base II Duplicate II %RPD		Recovery
Date extracted	-			06/11/2	[NT]	[NT]	LCS-4	06/11/2013
Date analysed	-			013	[NT]	[NT]	LCS-4	07/11/2013
HCB	mg/kg	0.1	Org-005	013 <0.1	NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	84%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	922%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	86%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	87%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	89%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	99%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	90%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	82%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	107%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde		0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
	mg/kg	0.1	l Cig-003	1				
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	90%
Endosulfan Sulphate Methoxychlor			_				1	90% [NR]

Client Reference: 43008, Urban Growth										
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery		
PCBs in Soil						Base II Duplicate II %RPD				
Date extracted	-			06/11/2 013	[NT]	[NT]	LCS-4	06/11/2013		
Date analysed	-			07/11/2 013	[NT]	[NT]	LCS-4	07/11/2013		
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]		
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]		
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]		
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]		
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]		
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-4	100%		
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]		
Surrogate TCLMX	%		Org-006	82	[NT]	[NT]	LCS-4	77%		
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	-			06/11/2 013	[NT]	[NT]	LCS-9	06/11/2013		
Date analysed	-			06/11/2 013	[NT]	[NT]	LCS-9	06/11/2013		
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-9	97%		
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-9	106%		
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	101%		
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	97%		
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	98%		
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-9	100%		
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	100%		
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	100%		

QUALITYCONTROL	UNITS	PQL	METHOD	Blank
Moisture				
Date prepared	-			[NT]
Date analysed	-			[NT]
Moisture	%	0.1	Inorg-008	<0.1
QUALITY CONTROL	UNITS	PQL	METHOD	Blank
Asbestos ID - soils WA				
Date analysed	-			[NT]

## **Report Comments:**

This report is consistent with the analytical procedures and reporting recommendations in the Western Australian Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009.

Asbestos ID was analysed by Approved Identifier: Matt Mansfield
Asbestos ID was authorised by Approved Signatory: Matt Mansfield

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested

NA: Test not required RPD: Relative Percent Difference NA: Test not required

<: Less than >: Greater than LCS: Laboratory Control Sample

#### **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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable. Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

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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 100696

Client:

JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St

Sydney NSW 2000

Attention: Tom Harding, Ellen Luu

Sample log in details:

Your Reference: 43008, Urban Growth

No. of samples: 1 water

Date samples received / completed instructions received 12/11/13 / 12/11/13

**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: / Issue Date: 19/11/13 / 19/11/13

Date of Preliminary Report: Not issued

NATA accreditation number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with \*.

**Results Approved By:** 

Jacinta/Hurst Laboratory Manager



vTRH(C6-C10)/BTEXN in Water		
Our Reference:	UNITS	100696-1
Your Reference		Triplicate 1
Date Sampled		11/11/2013
Type of sample		water
Date extracted	-	12/11/2013
Date analysed	-	13/11/2013
TRHC6 - C9	μg/L	<10
TRHC6 - C10	μg/L	<10
TRHC6 - C10 less BTEX (F1)	μg/L	<10
Benzene	μg/L	<1
Toluene	μg/L	<1
Ethylbenzene	μg/L	<1
m+p-xylene	μg/L	<2
o-xylene	μg/L	<1
Naphthalene	μg/L	<1
Surrogate Dibromofluoromethane	%	109
Surrogate toluene-d8	%	94
Surrogate 4-BFB	%	83

svTRH (C10-C40) in Water		
Our Reference:	UNITS	100696-1
Your Reference		Triplicate 1
Date Sampled		11/11/2013
Type of sample		water
Date extracted	-	14/11/2013
Date analysed	-	15/11/2013
TRHC10 - C14	μg/L	<50
TRHC 15 - C28	μg/L	<100
TRHC29 - C36	μg/L	<100
TRH>C10 - C16	μg/L	<50
TRH>C10 - C16 less Naphthalene (F2)	μg/L	<50
TRH>C16 - C34	μg/L	<100
TRH>C34 - C40	μg/L	<100
Surrogate o-Terphenyl	%	109

HM in water - dissolved		
Our Reference:	UNITS	100696-1
Your Reference		Triplicate 1
Date Sampled		11/11/2013
Type of sample		water
Date prepared	-	13/11/2013
Date analysed	-	13/11/2013
Arsenic-Dissolved	μg/L	<1
Cadmium-Dissolved	μg/L	<0.1
Chromium-Dissolved	μg/L	<1
Copper-Dissolved	μg/L	<1
Lead-Dissolved	μg/L	<1
Mercury-Dissolved	μg/L	<0.05
Nickel-Dissolved	μg/L	<1
Zinc-Dissolved	μg/L	2

Method ID	Methodology Summary
Org-016	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. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.  F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.  Note Naphthalene is determined from the VOC analysis.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Metals-021 CV- AAS	Determination of Mercury by Cold Vapour AAS.

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**Client Reference:** 43008, Urban Growth QUALITYCONTROL **UNITS** PQL **METHOD** Blank **Duplicate Duplicate results** Spike Sm# Spike % Sm# Recovery vTRH(C6-C10)/BTEXNin Base II Duplicate II %RPD Water Date extracted 12/11/2 [NT] LCS-W1 12/11/2013 [NT] 013 Date analysed 13/11/2 LCS-W1 13/11/2013 [NT] [NT] 013 TRHC6 - C9 10 Org-016 <10 [NT] [NT] LCS-W1 99% µg/L Org-016 10 <10 [NT] [NT] LCS-W1 99% TRHC6 - C10 μg/L Org-016 LCS-W1 93% Benzene <1 [NT] [NT] µg/L 1

Toluene 1 Org-016 <1 [NT] [NT] LCS-W1 95% µg/L Ethylbenzene 1 Org-016 <1 [NT] [NT] LCS-W1 101% µg/L 2 Org-016 104% m+p-xylene <2 [NT] [NT] LCS-W1 µg/L o-xylene 1 Org-016 <1 [NT] [NT] LCS-W1 104% µg/L Naphthalene 1 Org-013 <1 [NT] [NT] [NR] [NR] μg/L 88% % Org-016 90 LCS-W1 Surrogate [NT] [NT] Dibromofluoromethane % Org-016 94 [NT] [NT] LCS-W1 95% Surrogate toluene-d8 % Org-016 82 [NT] [NT] LCS-W1 97% Surrogate 4-BFB QUALITY CONTROL **UNITS** PQL METHOD Blank **Duplicate Duplicate results** Spike Sm# Spike % Sm# Recovery svTRH(C10-C40)in Base II Duplicate II %RPD Water 14/11/2 100696-1 14/11/2013 || 14/11/2013 LCS-W4 Date extracted 14/11/2013 013 15/11/2 Date analysed 100696-1 15/11/2013 || 15/11/2013 LCS-W4 15/11/2013 013 Org-003 <50 <50||<50 LCS-W4 91% TRHC10 - C14 µg/L 50 100696-1 TRHC15 - C28 µg/L 100 Org-003 <100 100696-1 <100 || <100 LCS-W4 97% 100 Org-003 <100 100696-1 <100 || <100 LCS-W4 95% TRHC29 - C36 μg/L Org-003 LCS-W4 91% TRH>C10 - C16 µg/L 50 <50 100696-1 <50 || <50 TRH>C16 - C34 µg/L 100 Org-003 <100 100696-1 <100 || <100 LCS-W4 97% 100 Org-003 <100 100696-1 <100 || <100 LCS-W4 95% TRH>C34 - C40 μg/L Org-003 99 LCS-W4 87% Surrogate o-Terphenyl % 100696-1 109 | 92 | RPD: 17 UNITS **QUALITY CONTROL** PQL Blank METHOD **Duplicate Duplicate results** Spike Sm# Spike % Recovery HM in water - dissolved Base II Duplicate II %RPD 13/11/2 100696-1 13/11/2013 || 13/11/2013 LCS-W2 Date prepared 13/11/2013 013 13/11/2 100696-1 13/11/2013 || 13/11/2013 LCS-W2 13/11/2013 Date analysed 013 Arsenic-Dissolved 1 Metals-022 <1 100696-1 <1||<1 LCS-W2 102% µg/L ICP-MS μg/L Metals-022 Cadmium-Dissolved 0.1 < 0.1 100696-1 <0.1||<0.1 LCS-W2 100% ICP-MS Chromium-Dissolved Metals-022 100696-1 LCS-W2 95% 1 <1 <1||<1 μg/L ICP-MS Metals-022 Copper-Dissolved μg/L 1 <1 100696-1 <1||<1 LCS-W2 93% ICP-MS Lead-Dissolved μg/L 1 Metals-022 <1 100696-1 <1||<1 LCS-W2 99% ICP-MS Envirolab Reference: 100696 Page 6 of 8 Revision No: R 00

		Cile	nt Referenc	e. 43	8008, Urban C	JIOWIII			
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike %	
HM in water - dissolved						Base II Duplicate II %RPD			
Mercury-Dissolved	μg/L	0.05	Metals-021 CV-AAS	<0.05	100696-1	<0.05   [N/T]	LCS-W2	96	6%
Nickel-Dissolved	μg/L	1	Metals-022 ICP-MS	<1	100696-1	<1  <1	LCS-W2	99	9%
Zinc-Dissolved	μg/L	1	Metals-022 ICP-MS	<1	100696-1	2  2  RPD:0	LCS-W2	10	00%
QUALITY CONTROL	UNITS	3 1	Dup.Sm#		Duplicate	SpikeSm#	Spike % Reco	very	
HM in water - dissolved				Base + [	Ouplicate + %RP	D			
Date prepared	-		[NT]		[NT]	100696-1	13/11/2013	3	
Date analysed	-		[NT]		[NT]	100696-1	13/11/2013	3	
Arsenic-Dissolved	µg/L		[NT]		[NT]	[NR]	[NR]		
Cadmium-Dissolved	μg/L		[NT]		[NT]	[NR]	[NR]		
Chromium-Dissolved	μg/L		[NT]		[NT]	[NR]	[NR]		
Copper-Dissolved	µg/L		[NT]		[NT]	[NR]	[NR]		
Lead-Dissolved	µg/L		[NT]		[NT]	[NR]	[NR]		
Mercury-Dissolved	µg/L		[NT]		[NT]	100696-1	100%		
Nickel-Dissolved	µg/L		[NT]		[NT]	[NR]	[NR]		
Zinc-Dissolved	µg/L		[NT]		[NT]	[NR]	[NR]		

#### **Report Comments:**

TRH Silica Gel clean up and Aliphatic/Aromatic speciation not required as TRH (semivolatile) water was all <PQL.

Asbestos ID was analysed by Approved Identifier: Paul Ching
Asbestos ID was authorised by Approved Signatory: Matt Mansfield

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested

NA: Test not required RPD: Relative Percent Difference NA: Test not required

<: Less than >: Greater than LCS: Laboratory Control Sample

## **Quality Control Definitions**

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Envirolab Reference: 100696 Page 8 of 8

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#338II3 8 - 8 - S ELABORATIORY: BATCH: NO. CHAIN OF CUSTODY thardias Cibessican as on and thardias best con and the elidu maters and on its sources.

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OF: 1858G 30.10.13			27	T.	COOLER SEAL TERM NO. L.	in No. in., Intact.
		NOTE NO.	NAME:	DATE	POOLER TEMP 1: 1000 C	
OF:	TRANSPORT CO		ġ		COOKEN SEAL TEST	And the state of t
Cantainer Preservable Cades: P = Plastic 1 = 500 Jar. B = Cass Botte: B = Cass Botte: B = Nack Aud Pravd; C = Sodom Myriotide Pravd; VC = Midnechier And Pravd Val; VS = Sulvice Add Pravd Val; S = Sulvice Add Pravd; E = EDIA Pravd; S = Sulvice Add Pravd Val; S = Sulvice Add Pravd; V = Sulvice Add P	B = Gass Botte: n = Nkric	nd Pravit; C = Sodium Hydroxide Fravit; VC = Hydri	schiore Ace Pravd Val: VS = Sul	unic Acid Pravid Vlay; S = Surfure Acid	THE Z = Zing Prove E = EDTA Prove	ST = Stelle Boths: O - Other

SECONTARY LAR FOR RECEIVING LAB USE ONLY: OF:
Container & Pressevalive Codes: P. Plaste: J. a. Eust. Sec. Sec. Box 16: N. a. Ning. 4dd Prod. C. a. Sodum Higinate Prod. VC - Indiagniser, And Prod. VII. V. a. Sudum And Prod. 2 - 2 no. frond: E - ESTA FTM: ST - Anna Buch. C - 10 in. NOTES CM MOUIG COOLER SEAL - Yes ..... No. COOLER SEAL - Yes No סים מחוק ... השלפה X X X X X X 230 Hd 6 23 DATESHOLS dist DATE EMAIL: XXX 800/80B SAMPLERS
PHONE: 02 82450300 EMA X 1001001019 NAME: JUST WAS 84263 לפא פיווכט שוטט וסנסוא CHAIN OF CUSTODY X X X X SHU XXXX OC LEVEL X318/ HUJ মাজ্ঞান X H 7 TYPE & PRESERVATIVE METHOD OF SHIPMENT: CONSIGNMENT NOTE NO. Couke SA d Carriero SEND INVOICE TO: TRANSPORT CO. CONSIGNMENT NOTE NO. TIME tharding @ 165g. Gm. 24 elivu@ josg. Com. 24d whole Indra@ jobg. com. 24d PROJECT NO.: 42008
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SEND REPORT TO: SEN
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COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: DATE 30/10/13 30/10/13 MATRIX TPO 1.4-15 TPO 3.4-36 TPO 8 0.1-0-2 TPO 8 1.5-16 RELINGUISHED BY 1805 3.9-40 TP07 6.4.0.5 TP67 0-1-6-2 1006 0.1-0.2 7006 640S TP06 24-25 TROS 0:1-0-2 1005 0.6.6. TP05 11-12 TP06 14-15 NAME: DELanda SAMPLE 10 800 OF: JBS&G NAME:

87 of 7

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CHAIN OF CUSTODY

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	NOTES	SECONDARY LAS			FOR RECEIVING LAB USE ONLY:	Intact Broken
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LABORATORY BATCH NO. SAMPLERS EL + PHONE: 02 82450300 OC LEVEL:	X 184/81EX  X 184/81EX  X 184 (19 )	XX	X X		NAME: PING NY:	NAME: OF:
ID INVOICE TO: GNS CONTINUES	E TYPE & PRESERVATIVE DH	Contra 2 - X	<u> </u>	METHOD OF CHIRMGAY		NAME: DATE: CONSIGNMENT NOTE NO. OF: OF: COOLER SEAL - VET NO - INDICATE: OF: COOLER TEMP - deg C
FROJECT NAME: 4500 & GROLD OF THE SEND REPORT TO: SEND REPORT TO: SEND REPORT S SPECIAL HANDLING / STORAGE OR DISPOSAL	TPGG 0.1-0.2 5 36 TPGG 0.4-0.5 5 36 TPGG 0.4-0.5	(\$5002A. (\$5002A. TPOR 0:1-0:2 TPOR 0:1-0:3	TP11 0.4-0.2 TP11 1-9-2.0 TP09 1.5-16.	1ED 8V:	Jetondro 30/10/13.	NAME:  OF:  Container & Preservative Cadeer P Plestic; 1 = Sel 3u; 8 = Gen

**From:** Thomas Harding [mailto:THarding@jbsg.com.au]

Sent: Thursday, 31 October 2013 1:09 PM

To: Jean Heng

Cc: Michelle Delandro

Subject: RE: Ed Park Samples

Occupational Hygiene and Monitoring

Jean,

Nitrogens (speciated - includes ammonia), sulphur, phosphorous & anions

Can you please place TP08 (2.5) on for nutrients as well.

Thank you

Tom

Tom Harding | Hydrogeologist | JBS&G Sydney | Melbourne | Adelaide | Perth | Brisbane

Level 1, 50 Margaret Street Sydney NSW 2000

T: 02 8245 0300 | M: 0418 560 381 | www.jbsg.com.au

Contaminated Land | Groundwater Remediation | Auditing and Compliance | Assessments and Approvals |

M# 398113

If you would like to send through large electronic files (>25MB), please use JBS&G's secure internet-based file delivery system located at <a href="http://dropbox.yousendit.com/JBSG">http://dropbox.yousendit.com/JBSG</a>. Place 'Tom Harding - Sydney' in the subject.

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EUROFINS ENVIRONMENT TESTING AUSTRALIA P/L UNIT F3 PARK VIEW BUILDING 16 MARS ROAD LANE COVE NSW, 2066

Attention: Jean Heng

### **CERTIFICATE OF ANALYSIS**

Our Ref No: FS1333326 Your Ref: 13-814-398113

Report Date: 07 Nov 2013. Project:

Overall Description: Soil Samples

Samples Received: 31 Oct 2013 at 14:48 hrs. Testing Commenced: 01 Nov 2013 at 15:00 hrs.

This report cannot be reproduced except in full, without written approval from the laboratory. Samples tested as received into the laboratory.

Sample Details: Test Descript	tion	Results	Units	Site
001 Client ID: TP01 1.	9-2.0 Eurofin/MGT ID: Oc23944 (NATA	A Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2	MPN/g	NSW
WM0010	Faecal Coliforms	<2	MPN/g	NSW
002 Client ID: TP04 3.	6-3.7 Eurofin/MGT ID: Oc23991 (NATA	A Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2	MPN/g	NSW
WM0010	Faecal Coliforms	<2	MPN/g	NSW
003 Client ID: TP09 0.	1-0.2 Eurofin/MGT ID: Oc24009 (NATA	A Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2	MPN/g	NSW
WM0010	Faecal Coliforms	<2	MPN/g	NSW

### **Signatories**

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Tina Papadopoulos	Laboratory Manager - Microbiology	Water Microbiology



**General Comments** 

NATA: NSW - 1247 (site: 2040) TGA: NSW - MI- 2012 - LI - 05733 - 3 VIC - 1247 (sites: 1240, 16438, 16566)

**VIC** - MI-2012 - LI - 06776 - 3

Page 1 of 1

**APVMA: NSW** - 6179

VIC - 6181

Accredited for compliance with ISO/IEC 17025

10/2-8 South Street, Rydalmere NSW 2116 Phone: +61 2 8832 7500 Fax: +61 2 9898 3472 Food & Pharmaceutical. An ALS Limited Company





ABN - 50 005 085 521

e.mail : EnviroSales@eurofins.com.au

web: www.eurofins.com.au

Melbourne Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone: +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794

# Sample Receipt Advice

JBS & G (NSW & WA) Pty Ltd Company name:

Contact name: Michelle Delandro

Client job number: **URBAN GROWTH 43008** 

COC number: Not provided

Turn around time: 6 Day

Oct 31, 2013 11:20 AM Date/Time received:

Eurofins | mgt reference: 398113

### Sample information

- $\mathbf{V}$ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- $\checkmark$ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 3 degrees Celsius.
- $\times$ All samples have been received as described on the above COC.
- COC has been completed correctly.
- **7** Attempt to chill was evident.
- XAppropriately preserved sample containers have been used.
- All samples were received in good condition.
- $\mathbf{V}$ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- $\mathbf{V}$ Organic samples had Teflon liners.
- $\mathbf{V}$ Some samples have been subcontracted.
- Custody Seals intact (if used). N/A

#### **Notes**

Samples QS001A & QS002A sent to Envirolab as requested | Extra samples received TP03 0.9-1.0 & TP08 0.4-0.5 on HOLD | Jar ID received as TP07 through process of elimination labeled as TP07 3.4-3.5 | Biological analysis conducted by ALS | Organic matter & CEC conducted by Eurofins | mgt Melbourne

## Contact notes

If you have any questions with respect to these samples please contact:

Jean Heng on Phone: (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Michelle Delandro - MDelandro@jbsg.com.au.



Water Analysis Soil Contamination Analysis

NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



💸 eurofins

Company Name: JBS & G (NSW & WA) Pty Ltd

Level 1, 50 Margaret St Address:

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398113

Phone: 02 8245 0300

Fax:

Received: Due:

Oct 31, 2013 11:20 AM Nov 7, 2013

Priority:

5 Day Thomas Harding Contact Name:

		Sample Detail			% Moisture	Ammonia (as N)	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *	JBS&G Suite 2
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201 1.4-1.5	Oct 30, 2013		Soil	S13-Oc23943						Х																		<u> </u>				Ш
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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398113

02 8245 0300

Phone: Fax:

Received: Due:

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Priority:

5 Day Thomas Harding Contact Name:

Sample Detail  Sample																																	
Section   Sect			Sample Detail			% Moisture	Ammonia (as N)	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur		Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	втех	ated Biphenyls	Hydrocarbons Silica		& Aliphatic (TRH) -	Total Recoverable Hydrocarbons	Cation Exchange Capacity	er Silica	Suite
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Stand Laboratory - NATA Site # 20794						Х	Х	Х			Х	Х	Х	Х		Х	Х		Χ	Х	Χ	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х	X
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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

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02 8245 0300

Phone: Fax:

Received: Oct 31, 2013 11:20 AM Due:

Nov 7, 2013

Priority:

5 Day Thomas Harding Contact Name:

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🔅 eurofins

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

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elbourne	Laboratory - NATA	Site # 1254 & 1427	1										Χ																Х	<u> </u>	Ш
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ternal La							Х	Х								Х														<u> </u>	
<u>209 0.1-0.</u>	2 Oct 30, 2013	Sc	oil S13-Oc24009	) X			Х	Х								Х									Х		Χ			Х	Х
09 0.1-0. 09 0.4-0. 09 1.2-1.	5 Oct 30, 2013	Sc	oil S13-Oc24010	)					Х																					<u> </u>	Ш
<u>- 209 1.2-1.</u>	3 Oct 30, 2013	Sc	oil S13-Oc24011						Х																					<u> </u>	
<u> 3002</u>	Oct 30, 2013	Sc																		Х		Χ	Χ					Χ		<u> </u>	
<u>210 0.1-0.</u>	2 Oct 30, 2013	Sc	oil S13-Oc24013	X																Х		Χ								<u> </u>	
<u>210 0.4-0.</u>		Sc		_					Х																					<u> </u>	
10 2.3-2.	4 Oct 30, 2013	Sc	oil S13-Oc24015	;					Х																					'	$\square$
<u>211 0.1-0.</u>	2 Oct 30, 2013	Sc	oil S13-Oc24016	X																Χ	Χ	Χ		Χ							Ш
<u>211 0.6-0.</u>	7 Oct 30, 2013	Sc	oil S13-Oc24017	·					Х																					<u> </u>	$\square$
<u>111 1.9-2.</u>	Oct 30, 2013	Sc	oil \$13-Oc24018	X																		Χ	Χ					Χ		<u> </u>	$\square$
<u>209 1.5-1.</u>	6 Oct 30, 2013	Sc	oil S13-Oc24020						Х																						



Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398113

Phone: 02 8245 0300

Fax:

Received: Due:

Oct 31, 2013 11:20 AM Nov 7, 2013

Priority:

5 Day Thomas Harding Contact Name:

		Sample Detail		% Moisture	Ammonia (as N)	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	втех	Polychlorinated Biphenyls (PCB)		Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons		er Sili	JBS&G Suite 2
boratory w	here analysis is c	onducted																							ш						
elbourne La	aboratory - NATA	Site # 1254 & 14271											Х												ш				Х		
<mark>dney Labo</mark>	ratory - NATA Site	# 18217		Х	Х	Χ			Χ	Х	Χ	Х		Х	Х		Х	Х	Х	Х	Х	Х	Χ	Х	Х	Χ	Х	Х		Х	Χ
isbane Lab	oratory - NATA Si	te # 20794																													
ternal Lab	oratory						Х	Х								Х															
<del></del> 3	Oct 29, 2013	Soil	S13-Oc24021																				Χ								
<u>w</u> ;	Oct 29, 2013	Soil	S13-Oc24022																				Χ								
202 0.4-0.5	Oct 30, 2013	Soil	S13-Oc24036						Χ																						
<u>03 0.9-1.0</u>	Oct 30, 2013	Soil	S13-Oc24169						Χ																						
08 0.4-0.5	Oct 30, 2013	Soil	S13-Oc24170						Χ																Ш			Ш		$\Box$	





JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Michelle Delandro

Report 398113-S

Client Reference URBAN GROWTH 43008

Received Date Oct 31, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID			TP01 0.1-0.2	TP01 0.6-0.7	TP01 1.9-2.0	TP02 0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-Oc23941	S13-Oc23942	S13-Oc23944	S13-Oc23945
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM						
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	_	< 50
TRH C29-C36	50	mg/kg	-	-	-	86
TRH C10-36 (Total)	50	mg/kg	-	-	-	86
BTEX	•					
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Xylenes - Total	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	112
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	-	-	-	< 0.5
TRH C6-C10	20	mg/kg	-	-	-	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	-	-	-	< 20
TRH >C10-C16	50	mg/kg	-	-	-	< 50
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	-	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	-	< 100
TRH >C34-C40	100	mg/kg	-	-	-	< 100
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5



Client Sample ID			TP01 0.1-0.2	TP01 0.6-0.7	TP01 1.9-2.0	TP02 0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-Oc23941	S13-Oc23942	S13-Oc23944	S13-Oc23945
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	0.6	-	0.6
2-Fluorobiphenyl (surr.)	1	%	87	88	-	92
p-Terphenyl-d14 (surr.)	1	%	91	89	-	96
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-BHC	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-BHC	0.05	mg/kg	-	-	-	< 0.05
d-BHC	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.2	mg/kg	-	-	-	< 0.2
Toxaphene	1	mg/kg	-	-	-	< 1
Dibutylchlorendate (surr.)	1	%	-	-	-	106
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	107
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1232	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	-	-	< 0.5
Total PCB	0.5	mg/kg	-	-	-	< 0.5
Dibutylchlorendate (surr.)	1	%	-	-	-	106
Organic Matter %	0.04	0/ 14/14		4.0	2.0	
Organic Matter %	0.01	% w/w	-	4.0	3.2	-
pH (1:5 Aqueous extract)	0.1	units 0/	9.4	7.3	8.7	0.5
% Moisture Cation Exchange Capacity	0.1	%	8.4	9.8	13	9.5
	40		<del> </del>	000	700	
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	-	230	720	-
Cation Exchange Capacity	0.05	meq/100g	-	30	33	-
Heavy Metals				1		15
Arsenic	2	mg/kg	5.8	6.5	-	10
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	0.4



Client Sample ID Sample Matrix Eurofins   mgt Sample No.			TP01 0.1-0.2 Soil S13-Oc23941	TP01 0.6-0.7 Soil S13-Oc23942	TP01 1.9-2.0 Soil S13-Oc23944	TP02 0.1-0.2 Soil S13-Oc23945
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
Heavy Metals						
Chromium	5	mg/kg	12	9.4	-	20
Copper	5	mg/kg	15	22	-	17
Iron	5	mg/kg	-	17000	18000	-
Lead	5	mg/kg	12	13	-	15
Mercury	0.05	mg/kg	0.05	0.12	-	0.10
Nickel	5	mg/kg	6.6	6.0	-	9.1
Zinc	5	mg/kg	24	26	-	21
E.Coli	1	MPN/g	-	-	see attached	-
Faecal Coliforms	1	MPN/g	-	-	see attached	-
Salmonella	1	org/g	-	-	see attached	-

Client Sample ID			TP03 0.1-0.2 Soil	TP04 0.1-0.2 Soil	TP04 1.2-1.3 Soil	TP04 3.6-3.7 Soil
Sample Matrix						
Eurofins   mgt Sample No.			S13-Oc23984	S13-Oc23988	S13-Oc23990	S13-Oc23991
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM	Fractions					
TRH C6-C9	20	mg/kg	-	-	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	-	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	-	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	-	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	_	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	_	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	-	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	88	89	119
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	-	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	-	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	-	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	-	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	-	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5



Client Sample ID Sample Matrix			TP03 0.1-0.2 Soil	TP04 0.1-0.2 Soil	TP04 1.2-1.3 Soil	TP04 3.6-3.7 Soil
•				1		
Eurofins   mgt Sample No.			S13-Oc23984	S13-Oc23988	S13-Oc23990	S13-Oc23991
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(b&j)fluorantheneN07	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	0.6	0.6	0.6
2-Fluorobiphenyl (surr.)	1	%	79	95	94	82
p-Terphenyl-d14 (surr.)	1	%	83	98	86	77
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	-	-
Toxaphene	1	mg/kg	< 1	< 1	-	-
Dibutylchlorendate (surr.)	1	%	99	109	-	-
Tetrachloro-m-xylene (surr.)	1	%	101	107	-	-
Polychlorinated Biphenyls (PCB)	<u> </u>					
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	-	-
Total PCB	0.5	mg/kg	< 0.5	< 0.5	-	-
Dibutylchlorendate (surr.)	1	%	99	109	-	-



Client Sample ID Sample Matrix			TP03 0.1-0.2 Soil	TP04 0.1-0.2 Soil	TP04 1.2-1.3 Soil	TP04 3.6-3.7 Soil
Eurofins   mgt Sample No.			S13-Oc23984	S13-Oc23988	S13-Oc23990	S13-Oc23991
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit	,			
Ammonia (as N)	0.1	mg/kg	-	-	0.1	-
Chloride	10	mg/kg	-	-	13	-
Nitrate (as N)	0.1	mg/kg	-	-	< 0.1	-
Nitrite (as N)	0.1	mg/kg	-	-	< 0.1	-
Sulphate (as S)	10	mg/kg	-	-	< 10	-
Phosphorus	10	mg/kg	-	-	130	-
Sulphur	100	mg/kg	-	-	100	-
% Moisture	0.1	%	8.0	15	24	17
Alkalinity						
Total Alkalinity (as CaCO3)	50	mg/kg	-	-	77	-
Total Nitrogen Set (as N)						
Nitrate & Nitrite (as N)	0.1	mg/kg	-	-	0.1	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	-	880	-
Total Nitrogen (as N)	10	mg/kg	-	-	880	-
Heavy Metals						
Arsenic	2	mg/kg	9.3	13	5.0	-
Cadmium	0.4	mg/kg	0.4	0.7	< 0.4	-
Chromium	5	mg/kg	15	29	9.8	-
Copper	5	mg/kg	16	11	15	-
Lead	5	mg/kg	18	34	14	-
Mercury	0.05	mg/kg	< 0.05	0.06	3.9	-
Nickel	5	mg/kg	16	5.1	7.1	-
Zinc	5	mg/kg	22	21	10	-
E.Coli	1	MPN/g	_	-	_	see attached
Faecal Coliforms	1	MPN/g	_	_	_	see attached
Salmonella	1	org/g	_	_	_	see attached

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP05 0.1-0.2 Soil S13-Oc23992 Oct 30, 2013	QS001 Soil S13-Oc23997 Oct 30, 2013	TP06 0.1-0.2 Soil S13-Oc23998 Oct 30, 2013	TP07 0.1-0.2 Soil S13-Oc24002 Oct 30, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fraction	tions					
TRH C10-C14	20	mg/kg	-	< 20	-	-
TRH C15-C28	50	mg/kg	-	< 50	-	-
TRH C29-C36	50	mg/kg	-	< 50	-	-
TRH C10-36 (Total)	50	mg/kg	-	< 50	-	-
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	-	-
Toluene	0.1	mg/kg	_	< 0.1	-	_
Ethylbenzene	0.1	mg/kg	_	< 0.1	-	_
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	-
o-Xylene	0.1	mg/kg	-	< 0.1	-	-
Xylenes - Total	0.3	mg/kg	-	< 0.3	-	-



Client Sample ID			TP05 0.1-0.2	QS001	TP06 0.1-0.2	TP07 0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-Oc23992	S13-Oc23997	S13-Oc23998	S13-Oc24002
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
BTEX						
4-Bromofluorobenzene (surr.)	1	%	-	87	-	-
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	-	< 0.5	-	-
TRH C6-C10	20	mg/kg	-	< 20	-	-
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	_	< 20	-	-
TRH >C10-C16	50	mg/kg	-	< 50	-	-
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	-	< 50	-	-
TRH >C16-C34	100	mg/kg	-	< 100	-	-
TRH >C34-C40	100	mg/kg	-	< 100	-	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluorantheneN07	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	0.6	0.6	0.6
2-Fluorobiphenyl (surr.)	1	%	82	89	87	86
p-Terphenyl-d14 (surr.)	1	%	84	87	87	86
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
d-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-



Client Sample ID			TP05 0.1-0.2	QS001	TP06 0.1-0.2	TP07 0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-Oc23992	S13-Oc23997	S13-Oc23998	S13-Oc24002
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.2	mg/kg	-	< 0.2	< 0.2	-
Toxaphene	1	mg/kg	-	< 1	< 1	-
Dibutylchlorendate (surr.)	1	%	-	105	129	-
Tetrachloro-m-xylene (surr.)	1	%	-	103	106	-
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1232	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1242	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1248	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1254	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1260	0.5	mg/kg	-	< 0.5	< 0.5	-
Total PCB	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibutylchlorendate (surr.)	1	%	-	105	129	-
% Moisture	0.1	%	13	8.2	9.9	11
Heavy Metals						
Arsenic	2	mg/kg	3.0	15	5.9	7.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	0.5	< 0.4
Chromium	5	mg/kg	9.0	20	12	16
Copper	5	mg/kg	13	10	29	48
Lead	5	mg/kg	9.0	14	15	17
Mercury	0.05	mg/kg	< 0.05	0.07	0.07	0.50
Nickel	5	mg/kg	6.2	6.2	7.2	7.4
Zinc	5	mg/kg	41	15	52	23

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP07 3.4-3.5 Soil S13-Oc24005 Oct 30, 2013	TP08 0.1-0.2 Soil S13-Oc24006 Oct 30, 2013	TP08 1.5-1.6 Soil S13-Oc24007 Oct 30, 2013	TP08 2.4-2.5 Soil S13-Oc24008 Oct 30, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	< 20	-	-	-
TRH C10-C14	20	mg/kg	< 20	-	-	-
TRH C15-C28	50	mg/kg	< 50	-	-	-
TRH C29-C36	50	mg/kg	< 50	-	-	-
TRH C10-36 (Total)	50	mg/kg	< 50	-	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	-



Client Sample ID Sample Matrix			TP07 3.4-3.5 Soil	TP08 0.1-0.2 Soil	TP08 1.5-1.6 Soil	TP08 2.4-2.5 Soil
Eurofins   mgt Sample No.			S13-Oc24005	S13-Oc24006	S13-Oc24007	S13-Oc24008
			1			ŀ
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
BTEX				-		
4-Bromofluorobenzene (surr.)	1	%	120	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM						
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	-	-	-
TRH C6-C10	20	mg/kg	< 20	-	-	-
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	-	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-	-
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	-	-	-
TRH >C16-C34	100	mg/kg	< 100	-	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(b&j)fluorantheneN07	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Total PAH	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	0.6	-	-
2-Fluorobiphenyl (surr.)	1	%	92	85	-	-
p-Terphenyl-d14 (surr.)	1	%	94	88	-	-
Ammonia (as N)	0.1	mg/kg	-	-	-	0.1
Chloride	10	mg/kg	-	-	-	320
Nitrate (as N)	0.1	mg/kg	-	-	-	< 0.1
Nitrite (as N)	0.1	mg/kg	-	-	-	< 0.1
Organic Matter %	0.01	% w/w	-	3.1	4.8	-
pH (1:5 Aqueous extract)	0.1	units	-	7.4	5.9	-
Sulphate (as S)	10	mg/kg	-	-	-	81
Phosphorus	10	mg/kg	-	-	-	27
Sulphur	100	mg/kg	-	-	-	310
% Moisture	0.1	%	14	5.3	13	7.6
Alkalinity						
Total Alkalinity (as CaCO3)	50	mg/kg	-	-	-	< 50
Total Nitrogen Set (as N)						
Nitrate & Nitrite (as N)	0.1	mg/kg	-	-	-	< 0.1
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	-	-	580
Total Nitrogen (as N)	10	mg/kg	_	_	_	580



Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP07 3.4-3.5 Soil S13-Oc24005 Oct 30, 2013	TP08 0.1-0.2 Soil S13-Oc24006 Oct 30, 2013	TP08 1.5-1.6 Soil S13-Oc24007 Oct 30, 2013	TP08 2.4-2.5 Soil S13-Oc24008 Oct 30, 2013
Test/Reference	LOR	Unit				+
Cation Exchange Capacity						
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	-	27	210	-
Cation Exchange Capacity	0.05	meq/100g	-	20	31	-
Heavy Metals						
Arsenic	2	mg/kg	8.4	< 2	-	-
Cadmium	0.4	mg/kg	0.7	0.5	-	-
Chromium	5	mg/kg	13	16	-	-
Copper	5	mg/kg	29	93	-	-
Iron	5	mg/kg	-	9000	28000	-
Lead	5	mg/kg	25	29	-	-
Mercury	0.05	mg/kg	1.1	< 0.05	-	-
Nickel	5	mg/kg	18	< 5	-	-
Zinc	5	mg/kg	61	94	-	-

Client Sample ID Sample Matrix			TP09 0.1-0.2 Soil	QS002 Soil	TP10 0.1-0.2 Soil	TP11 0.1-0.2 Soil
Eurofins   mgt Sample No.			S13-Oc24009	S13-Oc24012	S13-Oc24013	S13-Oc24016
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM	Fractions					
TRH C6-C9	20	mg/kg	-	< 20	-	-
TRH C10-C14	20	mg/kg	< 20	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	< 50	-	-
TRH C29-C36	50	mg/kg	< 50	< 50	-	-
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	-	-
ВТЕХ	·					
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	_
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	-	-
4-Bromofluorobenzene (surr.)	1	%	93	97	-	-
Aromatic & Aliphatic (TRH) - NP						
TRH >C35 Aromatic	200	mg/kg	< 200	-	-	_
TRH >C35 Aliphatic	1000	mg/kg	< 1000	-	-	-
TRH C10-C15 Aliphatic	500	mg/kg	< 500	-	-	-
TRH C10-C15 Aromatic	50	mg/kg	< 50	-	-	-
TRH C16-C35 Aliphatic	1000	mg/kg	< 1000	-	-	-
TRH C16-C35 Aromatic	50	mg/kg	< 50	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	-	-
TRH C6-C10	20	mg/kg	< 20	< 20	-	-
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	mg/kg	< 20	< 20	-	-
TRH >C10-C16	50	mg/kg	< 50	< 50	-	-
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	< 50	-	_



Client Sample ID			TP09 0.1-0.2	QS002	TP10 0.1-0.2	TP11 0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-Oc24009	S13-Oc24012	S13-Oc24013	S13-Oc24016
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEF						
TRH >C16-C34	100	mg/kg	< 100	< 100	_	_
TRH >C34-C40	100	mg/kg	< 100	< 100	_	_
Polycyclic Aromatic Hydrocarbons		199	100			
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	1.4	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	1.0	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	1.2	< 0.5	< 0.5	< 0.5
Total PAH	0.5	mg/kg	3.6	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	0.6	0.6	0.6
2-Fluorobiphenyl (surr.)	1	%	90	88	88	87
p-Terphenyl-d14 (surr.)	1	%	93	89	91	87
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	-	-	< 0.2
Toxaphene	1	mg/kg	< 1	-	-	< 1
Dibutylchlorendate (surr.)	1	%	104	-	-	110
Tetrachloro-m-xylene (surr.)	1	%	104	-	-	115



Client Sample ID			TP09 0.1-0.2	QS002	TP10 0.1-0.2	TP11 0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-Oc24009	S13-Oc24012	S13-Oc24013	S13-Oc24016
Date Sampled			Oct 30, 2013	Oct 30, 2013	Oct 30, 2013	Oct 30, 2013
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1232	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	-	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	-	-	< 0.5
Total PCB	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibutylchlorendate (surr.)	1	%	104	-	-	110
Petroleum Hydrocarbons Silica Cleanup (TPH)						
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	< 50	-	-	-
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	< 100	-	-	-
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	< 100	-	-	-
TRH after Silica Cleanup (NEPM) *	•					
TRH >C10-C16 after Silica Cleanup	50	mg/kg	< 50	-	-	-
TRH >C16-C34 after Silica Cleanup	100	mg/kg	< 100	-	-	-
TRH >C34-C40 after Silica Cleanup	100	mg/kg	< 100	-	_	-
	'					
% Moisture	0.1	%	13	17	16	19
Heavy Metals	'	1				
Arsenic	2	mg/kg	11	13	11	11
Cadmium	0.4	mg/kg	0.9	1.2	0.8	0.5
Chromium	5	mg/kg	27	17	22	17
Copper	5	mg/kg	92	52	31	44
Lead	5	mg/kg	87	37	39	62
Mercury	0.05	mg/kg	0.45	< 0.05	0.58	1.7
Nickel	5	mg/kg	11	32	14	12
Zinc	5	mg/kg	170	130	85	200
E.Coli	1	MPN/g	see attached	-	-	-
Faecal Coliforms	1	MPN/g	see attached	-	-	-
Salmonella	1	org/g	see attached	-	-	-

Client Sample ID Sample Matrix			TP11 1.9-2.0 Soil	TB Soil	TS Soil
Eurofins   mgt Sample No.			S13-Oc24018	S13-Oc24021	S13-Oc24022
Date Sampled			Oct 30, 2013	Oct 29, 2013	Oct 29, 2013
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Frac	tions				
TRH C6-C9	20	mg/kg	< 20	-	-
TRH C10-C14	20	mg/kg	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	-	-
TRH C29-C36	50	mg/kg	< 50	-	-
TRH C10-36 (Total)	50	mg/kg	< 50	-	-
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	99%



200	-	-	-
			т
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Client Sample ID Sample Matrix			TP11 1.9-2.0 Soil	TB Soil	TS Soil
Eurofins   mgt Sample No.			S13-Oc24018	S13-Oc24021	S13-Oc24022
Date Sampled			Oct 30, 2013	Oct 29, 2013	Oct 29, 2013
Test/Reference	LOR	Unit			
BTEX					
Toluene	0.1	mg/kg	< 0.1	< 0.1	99%
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	98%
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	99%
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	99%
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	99%
4-Bromofluorobenzene (surr.)	1	%	129	98	87
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions				
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	-	-
TRH C6-C10	20	mg/kg	< 20	-	-
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	-	-
TRH >C16-C34	100	mg/kg	< 100	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-
% Moisture	0.1	%	13	-	-
Heavy Metals					
Arsenic	2	mg/kg	< 2	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-
Chromium	5	mg/kg	< 5	-	-
Copper	5	mg/kg	13	-	-
Lead	5	mg/kg	5.7	-	-
Mercury	0.05	mg/kg	< 0.05	-	-
Nickel	5	mg/kg	< 5	-	-
Zinc	5	mg/kg	14	-	-



#### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Nov 01, 2013	14 Day
- Method: E004 Petroleum Hydrocarbons (TPH) BTEX	Sydney	Nov 01, 2013	14 Day
- Method: E029/E016 BTEX			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 01, 2013	14 Day
- Method: LM-LTM-ORG2010			
Polycyclic Aromatic Hydrocarbons	Sydney	Nov 01, 2013	14 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Organochlorine Pesticides	Sydney	Nov 01, 2013	14 Day
- Method: E013 Organochlorine Pesticides (OC)			
Polychlorinated Biphenyls (PCB)	Sydney	Nov 01, 2013	28 Day
- Method: E013 Polychlorinated Biphenyls (PCB)			
Metals M8	Sydney	Nov 01, 2013	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
Aromatic & Aliphatic (TRH) - NP	Sydney	Nov 05, 2013	14 Day
- Method: E012 Aromatic & Aliphatic (TPH)			
TRH after Silica Cleanup (NEPM) *	Sydney	Nov 01, 2013	14 Day
- Method: LM-LTM-ORG2010			
Ammonia (as N)	Sydney	Nov 01, 2013	28 Day
- Method: E036/E050 Ammonia as N			
Chloride	Sydney	Nov 01, 2013	28 Day
- Method: E033 /E045 /E047 Chloride			
Nitrate (as N)	Sydney	Nov 01, 2013	28 Day
- Method: E037 /E051 Nitrate as N			
Nitrite (as N)	Sydney	Nov 01, 2013	28 Day
- Method: E037 /E051 Nitrite as N			
Organic Matter %	Melbourne	Nov 01, 2013	5 Day
- Method: APHA 2540E Fixed and Volatile Solids Ignited at 550C			
pH (1:5 Aqueous extract)	Sydney	Nov 04, 2013	7 Day
- Method: E018.2 pH	0 1	N. 04 0040	00 D
Sulphate (as S)	Sydney	Nov 01, 2013	28 Day
- Method: E045 Sulphate	0 1	N. 04 0040	100 D
Phosphorus	Sydney	Nov 01, 2013	180 Day
- Method: E020/E030 Metals	Cualman	Nav. 04 2042	7 Days
Sulphur	Sydney	Nov 01, 2013	7 Day
- Method: E020/E030 Metals	Cudnou	Nov.04, 2012	28 Day
% Moisture	Sydney	Nov 01, 2013	Zo Day
- Method: E005 Moisture Content  Alkalinity	Sydnov	Nov.05, 2012	0 Day
Total Nitrogen Set (as N)	Sydney	Nov 05, 2013	0 Day
Nitrate & Nitrite (as N)	Sydney	Nov 01, 2013	28 Day
- Method: E037 /E051 NOx (as N)	Sydney	1407 01, 2013	20 Day
Total Kjeldahl Nitrogen (as N)	Sydney	Nov 01, 2013	28 Day
	Cyuncy	1407 01, 2010	20 Day
- Method: E039/E053 Unfiltered Total Kjeldahl Nitrogen as N  Cation Exchange Capacity	Melbourne	Nov 04, 2013	28 Day
- Method: 15B1, 15B2, 15B3 Soil Chemical Methods	WICIDOUITIC	1400 07, 2010	20 Day
- Method: Rayment and Lyons			
Heavy Metals	Sydney	Nov 01, 2013	180 Day
- Method: E022 Acid Extractable metals in Soils	Cydnoy	1101 01, 2010	.oo bay
Petroleum Hydrocarbons Silica Cleanup (TPH)	Sydney	Nov 01, 2013	14 Day

- Method: E004 Petroleum Hydrocarbons Silica Cleanup (TPH)

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Company Name: JBS & G (NSW & WA) Pty Ltd

Level 1, 50 Margaret St Address:

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398113

Phone: 02 8245 0300

Fax:

Received: Due:

Oct 31, 2013 11:20 AM Nov 7, 2013

Priority:

5 Day Thomas Harding Contact Name:

		Sample Detail			% Moisture	Ammonia (as N)	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *	JBS&G Suite 2
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	aboratory - NATA		271											Х														<del></del>	<u> </u>	Х		$\vdash$
	oratory - NATA Site				Х	Х	Х			Х	Χ	Χ	Χ		Х	Х		Χ	Х	Χ	Χ	Χ	Χ	Χ	Χ	Х	Χ	Х	Х	—	Х	Х
	ooratory - NATA Si	te # 20794																										<del></del>	<u> </u>	—		$\vdash$
ternal Lab								Х	Х								Х									$\vdash$	$\longrightarrow$	<del></del>	<del> </del>	<u> </u>	$\vdash$	
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																												
€ '01 0.1-0.2	Oct 30, 2013		Soil	S13-Oc23941	Х																Χ		Χ					<u></u>				
<u>201 0.6-0.7</u>	Oct 30, 2013		Soil	S13-Oc23942	Х						Χ			Х	Х						Χ		Χ					<u> </u>		Х		Ш
201 1.4-1.5	Oct 30, 2013		Soil	S13-Oc23943						Х																		<u> </u>				Ш
201 1.9-2.0	Oct 30, 2013		Soil	S13-Oc23944	Х			Χ	Χ		Χ			Χ	Χ		Х									igsquare		<u> </u>	<u> </u>	Х	Ш	
202 0.1-0.2	Oct 30, 2013		Soil	S13-Oc23945	Х												Ш									igsquare		<u> </u>	<u> </u>	Щ	Ш	Х
202 0.9-1.0	Oct 30, 2013		Soil	S13-Oc23981						Х																igsquare		<u> </u>	<u> </u>	<u> </u>	Ш	Ш
202 1.4-1.5	Oct 30, 2013		Soil	S13-Oc23982						Х							Ш									Ш		<u> </u>	<u> </u>	$ldsymbol{f eta}$	Ш	Ш
202 3.4-3.5	Oct 30, 2013		Soil	S13-Oc23983						Χ							Ш									igsquare		<u> </u>	<u> </u>	Щ	Ш	
203 0.1-0.2	Oct 30, 2013		Soil	S13-Oc23984	Х												Ш				Χ	Χ	Χ		Χ	igsquare		<u> </u>	<u> </u>	Щ	Ш	
03 0.4-0.5	Oct 30, 2013		Soil	S13-Oc23985						Χ																oxdot				<u> </u>		



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Sample Detail  Sample																																	
Section   Sect			Sample Detail			% Moisture	Ammonia (as N)	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur		Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	втех	ated Biphenyls	Hydrocarbons Silica		& Aliphatic (TRH) -	Total Recoverable Hydrocarbons	Cation Exchange Capacity	er Silica	Suite
Content   Cont	boratory w	here analysis is c	onducted																														
Color   Colo	elbourne La	boratory - NATA	Site # 1254 & 142	271											Х																Х		
Stand Laboratory - NATA Site # 20794						Х	Х	Х			Х	Х	Х	Х		Х	Х		Х	Х	Χ	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х	X
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704 0.1-0.2         Oct 30, 2013         Soil         \$13-Oc23988         X         X           704 0.6-0.7         Oct 30, 2013         Soil         \$13-Oc23989         X <t< td=""><td>°03 1.9-2.0</td><td>Oct 30, 2013</td><td></td><td>Soil</td><td>S13-Oc23986</td><td></td><td></td><td></td><td></td><td></td><td>Х</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	°03 1.9-2.0	Oct 30, 2013		Soil	S13-Oc23986						Х																						
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204 3.6-3.7         Oct 30, 2013         Soil         S13-Oc23991         X		Oct 30, 2013		Soil	S13-Oc23989						Χ																						
205 0.1-0.2         Oct 30, 2013         Soil         S13-Oc23992         X	204 1.2-1.3	Oct 30, 2013		Soil	S13-Oc23990	Χ	Χ	Χ					Χ	Χ			Χ		Χ	Χ	Χ	Χ		Χ	Χ			Χ		Х			
305 0.6-0.7         Oct 30, 2013         Soil         \$13-Oc23993         X         Image: Control of the control of t	904 3.6-3.7	Oct 30, 2013		Soil	S13-Oc23991	Χ			Х	Х								Х				Χ			Х					Χ			
205 1.1-1.2         Oct 30, 2013         Soil         S13-Oc23995         X           205 3.9-4.0         Oct 30, 2013         Soil         S13-Oc23996         X	205 0.1-0.2	Oct 30, 2013		Soil	S13-Oc23992	Χ																Χ		Χ									
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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398113

02 8245 0300

Phone: Fax:

Received: Oct 31, 2013 11:20 AM Due:

Nov 7, 2013

Priority:

5 Day Thomas Harding Contact Name:

																								10   11	iigt (		· ma	nuge			09	
		Sample Detail			% Moisture	Ammonia (as N)	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	ВТЕХ	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *	JBS&G Suite 2
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elbourne Lal	oratory - NATA	Site # 1254 & 142	71											Х																Х		
dney Labor	atory - NATA Site	e # 18217			Х	Х	Х			Х	Х	Х	Х		Χ	Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Χ	Х	П	Х	Х
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<u>206 0.1-0.2</u>	Oct 30, 2013		Soil	S13-Oc23998	Х																Χ	Х	Х		Х							
<mark>№</mark> 06 0.4-0.5	Oct 30, 2013	!	Soil	S13-Oc23999						Х																						
°06 1.4-1.5	Oct 30, 2013	!	Soil	S13-Oc24000						Χ																				ш		
<u>- '06 2.4-2.5</u>	Oct 30, 2013	+		S13-Oc24001						Х																			igsqcup			
07 0.1-0.2	Oct 30, 2013	!	Soil	S13-Oc24002	Χ																Х		Х						Ш	Ш		
207 0.4-0.5	Oct 30, 2013	+		S13-Oc24003						Х																			Ш	Ш		
<u>207 1.4-1.5</u>	Oct 30, 2013	+		S13-Oc24004						Х																			Ш	$\sqcup$		
207 3.4-3.5	Oct 30, 2013	+		S13-Oc24005	Х																Х		Х	Х					Х	$\sqcup$		
08 0.1-0.2	Oct 30, 2013	;	Soil	S13-Oc24006	Х						Х			Х	Χ						Х		Х						Ш	Х		
208 1.5-1.6	Oct 30, 2013	+		S13-Oc24007	Х						Х			Х	Χ														igsqcup	Х		
08 2.4-2.5	Oct 30, 2013		Soil	S13-Oc24008	Х	Χ	Х					Χ	Χ			Х		Х	Х	Χ							Χ			ш	$\Box$	

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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.:

Fax:

398113

Report #: Phone: 02 8245 0300

Priority: Contact Name:

Eurofins | mgt Client Manager: Jean Heng

5 Day Thomas Harding

Nov 7, 2013

Oct 31, 2013 11:20 AM

Received:

Due:

			Sample Detail		% Moisture	Ammonia (as N)	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	8	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *	JBS&G Suite 2
-		ere analysis is c																											$\vdash$	_		_
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-		tory - NATA Site			Х	Х	Χ			Χ	Χ	Χ	Х		Х	Х		Х	Х	Х	Х	Х	Х	Х	Χ	Х	Χ	Χ	Х		Х	Х
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±2	09 0.1-0.2	Oct 30, 2013	Soil	S13-Oc24009	Х			Χ	Χ								Χ									Χ		Χ	$\vdash$		Х	Χ
<u></u>	09 0.1-0.2	Oct 30, 2013	Soil	S13-Oc24010						Χ																			$\longrightarrow$			_
	09 1.2-1.3	Oct 30, 2013	Soil	S13-Oc24011						Χ																			$\vdash \vdash$			
-	3002	Oct 30, 2013	Soil	S13-Oc24012	Х																Х		Х	Х					Х			
-	10 0.1-0.2	Oct 30, 2013	Soil	S13-Oc24013	Х																Х		Х						$\vdash$			
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-	10 2.3-2.4	Oct 30, 2013	Soil	S13-Oc24015						Χ									_			_							$\longmapsto$	$\rightarrow$		
-	11 0.1-0.2	Oct 30, 2013	Soil	S13-Oc24016	Х																Х	Х	Х		Χ				$\vdash$			
-	11 0.6-0.7	Oct 30, 2013	Soil	S13-Oc24017						Χ									_										$\vdash$			
-	11 1.9-2.0	Oct 30, 2013	Soil	S13-Oc24018	Х																		Х	Х					Х	$\rightarrow$		
-	09 1.5-1.6	Oct 30, 2013	Soil	S13-Oc24020						Χ																			Ш	$\perp \perp$	$\perp$	



Company Name: JBS & G (NSW & WA) Pty Ltd

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boratory	where analysis is o	conducted																														
elbourne	Laboratory - NATA	Site # 1254 & 14271	1											Х																Х		
dney La	boratory - NATA Site	e # 18217			Х	Х	Х			Χ	Χ	Х	Х		Х	Х		Х	Х	Χ	Χ	Х	Х	Χ	Х	Х	Χ	Χ	Х		Х	Χ
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<b>50</b>	Oct 29, 2013	Sc	oil S	13-Oc24022																				Х								
<u>202 0.4-0.</u>	5 Oct 30, 2013	Sc	oil S	13-Oc24036						Χ																						
<u> 203 0.9-1.</u>	0 Oct 30, 2013	Sc	oil S	13-Oc24169						Χ																						
208 0.4-0	5 Oct 30, 2013	Sc	oil S	13-Oc24170						Χ																						





#### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery.

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison

Batch Duplicate

A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE

Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environment Protection Authority

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%

### **QC DATA GENERAL COMMENTS**

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- $10. \ \, \text{Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data}.$

Report Number: 398113-S



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank		<u>'</u>			
Total Recoverable Hydrocarbons - 1999 NEPM Fracti	ions				
TRH C6-C9	mg/kg	< 20	20	Pass	
TRH C10-C14	mg/kg	< 20	20	Pass	
TRH C15-C28	mg/kg	< 50	50	Pass	
TRH C29-C36	mg/kg	< 50	50	Pass	
Method Blank					
ВТЕХ					
Benzene	mg/kg	< 0.1	0.1	Pass	
Toluene	mg/kg	< 0.1	0.1	Pass	
Ethylbenzene	mg/kg	< 0.1	0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2	0.2	Pass	
o-Xylene	mg/kg	< 0.1	0.1	Pass	
Xylenes - Total	mg/kg	< 0.3	0.3	Pass	
Method Blank					
Total Recoverable Hydrocarbons - 2013 NEPM Fracti	ions				
Naphthalene	mg/kg	< 0.5	0.5	Pass	
TRH C6-C10	mg/kg	< 20	20	Pass	
TRH C6-C10 less BTEX (F1)	mg/kg	< 20	20	Pass	
TRH >C10-C16	mg/kg	< 50	50	Pass	
TRH >C16-C34	mg/kg	< 100	100	Pass	
TRH >C34-C40	mg/kg	< 100	100	Pass	
Method Blank	1 3 5			•	
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	mg/kg	< 0.5	0.5	Pass	
Acenaphthylene	mg/kg	< 0.5	0.5	Pass	
Anthracene	mg/kg	< 0.5	0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5	0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5	0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5	0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Chrysene	mg/kg	< 0.5	0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5	0.5	Pass	
Fluoranthene	mg/kg	< 0.5	0.5	Pass	
Fluorene	mg/kg	< 0.5	0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5	0.5	Pass	
Naphthalene	mg/kg	< 0.5	0.5	Pass	
Phenanthrene	mg/kg	< 0.5	0.5	Pass	
Pyrene	mg/kg	< 0.5	0.5	Pass	
Method Blank					
Organochlorine Pesticides					
Chlordanes - Total	mg/kg	< 0.1	0.1	Pass	
4.4'-DDD	mg/kg	< 0.05	0.05	Pass	
4.4'-DDE	mg/kg	< 0.05	0.05	Pass	
4.4'-DDT	mg/kg	< 0.05	0.05	Pass	
a-BHC	mg/kg	< 0.05	0.05	Pass	
Aldrin	mg/kg	< 0.05	0.05	Pass	
b-BHC	mg/kg	< 0.05	0.05	Pass	
d-BHC	mg/kg	< 0.05	0.05	Pass	
Dieldrin	mg/kg	< 0.05	0.05	Pass	
Endosulfan I	mg/kg	< 0.05	0.05	Pass	
Endosulfan II	mg/kg	< 0.05	0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05	0.05	Pass	



Test	Units	Result 1	Accepta Limits		Qualifying Code
Endrin	mg/kg	< 0.05	0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05	0.05	Pass	
Endrin ketone	mg/kg	< 0.05	0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05	0.05	Pass	
Heptachlor	mg/kg	< 0.05	0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05	0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05	0.05	Pass	
Methoxychlor	mg/kg	< 0.2	0.2	Pass	
Toxaphene	mg/kg	< 1	1	Pass	
Method Blank					
Polychlorinated Biphenyls (PCB)					
Aroclor-1016	mg/kg	< 0.5	0.5	Pass	
Aroclor-1232	mg/kg	< 0.5	0.5	Pass	
Aroclor-1242	mg/kg	< 0.5	0.5	Pass	
Aroclor-1248	mg/kg	< 0.5	0.5	Pass	
Aroclor-1254	mg/kg	< 0.5	0.5	Pass	
Aroclor-1260	mg/kg	< 0.5	0.5	Pass	
Total PCB	mg/kg	< 0.5	0.5	Pass	
Method Blank					
Petroleum Hydrocarbons Silica Cleanup (TPH)					
TRH C10-C14 after Silica Cleanup (TPH)	mg/kg	< 50	50	Pass	
TRH C15-C28 after Silica Cleanup (TPH)	mg/kg	< 100	100	Pass	
TRH C29-C36 after Silica Cleanup (TPH)	mg/kg	< 100	100	Pass	
Method Blank	, mg/kg	100	100	1 400	
TRH after Silica Cleanup (NEPM) *				T	
TRH >C10-C16 after Silica Cleanup	mg/kg	< 50	50	Pass	
TRH >C16-C34 after Silica Cleanup	mg/kg	< 100	100	Pass	
TRH >C34-C40 after Silica Cleanup	mg/kg	< 100	100	Pass	
Method Blank	l llig/kg	<u> </u>	100	1 033	
Ammonia (as N)	mg/kg	< 0.1	0.1	Pass	1
Chloride	mg/kg	< 10	10	Pass	
Nitrate (as N)	mg/kg	< 0.1	0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1	0.1	Pass	
Sulphate (as S)		< 10	10	Pass	
·	mg/kg mg/kg	< 10	10	Pass	
Phosphorus		< 100			
Sulphur Mathed Blank	mg/kg	< 100	100	Pass	
Method Blank					
Total Nitrogen Set (as N) Nitrate & Nitrite (as N)		< 0.1	0.1	Dana	
	mg/kg		0.1	Pass	
Total Kjeldahl Nitrogen (as N)	mg/kg	< 10	10	Pass	-
Method Blank					-
Cation Exchange Capacity	// //		0.05		
Cation Exchange Capacity	meq/100g	< 0.05	0.05	Pass	-
Method Blank				I	-
Heavy Metals					
Arsenic	mg/kg	< 2	2	Pass	
Cadmium	mg/kg	< 0.4	0.4	Pass	
Chromium	mg/kg	< 5	5	Pass	
Copper	mg/kg	< 5	5	Pass	
Iron	mg/kg	< 5	5	Pass	
Lead	mg/kg	< 5	5	Pass	
Mercury	mg/kg	< 0.05	0.05	Pass	
Nickel	mg/kg	< 5	5	Pass	
Zinc	mg/kg	< 5	5	Pass	
LCS - % Recovery					I



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Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	%	102	70-130	Pass	
TRH C10-C14	%	85	70-130	Pass	
LCS - % Recovery					
BTEX					
Benzene	%	108	70-130	Pass	
Toluene	%	91	70-130	Pass	
Ethylbenzene	%	87	70-130	Pass	
m&p-Xylenes	%	88	70-130	Pass	
o-Xylene	%	89	70-130	Pass	
Xylenes - Total	%	88	70-130	Pass	
LCS - % Recovery					
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	;				
Naphthalene	%	81	70-130	Pass	
TRH C6-C10	%	89	70-130	Pass	
TRH >C10-C16	%	95	70-130	Pass	
LCS - % Recovery					
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	%	116	70-130	Pass	
Acenaphthylene	%	113	70-130	Pass	
Anthracene	%	118	70-130	Pass	
Benz(a)anthracene	%	106	70-130	Pass	
Benzo(a)pyrene	%	110	70-130	Pass	
Benzo(b&j)fluoranthene	%	116	70-130	Pass	
Benzo(g.h.i)perylene	%	114	70-130	Pass	
Benzo(k)fluoranthene	%	118	70-130	Pass	
Chrysene	%	126	70-130	Pass	
Dibenz(a.h)anthracene	%	116	70-130	Pass	
Fluoranthene	%	115	70-130	Pass	
Fluorene	%	115	70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	116	70-130	Pass	
Naphthalene	%	117	70-130	Pass	
Phenanthrene	%	111	70-130	Pass	
Pyrene	%	114	70-130	Pass	
LCS - % Recovery	70	117	70-130	1 433	
Organochlorine Pesticides					
Chlordanes - Total	%	101	70-130	Pass	
4.4'-DDD	%	108	70-130	Pass	
4.4'-DDE	%	102	70-130	Pass	
4.4'-DDT	%	103	70-130	Pass	
a-BHC	%	105	70-130	Pass	
Aldrin	%	107	70-130	Pass	
b-BHC	%	86	70-130	Pass	
d-BHC	%	93	70-130	Pass	
Dieldrin	%	103	70-130	Pass	
Endosulfan I	%	103	70-130	Pass	
Endosulfan II	%	94	70-130	Pass	
Endosulfan sulphate	%	87	70-130	Pass	
Endosulian sulphate  Endrin	%	109	70-130	Pass	
Endrin Endrin aldehyde	%	85	70-130	Pass	
Endrin aldenyde Endrin ketone	%	86	70-130	Pass	
	%				
g-BHC (Lindane)	%	99	70-130	Pass	
Heptachlor  Heptachlor enevide		99	70-130	Pass	
Heptachlor epoxide	%	101	70-130	Pass	
Hexachlorobenzene	%	99	70-130	Pass	<u> </u>



Test			Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Methoxychlor			%	88	70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls (PCB)							
Aroclor-1260			%	99	70-130	Pass	
LCS - % Recovery							
Petroleum Hydrocarbons Silica Clo	eanup (TPH)						
TRH C10-C14 after Silica Cleanup (	TPH)		%	86	70-130	Pass	
LCS - % Recovery							
TRH after Silica Cleanup (NEPM) *							
TRH >C10-C16 after Silica Cleanup			%	99	70-130	Pass	
LCS - % Recovery							
Ammonia (as N)			%	96	70-130	Pass	
Chloride			%	110	70-130	Pass	
Nitrate (as N)			%	119	70-130	Pass	
Nitrite (as N)			%	102	70-130	Pass	
Sulphate (as S)			%	109	70-130	Pass	
Phosphorus			%	83	70-130	Pass	
Sulphur			%	86	70-130	Pass	
LCS - % Recovery							
Total Nitrogen Set (as N)							
Nitrate & Nitrite (as N)			%	111	70-130	Pass	
Total Kjeldahl Nitrogen (as N)			%	93	70-130	Pass	
LCS - % Recovery			,,,		10 100	1 400	
Heavy Metals							
Arsenic			%	87	70-130	Pass	
Cadmium			%	97	70-130	Pass	
Chromium			%	95	70-130	Pass	
Copper			%	108	70-130	Pass	
Iron			%	93	70-130	Pass	
Lead			%	95	70-130	Pass	
Mercury			%	83	70-130	Pass	
Nickel			%	98	70-130	Pass	
Zinc			%	104	70-130	Pass	
ZIIIC		QA	/0	104	Acceptance	Pass	Qualifying
Test	Lab Sample ID	Source	Units	Result 1	Limits	Limits	Code
Spike - % Recovery				ı	ı		
Polycyclic Aromatic Hydrocarbons				Result 1			
Acenaphthene	S13-Oc23941	CP	%	123	70-130	Pass	
Acenaphthylene	S13-Oc23941	CP	%	119	70-130	Pass	
Anthracene	S13-Oc23941	CP	%	108	70-130	Pass	
Benz(a)anthracene	S13-Oc23941	CP	%	120	70-130	Pass	
Benzo(a)pyrene	S13-Oc23941	CP	%	116	70-130	Pass	
Benzo(b&j)fluoranthene	S13-Oc23941	CP	%	119	70-130	Pass	
Benzo(g.h.i)perylene	S13-Oc23941	CP	%	104	70-130	Pass	
Benzo(k)fluoranthene	S13-Oc23941	CP	%	112	70-130	Pass	
Chrysene	S13-Oc23941	CP	%	114	70-130	Pass	
Dibenz(a.h)anthracene	S13-Oc23941	CP	%	113	70-130	Pass	
Fluoranthene	S13-Oc23941	CP	%	108	70-130	Pass	
Fluorene	S13-Oc23941	CP	%	120	70-130	Pass	
Indeno(1.2.3-cd)pyrene	S13-Oc23941	CP	%	113	70-130	Pass	
Naphthalene	S13-Oc23941	CP	%	114	70-130	Pass	
Phenanthrene	S13-Oc23941	CP	%	123	70-130	Pass	
Pyrene	S13-Oc23941	CP	%	111	70-130	Pass	
Spike - % Recovery							



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Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Arsenic	S13-Oc23941	CP	%	99	70-130	Pass	
Cadmium	S13-Oc23941	CP	%	96	70-130	Pass	
Chromium	S13-Oc23941	CP	%	91	70-130	Pass	
Copper	S13-Oc23941	CP	%	115	70-130	Pass	
Lead	S13-Oc23941	CP	%	88	70-130	Pass	
Mercury	S13-Oc23941	CP	%	83	70-130	Pass	
Nickel	S13-Oc23941	CP	%	98	70-130	Pass	
Zinc	S13-Oc23941	CP	%	94	70-130	Pass	
Spike - % Recovery						•	
Heavy Metals				Result 1			
Iron	S13-Oc21050	NCP	%	92	70-130	Pass	
Spike - % Recovery							
Total Recoverable Hydrocarbons	s - 1999 NEPM Fract	ions		Result 1		T	
TRH C6-C9	S13-Oc23945	СР	%	98	70-130	Pass	
TRH C10-C14	S13-Oc23272	NCP	%	84	70-130	Pass	
Spike - % Recovery	010-0020212	1401	70	0+	70-100	1 433	
BTEX				Result 1			1
Benzene	S13-Oc23945	СР	%	104	70-130	Pass	<u> </u>
Toluene	S13-Oc23945	CP	%	88	70-130	Pass	<del>                                     </del>
	S13-Oc23945	CP	%	83	70-130	Pass	
Ethylbenzene		CP	%	84			<del> </del>
m&p-Xylenes	S13-Oc23945				70-130	Pass	-
o-Xylene	S13-Oc23945	CP	%	85	70-130	Pass	<del>                                     </del>
Xylenes - Total	S13-Oc23945	CP	%	84	70-130	Pass	-
Spike - % Recovery				I 5 " 1 I		Т	1
Total Recoverable Hydrocarbons				Result 1		+_	<u> </u>
Naphthalene	S13-Oc23945	CP	%	82	70-130	Pass	
TRH C6-C10	S13-Oc23945	CP	%	96	70-130	Pass	-
TRH >C10-C16	S13-Oc23272	NCP	%	95	70-130	Pass	
Spike - % Recovery						T	
Organochlorine Pesticides				Result 1		1	<u> </u>
Chlordanes - Total	S13-Oc22300	NCP	%	122	70-130	Pass	
4.4'-DDD	S13-Oc22325	NCP	%	105	70-130	Pass	
4.4'-DDE	S13-Oc22325	NCP	%	92	70-130	Pass	
4.4'-DDT	S13-Oc22325	NCP	%	92	70-130	Pass	
a-BHC	S13-Oc22325	NCP	%	98	70-130	Pass	
Aldrin	S13-Oc22325	NCP	%	95	70-130	Pass	
b-BHC	S13-Oc22325	NCP	%	90	70-130	Pass	
d-BHC	S13-Oc22325	NCP	%	86	70-130	Pass	
Dieldrin	S13-Oc22325	NCP	%	96	70-130	Pass	
Endosulfan I	S13-Oc22325	NCP	%	104	70-130	Pass	
Endosulfan II	S13-Oc22325	NCP	%	89	70-130	Pass	
Endosulfan sulphate	S13-Oc22325	NCP	%	73	70-130	Pass	
Endrin aldehyde	S13-Oc22325	NCP	%	84	70-130	Pass	
Endrin ketone	S13-Oc22325	NCP	%	113	70-130	Pass	
g-BHC (Lindane)	S13-Oc22325	NCP	%	91	70-130	Pass	
Heptachlor	S13-Oc22325	NCP	%	96	70-130	Pass	
Heptachlor epoxide	S13-Oc22325	NCP	%	95	70-130	Pass	
Hexachlorobenzene	S13-Oc22325	NCP	%	88	70-130	Pass	
Methoxychlor	S13-Oc22325	NCP	%	81	70-130	Pass	
Spike - % Recovery	1 010-0022323	INOF	/0	01	10-130	1 033	
Polychlorinated Biphenyls (PCB	\			Result 1		T	
		NCP	0/		70 420	Page	
Aroclor-1260	S13-Oc22353	INCP	%	91	70-130	Pass	
Spike - % Recovery	4000 NEDIA E			Decuit 4			<del>                                     </del>
Total Recoverable Hydrocarbons			61	Result 1		+	
TRH C6-C9	S13-Oc22632	NCP	%	100	70-130	Pass	



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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Sulphate (as S)	S13-Oc22974	NCP	%	106			70-130	Pass	
Spike - % Recovery				i					
Polycyclic Aromatic Hydrocarbons	5	1		Result 1					
Acenaphthene	S13-Oc24002	CP	%	125			70-130	Pass	
Acenaphthylene	S13-Oc24002	CP	%	125			70-130	Pass	
Anthracene	S13-Oc24002	CP	%	122			70-130	Pass	
Benz(a)anthracene	S13-Oc24002	CP	%	115			70-130	Pass	
Benzo(a)pyrene	S13-Oc24002	CP	%	122			70-130	Pass	
Benzo(b&j)fluoranthene	S13-Oc24002	CP	%	124			70-130	Pass	
Benzo(g.h.i)perylene	S13-Oc24002	CP	%	121			70-130	Pass	
Benzo(k)fluoranthene	S13-Oc24002	CP	%	124			70-130	Pass	
Chrysene	S13-Oc24002	CP	%	120			70-130	Pass	
Dibenz(a.h)anthracene	S13-Oc24002	CP	%	125			70-130	Pass	
Fluoranthene	S13-Oc24002	CP	%	116			70-130	Pass	
Fluorene	S13-Oc24002	CP	%	124			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S13-Oc24002	CP	%	124			70-130	Pass	
Naphthalene	S13-Oc24002	CP	%	124			70-130	Pass	
Phenanthrene	S13-Oc24002	CP	%	122			70-130	Pass	
Pyrene	S13-Oc24002	CP	%	125			70-130	Pass	
Spike - % Recovery				1					
Heavy Metals	1	1		Result 1					
Arsenic	S13-Oc24002	CP	%	97			70-130	Pass	
Cadmium	S13-Oc24002	CP	%	109			70-130	Pass	
Chromium	S13-Oc24002	CP	%	96			70-130	Pass	
Copper	S13-Oc24002	CP	%	85			70-130	Pass	
Lead	S13-Oc24002	CP	%	102			70-130	Pass	
Mercury	S13-Oc24002	CP	%	84			70-130	Pass	
Nickel	S13-Oc24002	CP	%	115			70-130	Pass	
Zinc	S13-Oc24002	CP	%	105			70-130	Pass	
Spike - % Recovery				i					
Petroleum Hydrocarbons Silica Cl	eanup (TPH)			Result 1					
TRH C10-C14 after Silica Cleanup (TPH)	S13-No00214	NCP	%	79			70-130	Pass	
Spike - % Recovery									
TRH after Silica Cleanup (NEPM) *				Result 1					
TRH >C10-C16 after Silica									
Cleanup	S13-No00214	NCP	%	89			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Polycyclic Aromatic Hydrocarbons	5			Result 1	Result 2	RPD			
Acenaphthene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
			3	0.0					



	in Sr								
Duplicate							T		
Polycyclic Aromatic Hydrocarbons	5	ı	Т	Result 1	Result 2	RPD			
Naphthalene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S13-Oc23941	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate				ı			ı		
Heavy Metals			<b>.</b>	Result 1	Result 2	RPD			
Arsenic	S13-Oc23941	CP	mg/kg	5.8	4.7	22	30%	Pass	
Cadmium	S13-Oc23941	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S13-Oc23941	CP	mg/kg	12	11	4.0	30%	Pass	
Copper	S13-Oc23941	CP	mg/kg	15	13	13	30%	Pass	
Lead	S13-Oc23941	CP	mg/kg	12	15	20	30%	Pass	
Mercury	S13-Oc23941	CP	mg/kg	0.05	0.06	12	30%	Pass	
Nickel	S13-Oc23941	CP	mg/kg	6.6	6.5	1.0	30%	Pass	
Zinc	S13-Oc23941	CP	mg/kg	24	26	5.0	30%	Pass	
Duplicate				,					
Cation Exchange Capacity				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C)	M13-No00666	NCP	uS/cm	100	81	25	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions	ı	Result 1	Result 2	RPD			
TRH C6-C9	S13-Oc23945	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S13-Oc23272	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S13-Oc23272	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S13-Oc23272	NCP	mg/kg	67	73	8.0	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-Oc23945	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S13-Oc23945	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S13-Oc23945	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S13-Oc23945	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S13-Oc23945	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S13-Oc23945	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
Naphthalene	S13-Oc23945	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S13-Oc23945	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-Oc23945	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S13-Oc23272	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S13-Oc23272	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S13-Oc23272	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S13-Oc22325	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
а-ВНС	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
	1	NOD		4005	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S13-Oc22325	NCP	mg/kg	< 0.05	V 0.05		30 /0	1 033	
Endosulfan sulphate Endrin	S13-Oc22325 S13-Oc22325	NCP	mg/kg mg/kg	< 0.05	< 0.05	<1	30%	Pass	



	Illgt								
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endrin ketone	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S13-Oc22325	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S13-Oc22325	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S13-Oc22325	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls (PCB)				Result 1	Result 2	RPD			
Aroclor-1016	S13-Oc22353	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1232	S13-Oc22353	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S13-Oc22353	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S13-Oc22353	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S13-Oc22353	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S13-Oc22353	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons	- 1999 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C6-C9	S13-Oc22632	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Nitrate (as N)	S13-No00240	NCP	mg/kg	0.30	0.30	<1	30%	Pass	
Nitrite (as N)	S13-No00240	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Sulphate (as S)	S13-Oc22993	NCP	mg/kg	460	460	<1	30%	Pass	
Duplicate									
Total Nitrogen Set (as N)				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	S13-No00240	NCP	mg/kg	0.30	0.30	<1	30%	Pass	
Total Kjeldahl Nitrogen (as N)	S13-No00240	NCP	mg/kg	310	310	2.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbon	s			Result 1	Result 2	RPD			
Acenaphthene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S13-Oc24002	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate				I _		_	I		
Heavy Metals				Result 1	Result 2	RPD		+	
Arsenic	S13-Oc24002	CP	mg/kg	7.6	6.9	9.0	30%	Pass	
Cadmium	S13-Oc24002	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S13-Oc24002	CP	mg/kg	16	14	18	30%	Pass	
Copper	S13-Oc24002	CP	mg/kg	48	41	14	30%	Pass	
Lead	S13-Oc24002	CP	mg/kg	17	18	5.0	30%	Pass	
Mercury	S13-Oc24002	CP	mg/kg	0.50	0.46	10	30%	Pass	
Nickel	S13-Oc24002	CP	mg/kg	7.4	6.6	12	30%	Pass	



Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Zinc	S13-Oc24002	CP	mg/kg	23	24	3.0	30%	Pass	
Duplicate									
Petroleum Hydrocarbons Silica Cle	eanup (TPH)			Result 1	Result 2	RPD			
TRH C10-C14 after Silica Cleanup (TPH)	S13-No00214	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C15-C28 after Silica Cleanup (TPH)	S13-No00214	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH C29-C36 after Silica Cleanup (TPH)	S13-No00214	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
TRH after Silica Cleanup (NEPM) *				Result 1	Result 2	RPD			
TRH >C10-C16 after Silica Cleanup	S13-No00214	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34 after Silica Cleanup	S13-No00214	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40 after Silica Cleanup	S13-No00214	NCP	mg/kg	< 100	< 100	<1	30%	Pass	



#### Comments

E.Coli/Salmonella/Faecal Coliforms analysed by ALS, NATA #1247, Job reference:FS1333326

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	No
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

### **Qualifier Codes/Comments**

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

### **Authorised By**

Jean Heng Client Services

Bob Symons Senior Analyst-Inorganic (NSW)
Emily Rosenberg Senior Analyst-Metal (VIC)
Huong Le Senior Analyst-Inorganic (VIC)
James Norford Senior Analyst-Metal (NSW)
Ryan Hamilton Senior Analyst-Organic (NSW)
Ryan Hamilton Senior Analyst-Volatile (NSW)



### Dr. Bob Symons Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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1.0Pth CAJBS&G

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PROJECT NO.: 42-08 PROJECT NAME: UVPLN SEND REPORT TO:	Growith . Send invoice TO:	E TO: ON OR STATE OF . NO		LABORÁTORY BATCH NO SAMPLERS CL PHONE: 02 82450300	ارن	EMD EMAIL	Щ					
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IMSO FormsO13 - Chain of Custody

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CHAIN	SEND REPORT TO: DATE NEEDED BY: STUNGLE OF SEND INVOICE TO: GAS HINGIGATION COMMENTS / SPECIAL HANDING STORGE OF DISCORDERS		TPI2 1-1- (-2 \$ \$1(N)	(\$5065)	TP26 0·1-0·2	1P260.5-0.4	1026 26-27	TP25 0-1-0-2	76250.4-0.5	1825 1-1.2 T225 33-3.4		 TP22 1.7-1.5	-0-	1921 0:4-65 al	NAME: DATE: CONSTRUMENT NOTE NOT BY		NAME: CONSIGNMENT NOTE NO.	OF: Container & Preservative Codes? P = Martic; J = Sold Jar; B = Glass Bottle; N = River And Provi.; C = Sold with Hydroides Provid; VC = Hydrochiber And Providire 2 = Sold with Hydroides Provid; VC = Hydrochiber And Providire 2 = Sold with Hydroides Provid; VC = Hydrochiber And Providire 2 = Sold with Hydroides Provid; VC = Hydrochiber And Providire 2 = Sold with Hydroides Provid; VC = Hydrochiber And Providire 2 = Sold with Hydroides Provid; VC = Hydrochiber And Providire 2 = Sold with Hydroides Provid; VC = Hydrochiber And Providire 2 = Sold with Hydroides Providire 2 = Sol	IMSO FormsO13 - Chain of Custody

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EUROFINS ENVIRONMENT TESTING AUSTRALIA P/L UNIT F3 PARK VIEW BUILDING 16 MARS ROAD LANE COVE NSW, 2066

Attention: Jean Heng

### **CERTIFICATE OF ANALYSIS**

Our Ref No: FS1333590 Your Ref: 13-817-398243

Report Date: 11 Nov 2013. Project:

Overall Description: Soil Samples

Samples Received: 04 Nov 2013 at 11:50 hrs. Testing Commenced: 05 Nov 2013 at 19:33 hrs.

This report cannot be reproduced except in full, without written approval from the laboratory. Samples tested as received into the laboratory.

Sample Details: Test Description	on	Results	Units	Site
001 Client ID: TP16 2.7	-2.8 Eurofin/MGT ID: No00210 (NATA	A Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW
002 Client ID: TP26 0.9	-1.0 Eurofin/MGT ID: No00230 (NATA	A Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW
003 Client ID: TP18 1.0	-1.1 Eurofin/MGT ID: No00240 (NATA	A Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW
004 Client ID: TP18 1.8	-1.9 Eurofin/MGT ID: No00241 (NATA	A Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW
005 Client ID: TP19 1.9	-2.0 Eurofin/MGT ID: No00266 (NATA	A Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW
006 Client ID: TP17 0.9	-1.0 Eurofin/MGT ID: No00267 (NATA	A Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW

NATA: NSW - 1247 (site: 2040) TGA: NSW - MI- 2012 - LI - 05733 - 3 **VIC** - 1247 (sites: 1240, 16438, 16566)

**VIC** - MI-2012 - LI - 06776 - 3

Page 1 of 2

**APVMA: NSW** - 6179

VIC - 6181

Accredited for compliance with ISO/IEC 17025

10/2-8 South Street, Rydalmere NSW 2116 Phone: +61 2 8832 7500 Fax: +61 2 9898 3472 Food & Pharmaceutical. An ALS Limited Company



**Our Ref No:** F\$1333590 **Your Ref:** 13-817-398243

Report Date: 11 Nov 2013.

007 Client ID: TP17 1	.8-1.9 Eurofin/MGT ID: No00268 (NATA Accred	ited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW

### Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Tina Papadopoulos	Laboratory Manager - Microbiology	Water Microbiology



**General Comments** 

NATA: NSW - 1247 (site: 2040) TGA: NSW - MI- 2012 - LI - 05733 - 3 VIC - 1247 (sites: 1240, 16438, 16566) VIC - MI-2012 - LI - 06776 - 3 VIC - 6181

Page 2 of 2

**APVMA: NSW** - 6179 **VIC** - 618

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e.mail: EnviroSales@eurofins.com.au

web: www.eurofins.com.au

Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794

# Sample Receipt Advice

Company name: JBS & G (NSW & WA) Pty Ltd

Contact name: Michelle Delandro

Client job number: URBAN GROWTH 43008

COC number: Not provided

Turn around time: 5 Day

Date/Time received: Nov 1, 2013 9:52 AM

Eurofins | mgt reference: 398243

### Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 14 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Organic samples had Teflon liners.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✓ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

#### **Notes**

Asbestos conducte at Envirolab| QS300A forwarded to Envirola| Extra Jars: TP19 0.9-1.0, TP19 1.4-1.5, TP20 1.4-1.5, TP20 2.6-2.7, TP21 0.9-1.0 have been placed on hold| Extra Bags: TP 19 0.1-0.2, TP16 (no depth on bag) have been placed on hold: Extra Micro jars TP22 2.7-2.8, TP25 3.3-3.4, TP26 2.6-2.7 Labelling discrepancies- COC: TP14 2.5-2.7 Jar: TP14 2.6-2.7 COC: TP12 1.1-1.2 Jar: TP12 1.2-1.3 COC: TP25 0.4-0.5 Jar: TP25 0.5-0.6 COC: TP22 0.9-1.0 Jar: TP22 0.5-0.6. All have been labelled as per COC| TB/TS are soils. Not waters as indicated on COC| Missing: TP19 1.0-1.5. Analysis cancelled| Samples TP17 0.9-1.0 and TP17 1.8-1.9 entered twice on COC.

### Contact notes

If you have any questions with respect to these samples please contact:

Jean Heng on Phone: (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Michelle Delandro - MDelandro@jbsg.com.au.



Air Analysis Water Analysis Soil Contamination Analysis Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



💸 eurofins

Company Name: JBS & G (NSW & WA) Pty Ltd

Level 1, 50 Margaret St Address:

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398243

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
		ere analysis is c																											<u> </u>				$\perp$	_
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		atory - NATA Site				Х	Х	Χ			Х	Χ	Х	Χ		Χ		Х	Χ	Х	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х	Χ	Χ	Х	$\dashv$	Х
		ratory - NATA Si	te # 20794																									!	<u>                                     </u>				$\dashv$	_
	nal Labor	1	I		I				Х	Х							Χ												<u> </u>				$\dashv$	_
ad	mple ID	Sample Date	Sampling Time	Matrix	LAB ID																													
<b>E</b> ¹16	0.1-0.2	Oct 31, 2013		Soil	S13-No00207	Х																			Χ									
<sup>2</sup> 16	0.9-1.0	Oct 31, 2013		Soil	S13-No00208	Х																			Χ									
216	1.4-1.5	Oct 31, 2013		Soil	S13-No00209						Х																							
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214	0.4-0.5	Oct 31, 2013		Soil	S13-No00215						Х																	— <sup> </sup>	$\bigsqcup$					_
214	0.9-1.0	Oct 31, 2013		Soil	S13-No00216						Χ																						$\perp$	



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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398243

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

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Sample Detail			% Moisture
  | Organic Matter %               | pH (1:5 Aqueous extract)   | Salmonella   | Sulphate (as S)  | Sulphur  | Total Alkalinity (as CaCO3)   
  | Total Phosphorous  | TRH C6-C9  | Polycyclic Aromatic Hydrocarbons   | Organochlorine Pesticides  | Metals M8  
   | Metals M8 filtered   | втех   | Polychlorinated Biphenyls (PCB)  | Petroleum Hydrocarbons Silica Cleanup  
 Total Nitrogen Set (as N)  | Aromatic & Aliphatic (TRH) - NP  | Total Recoverable Hydrocarbons   | Cation Exchange Capacity   | TRH after Silica Cleanup (NEPM) *   
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31, 2013	Soil S	S13-No00228						X		
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| 3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 | alysis is conducted by - NATA Site # 1254 & 143 NATA Site # 18217 - NATA Site # 20794  1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 | alysis is conducted Ty - NATA Site # 1254 & 14271  NATA Site # 18217  - NATA Site # 20794  1, 2013   Soil   alysis is conducted y - NATA Site # 1254 & 14271  NATA Site # 18217 - NATA Site # 20794  1, 2013 | Sample Detail  alysis is conducted  ry - NATA Site # 1254 & 14271  NATA Site # 18217  - NATA Site # 20794  1, 2013   Soil   S13-No00217   X  1, 2013   Soil   S13-No00218    1, 2013   Soil   S13-No00219    1, 2013   Soil   S13-No00220    1, 2013   Soil   S13-No00220    1, 2013   Soil   S13-No00221    1, 2013   Soil   S13-No00222    1, 2013   Soil   S13-No00222    1, 2013   Soil   S13-No00222    1, 2013   Soil   S13-No00223   X  1, 2013   Soil   S13-No00224   X  1, 2013   Soil   S13-No00225    1, 2013   Soil   S13-No00226    1, 2013   Soil   S13-No00225    1, 2013   Soil   S13-No00226 | Sample Detail    Sample Detail | Sample Detail    Sample Detail | Sample Detail    Sample Detail | Sample Detail  Sample | Sample Detail  Sample Detail  Alysis is conducted  Ty - NATA Site # 1254 & 14271  NATA Site # 18217  - NATA Site # 20794  1, 2013   Soil   S13-No00217   X   X   X   X    1, 2013   Soil   S13-No00218   X   X    1, 2013   Soil   S13-No00219   X    1, 2013   Soil   S13-No00220   X    1, 2013   Soil   S13-No00221   X    1, 2013   Soil   S13-No00221   X    1, 2013   Soil   S13-No00222   X    1, 2013   Soil   S13-No00224   X    1, 2013   Soil   S13-No00224   X    1, 2013   Soil   S13-No00225   X    1, 2013   Soil   S13-No00226   X    1, 2014   Soil   S13-No00226   X    1, 2015   S13-No00226   X    1, 2016   S13-No00226   X    1, 2017   S13-No00226   X    1, 2018   S13-No00226   X    1, 2018   S13-No00226   X | Sample Detail  Sample | Sample Detail  Sample | Sample Detail    Sample Detail | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail   Sample Detai | Sample Detail   Sample Detai | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail   Sample Detai | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample |

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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.:

Report #: 398243

Phone: 02 8245 0300

Fax:

Received: Nov 1, 2013 9:52 AM Due:

Nov 8, 2013 Priority:

5 Day Michelle Delandro Contact Name:

																													- 3 -				
		Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
boratory w	here analysis is c	onducted																															
	aboratory - NATA		271											Х																		Х	
	oratory - NATA Site				Х	Х	Х			Х	Х	Х	Х		Х		Х	Х	Х	Х	Χ	Х	Х	Х	Χ	Х	Χ	Х	Х	Х	Х		Х
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ternal Lab								Х	Х							Х																	
,26 0.5-0.6	Oct 31, 2013		Soil	S13-No00229	Х																			Х									
26 0.9-1.0	Oct 31, 2013		Soil	S13-No00230				Х	Х							Х																	
26 2.6-2.7	Oct 31, 2013		Soil	S13-No00231						Х																							
25 0.1-0.2	Oct 31, 2013		Soil	S13-No00232						Х																							
25 0.4-0.5	Oct 31, 2013		Soil	S13-No00233	Х																	Χ	Х	Χ		Х	Χ				Х		
25 1.1-1.2	Oct 31, 2013		Soil	S13-No00234						Х																							
25 3.3-3.4	Oct 31, 2013		Soil	S13-No00235						Х																							
22 0.1-0.2	Oct 31, 2013		Soil	S13-No00236	Х																	Χ	Χ	Χ		Χ	Χ				Χ		
22 0.9-1.0	Oct 31, 2013		Soil	S13-No00237	Х																			Χ									
22 1.7-1.8	Oct 31, 2013		Soil	S13-No00238						Х																							
22 2.7-2.8	Oct 31, 2013		Soil	S13-No00239						Х																						$\perp$	

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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008** 

Order No.: Report #: Phone:

Fax:

398243

02 8245 0300

Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

																								1\$				9				
		Sample Detail		% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
boratory	where analysis is o	conducted																														
elbourne	Laboratory - NATA	Site # 1254 & 14271											Х																		Х	
	boratory - NATA Site			Х	Х	Х			Х	Х	Х	Х		Х		Х	Χ	Х	Х	Х	Х	Χ	Х	Х	Χ	Χ	Х	Χ	Х	Х		Х
	aboratory - NATA S																															
ternal La	aboratory						Х	Х							Х																	
<sup>7</sup> 18 1.0-1	.1 Oct 31, 2013	Soil	S13-No00240	Х		Х	Х	Х			Х	Х			Х	Χ	Χ	Х	Х				Χ		Χ		Χ	Χ	Х	Х		Х
<mark>№</mark> •18 1.8-1	.9 Oct 31, 2013	Soil	S13-No00241	Х		Х	Х	Х			Х	Х			Х	Χ	Χ	Х	Χ				Χ		Χ		Χ	Χ	Х	Х		Χ
18 1.0-1 18 1.8-1 22 0.4-0	.5 Oct 31, 2013	Soil	S13-No00242						Х																							
<u>20 0.1-0 20 -</u>		Soil	S13-No00243						Х																							
20 0.4-0	.5 Oct 31, 2013	Soil	S13-No00244	Х																	Χ	Χ	Χ		Χ	Χ	Χ			Х		Χ
20 2.4-2	.5 Oct 31, 2013	Soil	S13-No00245						Х																							
20 3.4-3	.5 Oct 31, 2013	Soil	S13-No00246						X																							
21 0.1-0	.2 Oct 31, 2013	Soil	S13-No00247	Х																	Χ	Χ	Χ		Χ	Χ				Х		
21 0.4-0		Soil	S13-No00248	X					$\perp$		_												Χ									_
21 1.4-1	.5 Oct 31, 2013	Soil	S13-No00249	1					X		_																					_
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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

Fax:

398243

Phone: 02 8245 0300 Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

																							J11110	·   ····	9. 0.			ugu	1. 000	****	<i>-</i> 9	
		Sample Detail		% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
boratory wh	ere analysis is c	onducted																											П			
elbourne Lat	boratory - NATA	Site # 1254 & 14271											Х																П		Х	
	atory - NATA Site			Х	Х	Χ			Х	Х	Х	Х		Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Χ	Х	Х		Х
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ternal Labor	ratory						Х	Х							Х																	
21 3.4-3.5	Oct 31, 2013	Soil	S13-No00251						Х																							
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19 3.9-4.0	Oct 31, 2013	Soil	S13-No00255						Х																							
17 0.9-1.0	Oct 31, 2013	Soil	S13-No00256		Х																											
217 1.8-1.9	Oct 31, 2013	Soil	S13-No00257		Х																											
31 0.1-0.2	Oct 31, 2013	Soil	S13-No00258	Х																	Х		Х									
231 0.9-1.0	Oct 31, 2013	Soil	S13-No00259						Х																							
231 1.4-1.5	Oct 31, 2013	Soil	S13-No00260						Х																				Ш			
230 0.1-0.2	Oct 31, 2013	Soil	S13-No00261	Х																			Х									

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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

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398243

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

| Petroleum Hydrocarbons Silica Cleanup Polychlorinated Biphenyls (PCB) BTEX  Metals M8 filtered  Metals M8 filtered  Metals M8 filtered  Metals M8 filtered  Morganochlorine Pesticides  Total Alkalinity (as CaCO3)  Nitrite (as N)  Nitrite (as N)  Nitrite (as N)  Nitrite (as N)  Moratory where analysis is conducted  Journal Laboratory - NATA Site # 1254 & 14271  Idney Laboratory - NATA Site # 18217  Isbane Laboratory - NATA Site # 20794  Iternal Laboratory  Total Alkalinity (as CaCO3)  North (as N)  Nitrite (as N)  North (as CaCO3)  North (as N)   TRH after Silica Cleanup (NEPM) * X  Cation Exchange Capacity X  Total Recoverable Hydrocarbons X |
|--|---|
| Selbourne Laboratory - NATA Site # 1254 & 14271  |   |
| Selbourne Laboratory - NATA Site # 1254 & 14271  |   |
| Control of the cont   | XX  |
| isbane Laboratory - NATA Site # 20794 tternal Laboratory  X X X X X X X X X X X X X X X X X X X  | 1 1 1 1 1 1 1 1   |
| ternal Laboratory X X X X X X X X X X X X X X X X X X X  |   |
|  |   |
| ريا ( المراح) 30 0.9-1.0   Oct 31, 2013     Soil   S13-No00262   |   |
| 20) 30 1.5-1.6 Oct 31, 2013 Soil S13-No00263 X   |   |
| NSATE Oct 31, 2013 Water S13-No00264 X X X X X X X X X X X X X X X X X X X   | Х   |
| — ) Oct 31, 2013 Soil S13-No00265 X X X  |   |
| '19 1.9-2.0 Oct 31, 2013 Soil S13-No00266 X X X X X X X X X X X X X X X X X X  | Х   |
| 717 0.9-1.0 Oct 31, 2013 Soil S13-No00267 X X X X X X X X X X X X X X X X X X X  | Х Х   |
| 717 1.8-1.9 Oct 31, 2013 Soil S13-No00268 X X X X X X X X X X X X X X X X X X X  | X X   |
| 3 Oct 31, 2013 Soil S13-No00310 X X X  |   |
| <sup>2</sup> 19 0.9-1.0 Oct 31, 2013 Soil S13-No00737 X  |   |
| <sup>2</sup> 19 1.4-1.5 Oct 31, 2013 Soil S13-No00738 X  |   |
| 20 1.4-1.5 Oct 31, 2013 Soil S13-No00739 X   |   |



Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008** 

Order No.: Report #: Phone:

Fax:

398243

02 8245 0300

Nov 1, 2013 9:52 AM

Nov 8, 2013

Priority:

Received:

Due:

5 Day Michelle Delandro Contact Name:

Sample Detail	% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	<u>a</u>	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous			Organochlorine Pesticides	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	ogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Cation Exchange Capacity  Total Becoverable Hydrocarbons	TRH after Silica Cleanup (NEPM) *
boratory where analysis is conducted																												
elbourne Laboratory - NATA Site # 1254 & 14271										Χ																	Х	
dney Laboratory - NATA Site # 18217	Χ	Х	Χ			Χ	Х	Х	Х		Х		Х	Х	Х	X :	Х	Х	Х	Х	Х	Χ	Х	Х	Х	x   :	X	Х
isbane Laboratory - NATA Site # 20794																												
ternal Laboratory				Χ	Χ							Х																
<sup>2</sup> 20 2.6-2.7 Oct 31, 2013 Soil S13-No00740						Χ																						
21 0.9-1.0 Oct 31, 2013 Soil S13-No00741						Χ																						
<sup>3</sup> 19 0.1-0.2 Oct 31, 2013 Soil S13-No00742						Χ																						
						Χ																						





JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Michelle Delandro

Report 398243-S

Client Reference URBAN GROWTH 43008

Received Date Nov 01, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID Sample Matrix			TP16 0.1-0.2 Soil	TP16 0.9-1.0 Soil	TP16 2.7-2.8 Soil	TP15 0.1-0.2 Soil
Eurofins   mgt Sample No.			S13-No00207	S13-No00208	S13-No00210	S13-No00211
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
% Moisture	0.1	%	16	16	-	13
Heavy Metals						
Arsenic	2	mg/kg	12	6.1	-	15
Cadmium	0.4	mg/kg	1.8	< 0.4	-	0.5
Chromium	5	mg/kg	46	13	-	21
Copper	5	mg/kg	110	20	-	18
Lead	5	mg/kg	96	14	-	41
Mercury	0.05	mg/kg	5.4	0.07	-	0.13
Nickel	5	mg/kg	11	< 5	-	10
Zinc	5	mg/kg	240	39	-	43
E.Coli	1	MPN/g	-	_	see attached	_
Faecal Coliforms	1	MPN/g	-	-	see attached	-
Salmonella	1	org/g	-	-	see attached	-

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP15 0.4-0.5 Soil S13-No00212 Oct 31, 2013	TP14 0.1-0.2 Soil S13-No00214 Oct 31, 2013	TP14 1.4-1.5 Soil S13-No00217 Oct 31, 2013	TP12 0.1-0.2 Soil S13-No00223 Oct 31, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	-	< 20	-	< 20
TRH C10-C14	20	mg/kg	-	< 20	-	< 20
TRH C15-C28	50	mg/kg	-	< 50	-	< 50
TRH C29-C36	50	mg/kg	-	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	-	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	-	< 0.1



Client Sample ID			TP15 0.4-0.5 Soil	TP14 0.1-0.2 Soil	TP14 1.4-1.5 Soil	TP12 0.1-0.2 Soil
Sample Matrix						
Eurofins   mgt Sample No.			S13-No00212	S13-No00214	S13-No00217	S13-No00223
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
BTEX		_				
Xylenes - Total	0.3	mg/kg	-	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	112	-	111
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	-	< 0.5	-	< 0.5
TRH C6-C10	20	mg/kg	-	< 20	-	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	-	< 20	-	< 20
TRH >C10-C16	50	mg/kg	-	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	-	< 50	-	< 50
TRH >C16-C34	100	mg/kg	-	< 100	-	< 100
TRH >C34-C40	100	mg/kg	-	< 100	-	< 100
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	0.7
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	0.8
Benzo(b&j)fluorantheneN07	0.5	mg/kg	-	< 0.5	-	0.7
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	0.7
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	0.7
Chrysene	0.5	mg/kg	-	< 0.5	-	0.6
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5	-	2.2
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	-	1.1
Pyrene	0.5	mg/kg	-	< 0.5	-	2.1
Total PAH	0.5	mg/kg	-	< 0.5	-	9.6
Benzo(a)pyrene TEQ*	0.5	mg/kg	-	0.6	-	1.3
2-Fluorobiphenyl (surr.)	1	%	-	94	-	87
p-Terphenyl-d14 (surr.)	1	%	-	101	-	97
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05



Client Sample ID Sample Matrix			TP15 0.4-0.5 Soil	TP14 0.1-0.2 Soil	TP14 1.4-1.5 Soil	TP12 0.1-0.2 Soil
Eurofins   mgt Sample No.			S13-No00212	S13-No00214	S13-No00217	S13-No00223
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
Organochlorine Pesticides	•					
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	-	< 0.2	-	< 0.2
Toxaphene	1	mg/kg	-	< 1	-	< 1
Dibutylchlorendate (surr.)	1	%	-	86	-	77
Tetrachloro-m-xylene (surr.)	1	%	-	104	-	93
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1232	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	< 0.5	-	< 0.5
Total PCB	0.5	mg/kg	-	< 0.5	-	< 0.5
Dibutylchlorendate (surr.)	1	%	-	86	-	77
Petroleum Hydrocarbons Silica Cleanup (TPH)						
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	-	< 50	-	< 50
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	-	< 100	-	< 100
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	-	< 100	-	< 100
TRH after Silica Cleanup (NEPM) *						
TRH >C10-C16 after Silica Cleanup	50	mg/kg	-	< 50	-	< 50
TRH >C16-C34 after Silica Cleanup	100	mg/kg	-	< 100	-	< 100
TRH >C34-C40 after Silica Cleanup	100	mg/kg	-	< 100	-	< 100
% Moisture	0.1	%	20	19	13	14
Heavy Metals						
Arsenic	2	mg/kg	10	11	4.6	13
Cadmium	0.4	mg/kg	< 0.4	0.6	< 0.4	< 0.4
Chromium	5	mg/kg	15	25	< 5	15
Copper	5	mg/kg	19	23	14	43
Lead	5	mg/kg	14	25	5.1	55
Mercury	0.05	mg/kg	< 0.05	0.72	< 0.05	0.43
Nickel	5	mg/kg	< 5	11	< 5	9.5
Zinc	5	mg/kg	20	41	14	310

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled Test/Reference Total Recoverable Hydrocarbons - 1999 NEPM Fract	LOR ions	Unit	TP12 0.7-0.8 Soil S13-No00224 Oct 31, 2013	TP26 0.5-0.6 Soil S13-No00229 Oct 31, 2013	TP26 0.9-1.0 Soil S13-No00230 Oct 31, 2013	TP25 0.4-0.5 Soil S13-No00233 Oct 31, 2013
TRH C6-C9	20	mg/kg	-	-	-	< 20
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	-	< 50



Client Sample ID			TP12 0.7-0.8	TP26 0.5-0.6	TP26 0.9-1.0	TP25 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No00224	S13-No00229	S13-No00230	S13-No00233
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM	Fractions					
TRH C29-C36	50	mg/kg	-	-	-	< 50
TRH C10-36 (Total)	50	mg/kg	-	-	-	< 50
BTEX						
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	_	-	-	< 0.2
o-Xylene	0.1	mg/kg	_	-	-	< 0.1
Xylenes - Total	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	119
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	-	-	-	< 0.5
TRH C6-C10	20	mg/kg	-	-	-	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	-	-	-	< 20
TRH >C10-C16	50	mg/kg	-	-	-	< 50
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	-	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	-	< 100
TRH >C34-C40	100	mg/kg	-	-	-	< 100
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	88
p-Terphenyl-d14 (surr.)	1	%	-	-	-	97
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-BHC	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-BHC	0.05	mg/kg	-	-	-	< 0.05
d-BHC	0.05	mg/kg	-	-	-	< 0.05



Client Sample ID			TP12 0.7-0.8	TP26 0.5-0.6	TP26 0.9-1.0	TP25 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No00224	S13-No00229	S13-No00230	S13-No00233
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit	, ====	, =====		
Organochlorine Pesticides	LOIX	Offic				
Dieldrin	0.05	mg/kg	_	_	_	< 0.05
Endosulfan I	0.05	mg/kg	_	_	_	< 0.05
Endosulfan II	0.05	mg/kg	_	_	_	< 0.05
Endosulfan sulphate	0.05	mg/kg	_	_	_	< 0.05
Endrin	0.05	mg/kg	_	_	_	< 0.05
Endrin aldehyde	0.05	mg/kg	-	_	_	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.2	mg/kg	-	-	-	< 0.2
Toxaphene	1	mg/kg	-	-	-	< 1
Dibutylchlorendate (surr.)	1	%	-	-	-	78
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	92
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1232	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	-	-	< 0.5
Total PCB	0.5	mg/kg	-	-	-	< 0.5
Dibutylchlorendate (surr.)	1	%	-	-	-	78
% Moisture	0.1	%	13	9.6	-	14
Heavy Metals						
Arsenic	2	mg/kg	14	5.5	-	5.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Chromium	5	mg/kg	12	12	-	15
Copper	5	mg/kg	18	< 5	-	16
Lead	5	mg/kg	10	14	-	56
Mercury	0.05	mg/kg	< 0.05	0.12	-	0.40
Nickel	5	mg/kg	< 5	< 5	-	< 5
Zinc	5	mg/kg	17	6.1	-	59
E.Coli	1	MPN/g	_	_	see attached	_
Faecal Coliforms	1	MPN/g		-	see attached	
Salmonella	1	org/g	-	-	see attached	-



Client Sample ID			TP22 0.1-0.2	TP22 0.9-1.0	TP18 1.0-1.1	TP18 1.8-1.9
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No00236	S13-No00237	S13-No00240	S13-No00241
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit	00001, 2010	00101, 2010	00001, 2010	00101, 2010
Total Recoverable Hydrocarbons - 1999 NEPM Frac		Offic				
TRH C6-C9	20	mg/kg	< 20	_	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	-	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	_	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	_	< 50	< 50
BTEX	00	mg/kg	100		100	100
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	_	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	_	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	_	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	_	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	_	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	113	_	116	114
Aromatic & Aliphatic (TRH) - NP		,,,				
TRH >C35 Aromatic	200	mg/kg	_	_	< 200	< 200
TRH >C35 Aliphatic	1000	mg/kg	_	_	< 1000	< 1000
TRH C10-C15 Aliphatic	500	mg/kg	_	_	< 500	< 500
TRH C10-C15 Aromatic	50	mg/kg	-	_	< 50	< 50
TRH C16-C35 Aliphatic	1000	mg/kg	-	_	< 1000	< 1000
TRH C16-C35 Aromatic	50	mg/kg	_	_	< 50	< 50
Total Recoverable Hydrocarbons - 2013 NEPM Frac		, , ,				
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	_	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	-	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	-	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	-	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	-	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	-	< 100	< 100
Polycyclic Aromatic Hydrocarbons	•					
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluorantheneN07	0.5	mg/kg	< 0.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	-	-	-
2-Fluorobiphenyl (surr.)	1	%	89	-	-	-



Client Sample ID			TP22 0.1-0.2	TP22 0.9-1.0	TP18 1.0-1.1	TP18 1.8-1.9
Sample Matrix			Soil	Soil	Soil	Soil
•						
Eurofins   mgt Sample No.			S13-No00236	S13-No00237	S13-No00240	S13-No00241
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
p-Terphenyl-d14 (surr.)	1	%	97	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.2	mg/kg	< 0.2	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-
Dibutylchlorendate (surr.)	1	%	80	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	96	-	-	-
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	-	-
Total PCB	0.5	mg/kg	< 0.5	-	-	-
Dibutylchlorendate (surr.)	1	%	80	-	-	-
Petroleum Hydrocarbons Silica Cleanup (TPH)						
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	-	-	< 50	< 50
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	-	-	< 100	< 100
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	-	-	< 100	< 100
TRH after Silica Cleanup (NEPM) *						
TRH >C10-C16 after Silica Cleanup	50	mg/kg	-	-	< 50	< 50
TRH >C16-C34 after Silica Cleanup	100	mg/kg	-	-	< 100	< 100
TRH >C34-C40 after Silica Cleanup	100	mg/kg	-	-	< 100	< 100
Chloride	10	mg/kg	-	-	< 10	< 10
Nitrate (as N)	0.1	mg/kg	-	-	0.3	0.3
Nitrite (as N)	0.1	mg/kg	-	-	< 0.1	< 0.1
Sulphate (as S)	10	mg/kg	-	-	< 10	< 10
Phosphorus	10	mg/kg	_	_	2700	3400



Client Sample ID Sample Matrix			TP22 0.1-0.2 Soil	TP22 0.9-1.0 Soil	TP18 1.0-1.1 Soil	TP18 1.8-1.9 Soil
Eurofins   mgt Sample No.			S13-No00236	S13-No00237	S13-No00240	S13-No00241
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
Sulphur	100	mg/kg	-	-	200	530
% Moisture	0.1	%	7.9	13	2.7	5.1
Alkalinity						
Total Alkalinity (as CaCO3)	50	mg/kg	-	-	< 50	< 50
Total Nitrogen Set (as N)						
Nitrate & Nitrite (as N)	0.1	ma/ka	_	_	0.3	0.4

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Eurofins   mgt Sample No.			S13-No00236	S13-No00237	S13-No00240	S13-No00241
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
	·	•				
Sulphur	100	mg/kg	-	-	200	530
% Moisture	0.1	%	7.9	13	2.7	5.1
Alkalinity						
Total Alkalinity (as CaCO3)	50	mg/kg	-	-	< 50	< 50
Total Nitrogen Set (as N)						
Nitrate & Nitrite (as N)	0.1	mg/kg	-	-	0.3	0.4
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	-	310	500
Total Nitrogen (as N)	10	mg/kg	-	-		500
Heavy Metals						
Arsenic	2	mg/kg	4.6	5.5	< 2	2.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	9.4	9.3	12	< 5
Copper	5	mg/kg	10.0	15	32	18
Lead	5	mg/kg	8.7	12	< 5	< 5
Mercury	0.05	mg/kg	< 0.05	< 0.05	0.07	0.18
Nickel	5	mg/kg	< 5	< 5	39	7.0
Zinc	5	mg/kg	8.9	15	19	43
E.Coli	1	MPN/g	-	-	see attached	see attached
Faecal Coliforms	1	MPN/g	-	-	see attached	see attached
Salmonella	1	org/g	-	_	see attached	see attached

Client Sample ID Sample Matrix			TP20 0.4-0.5 Soil	TP21 0.1-0.2 Soil	TP21 0.4-0.5 Soil	TP19 0.1-0.2 Soil
Eurofins   mgt Sample No.			S13-No00244	S13-No00247	S13-No00248	S13-No00252
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	tions					
TRH C6-C9	20	mg/kg	< 20	< 20	-	-
TRH C10-C14	20	mg/kg	< 20	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	< 50	-	-
TRH C29-C36	50	mg/kg	< 50	< 50	-	-
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	_
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	-	-
4-Bromofluorobenzene (surr.)	1	%	112	72	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fract	tions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	-	-
TRH C6-C10	20	mg/kg	< 20	< 20	-	-
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	-	_



Client Sample ID			TP20 0.4-0.5 Soil	TP21 0.1-0.2 Soil	TP21 0.4-0.5 Soil	TP19 0.1-0.2
Sample Matrix						Soil
Eurofins   mgt Sample No.			S13-No00244	S13-No00247	S13-No00248	S13-No00252
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions					
TRH >C10-C16	50	mg/kg	< 50	< 50	-	-
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	< 50	-	-
TRH >C16-C34	100	mg/kg	< 100	< 100	-	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	0.6	-	0.6
2-Fluorobiphenyl (surr.)	1	%	86	89	-	84
p-Terphenyl-d14 (surr.)	1	%	95	99	-	92
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	-	-
Toxaphene	1	mg/kg	< 1	< 1	-	-
Dibutylchlorendate (surr.)	1	%	73	76	-	-



TRH after Silica Cleanup (NEPM) \*
TRH >C10-C16 after Silica Cleanup

TRH >C16-C34 after Silica Cleanup

TRH >C34-C40 after Silica Cleanup

% Moisture

Arsenic

Copper

Mercury

Nickel

Zinc

Lead

Cadmium

Chromium

**Heavy Metals** 

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP20 0.4-0.5 Soil S13-No00244 Oct 31, 2013	TP21 0.1-0.2 Soil S13-No00247 Oct 31, 2013	TP21 0.4-0.5 Soil S13-No00248 Oct 31, 2013	TP19 0.1-0.2 Soil S13-No00252 Oct 31, 2013
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	-	-
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	-	-
Total PCB	0.5	mg/kg	< 0.5	< 0.5	-	-
Dibutylchlorendate (surr.)	1	%	73	76	-	-
Petroleum Hydrocarbons Silica Cleanup (TPH)						
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	< 50	-	-	-
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	< 100	-	-	-
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	< 100	-	-	-

mg/kg

mg/kg

mg/kg

%

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

< 50

< 100

< 100

12

6.7

< 0.4

16

28

20

0.82

7.3

89

10

6.1

< 0.4

11

28

15

0.74

< 5

50

11

5.7

< 0.4

12

17

17

0.41

< 5

42

11

10.0

< 0.4

11

31

16

0.13

15

68

50

100

100

0.1

2

0.4

5

5

5

0.05

5

5

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP19 0.4-0.5 Soil S13-No00253 Oct 31, 2013	TP31 0.1-0.2 Soil S13-No00258 Oct 31, 2013	TP30 0.1-0.2 Soil S13-No00261 Oct 31, 2013	TS Soil S13-No00265 Oct 31, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	< 20	-	-	88%
TRH C10-C14	20	mg/kg	< 20	-	-	-
TRH C15-C28	50	mg/kg	< 50	-	-	-
TRH C29-C36	50	mg/kg	< 50	-	-	-
TRH C10-36 (Total)	50	mg/kg	< 50	-	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	88%
Toluene	0.1	mg/kg	< 0.1	-	-	88%
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	88%
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	88%
o-Xylene	0.1	mg/kg	< 0.1	-	-	88%



200	-	400	
			г
			L
			•

Client Sample ID			TP19 0.4-0.5	TP31 0.1-0.2	TP30 0.1-0.2	TS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No00253	S13-No00258	S13-No00261	S13-No00265
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	88%
4-Bromofluorobenzene (surr.)	1	%	113	-	-	129
Aromatic & Aliphatic (TRH) - NP						
TRH >C35 Aromatic	200	mg/kg	< 200	-	-	-
TRH >C35 Aliphatic	1000	mg/kg	< 1000	-	-	-
TRH C10-C15 Aliphatic	500	mg/kg	< 500	-	-	-
TRH C10-C15 Aromatic	50	mg/kg	< 50	-	-	-
TRH C16-C35 Aliphatic	1000	mg/kg	< 1000	-	-	-
TRH C16-C35 Aromatic	50	mg/kg	< 50	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM F	ractions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	-	-	-
TRH C6-C10	20	mg/kg	< 20	-	-	-
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	-	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-	-
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	-	-	-
TRH >C16-C34	100	mg/kg	< 100	-	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Total PAH	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	0.6	-	-
2-Fluorobiphenyl (surr.)	1	%	88	88	-	-
p-Terphenyl-d14 (surr.)	1	%	98	94	-	-
Petroleum Hydrocarbons Silica Cleanup (TPH)		T				
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	< 50	-	-	-
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	< 100	-	-	-
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	< 100	-	-	-
TRH after Silica Cleanup (NEPM) *				-		
TRH >C10-C16 after Silica Cleanup	50	mg/kg	< 50	-	-	-
TRH >C16-C34 after Silica Cleanup	100	mg/kg	< 100	-	-	-
TRH >C34-C40 after Silica Cleanup	100	mg/kg	< 100	-	-	-
% Moisture	0.1	%	12	8.7	17	-



Client Sample ID Sample Matrix		11 10 111 111		TP31 0.1-0.2 Soil	TP30 0.1-0.2 Soil	TS Soil
Eurofins   mgt Sample No.			S13-No00253	S13-No00258	S13-No00261	S13-No00265
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	7.4	13	7.4	-
Cadmium	0.4	mg/kg	< 0.4	0.7	0.8	-
Chromium	5	mg/kg	14	31	23	-
Copper	5	mg/kg	31	17	39	-
Lead	5	mg/kg	100	26	51	-
Mercury	0.05	mg/kg	0.18	0.12	1.7	-
Nickel	5 mg/kg		13	17	9.7	-
Zinc	5	mg/kg	130	51	190	-

Client Sample ID			TP19 1.9-2.0	TP17 0.9-1.0	TP17 1.8-1.9	ТВ
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No00266	S13-No00267	S13-No00268	S13-No00310
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fra	ctions					
TRH C6-C9	20	mg/kg	-	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	< 20	_
TRH C15-C28	50	mg/kg	-	< 50	< 50	-
TRH C29-C36	50	mg/kg	-	< 50	< 50	-
TRH C10-36 (Total)	50	mg/kg	-	< 50	< 50	-
BTEX	·					
Benzene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	-	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	120	115	117
Aromatic & Aliphatic (TRH) - NP						
TRH >C35 Aromatic	200	mg/kg	-	< 200	< 200	-
TRH >C35 Aliphatic	1000	mg/kg	-	< 1000	< 1000	-
TRH C10-C15 Aliphatic	500	mg/kg	-	< 500	< 500	-
TRH C10-C15 Aromatic	50	mg/kg	-	< 50	< 50	-
TRH C16-C35 Aliphatic	1000	mg/kg	-	< 1000	< 1000	-
TRH C16-C35 Aromatic	50	mg/kg	-	< 50	< 50	-
Total Recoverable Hydrocarbons - 2013 NEPM Fra	ctions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	-	< 0.5	< 0.5	-
TRH C6-C10	20	mg/kg	-	< 20	< 20	-
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	mg/kg	-	< 20	< 20	-
TRH >C10-C16	50	mg/kg	-	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	-	< 50	< 50	-
TRH >C16-C34	100	mg/kg	-	< 100	< 100	-
TRH >C34-C40	100	mg/kg	-	< 100	< 100	-
Petroleum Hydrocarbons Silica Cleanup (TPH)						
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	-	< 50	< 50	_



Client Sample ID			TP19 1.9-2.0	TP17 0.9-1.0	TP17 1.8-1.9	ТВ
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No00266	S13-No00267	S13-No00268	S13-No00310
Date Sampled			Oct 31, 2013	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Test/Reference	LOR	Unit				
Petroleum Hydrocarbons Silica Cleanup (TPH)	'	•				
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	-	< 100	< 100	-
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	-	< 100	< 100	-
TRH after Silica Cleanup (NEPM) *						
TRH >C10-C16 after Silica Cleanup	50	mg/kg	-	< 50	< 50	-
TRH >C16-C34 after Silica Cleanup	100	mg/kg	-	< 100	< 100	-
TRH >C34-C40 after Silica Cleanup	100	mg/kg	-	< 100	< 100	-
	1.0			10	10	
Chloride	10	mg/kg	-	< 10	< 10	-
Nitrate (as N)	0.1	mg/kg	-	0.5	0.3	-
Nitrite (as N)	0.1	mg/kg	-	< 0.1	< 0.1	-
Organic Matter %	0.01	% w/w	2.9	-	-	-
pH (1:5 Aqueous extract)	0.1	units	8.1		- 140	-
Sulphate (as S)	10	mg/kg	-	< 10	< 10	-
Phosphorus Outstand	10	mg/kg	-	3300	4000	-
Sulphur 9/ Mainture	100	mg/kg	- 10	340	- 22	-
% Moisture	0.1	%	19	1.6	2.3	-
Alkalinity		T ,,			. 50	
Total Alkalinity (as CaCO3)	50	mg/kg	-	< 50	< 50	-
Total Nitrogen Set (as N)						
Nitrate & Nitrite (as N)	0.1	mg/kg	-	0.5	0.3	-
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	1000	800	-
Total Nitrogen (as N)	10	mg/kg	-	1000	800	-
Cation Exchange Capacity	1	T				
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	53	-	-	-
Cation Exchange Capacity	0.05	meq/100g	25	-	-	-
Heavy Metals					_	
Arsenic	2	mg/kg	-	< 2	< 2	-
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	-
Chromium	5	mg/kg	-	21	14	-
Copper	5	mg/kg	-	49	43	-
Iron	5	mg/kg	34000	-	- 0.7	-
Lead	5	mg/kg	-	10	8.7	-
Mercury	0.05	mg/kg	-	0.29	0.26	-
Nickel Zing	5	mg/kg	-	50	37	-
Zinc	5	mg/kg	-	83	55	-
E Coli	1	MDN/~	soo attached	coo attached	coo attached	
E.Coli	1	MPN/g	see attached	see attached	see attached	-
Faecal Coliforms	1	MPN/g	see attached	see attached	see allached	<del>-</del>

org/g

see attached

see attached

see attached

Salmonella



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Nov 04, 2013	14 Day
- Method: E004 Petroleum Hydrocarbons (TPH)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 04, 2013	14 Day
- Method: LM-LTM-ORG2010	0 1		
BTEX	Sydney	Nov 04, 2013	14 Day
- Method: E029/E016 BTEX	Overland	N04 0040	44.0
Aromatic & Aliphatic (TRH) - NP	Sydney	Nov 04, 2013	14 Day
- Method: E012 Aromatic & Aliphatic (TPH)	Cudanu	Nav. 04, 2042	14 Day
Polycyclic Aromatic Hydrocarbons	Sydney	Nov 04, 2013	14 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)	Cudnou	Nov.04, 2012	14 Day
Organochlorine Pesticides	Sydney	Nov 04, 2013	14 Day
- Method: E013 Organochlorine Pesticides (OC)  Polyapharinated Riphanyla (DCR)	Cudnou	Nov.04, 2012	20 Day
Polychlorinated Biphenyls (PCB)	Sydney	Nov 04, 2013	28 Day
- Method: E013 Polychlorinated Biphenyls (PCB)  TDH after Silies Cleanus (NEDM) *	Cydnov	Nov 04 2012	14 Day
TRH after Silica Cleanup (NEPM) * - Method: LM-LTM-ORG2010	Sydney	Nov 04, 2013	14 Бау
- Method: LM-LTM-ORG2010  Chloride	Sydney	Nov 05, 2013	28 Day
- Method: E033 /E045 /E047 Chloride	Syuney	1407 03, 2013	20 Day
Nitrate (as N)	Sydney	Nov 04, 2013	28 Day
- Method: E037 /E051 Nitrate as N	Sydney	1407 04, 2013	20 Day
Nitrite (as N)	Sydney	Nov 04, 2013	28 Day
- Method: E037 /E051 Nitrite as N	Cyancy	1407 04, 2010	20 Day
Organic Matter %	Melbourne	Nov 06, 2013	5 Day
- Method: APHA 2540E Fixed and Volatile Solids Ignited at 550C		. 101 00, 2010	o zay
pH (1:5 Aqueous extract)	Sydney	Nov 05, 2013	7 Day
- Method: E018.2 pH	-,,	,	- ,
Sulphate (as S)	Sydney	Nov 05, 2013	28 Day
- Method: E045 Sulphate	, ,		·
Phosphorus	Sydney	Nov 08, 2013	180 Day
- Method: E020/E030 Metals			-
Sulphur	Sydney	Nov 04, 2013	7 Day
- Method: E020/E030 Metals			
% Moisture	Sydney	Nov 04, 2013	28 Day
- Method: E005 Moisture Content			
Alkalinity	Sydney	Nov 05, 2013	0 Day
Total Nitrogen Set (as N)			
Nitrate & Nitrite (as N)	Sydney	Nov 04, 2013	28 Day
- Method: E037 /E051 NOx (as N)			
Total Kjeldahl Nitrogen (as N)	Sydney	Nov 04, 2013	28 Day
- Method: E039/E053 Unfiltered Total Kjeldahl Nitrogen as N			
Cation Exchange Capacity	Melbourne	Nov 04, 2013	28 Day
- Method: 15B1, 15B2, 15B3 Soil Chemical Methods			
- Method: Rayment and Lyons			
Metals M8	Sydney	Nov 04, 2013	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
Heavy Metals	Sydney	Nov 04, 2013	180 Day
- Method: E022 Acid Extractable metals in Soils			
Petroleum Hydrocarbons Silica Cleanup (TPH)	Sydney	Nov 04, 2013	14 Day
- Method: E004 Petroleum Hydrocarbons Silica Cleanup (TPH)			

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Company Name: JBS & G (NSW & WA) Pty Ltd

Level 1, 50 Margaret St Address:

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398243

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
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		oratory - NATA		271											Χ													!					Х	_
		atory - NATA Site				Х	Х	Χ			Х	Χ	Х	Х		Χ		Х	Χ	Х	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х	Χ	Χ	Х	$\dashv$	Х
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ao	nple ID	Sample Date	Sampling Time	Matrix	LAB ID																													
<b>E</b> ¹16 (	0.1-0.2	Oct 31, 2013		Soil	S13-No00207	Х																			Χ									
<u>'16 (</u>	0.9-1.0	Oct 31, 2013		Soil	S13-No00208	Х																			Χ									
216	1.4-1.5	Oct 31, 2013		Soil	S13-No00209						Х																							
	2.7-2.8	Oct 31, 2013		Soil	S13-No00210				Χ	Χ							Χ																	
215 (	0.1-0.2	Oct 31, 2013		Soil	S13-No00211	Х																			Χ									
<u>215 (</u>	0.4-0.5	Oct 31, 2013		Soil	S13-No00212	Х																			Χ									
<u>'15</u> '	1.4-1.5	Oct 31, 2013		Soil	S13-No00213						Х																							
214 (	0.1-0.2	Oct 31, 2013		Soil	S13-No00214	Χ																	Χ	Χ	Χ		Χ	Χ	Χ			Х	$\perp$	Χ
214 (	0.4-0.5	Oct 31, 2013		Soil	S13-No00215						Х																	<u> </u>						_
214 (	0.9-1.0	Oct 31, 2013		Soil	S13-No00216						Х																						$\perp$	



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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398243

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

|        |  | Sample Detail   |   |  | % Moisture   | CANCELLED  | Chloride   | E.Coli   | Faecal Coliforms   | HOLD   
   | Iron   | Nitrate (as N)   | Nitrite (as N)   | Organic Matter %   
   | pH (1:5 Aqueous extract)   | Salmonella   | Sulphate (as S)  | Sulphur  | Total Alkalinity (as CaCO3)   
  | Total Phosphorous  | TRH C6-C9   | Polycyclic Aromatic Hydrocarbons   | Organochlorine Pesticides  | Metals M8   
  | Metals M8 filtered   | втех   | Polychlorinated Biphenyls (PCB)  | Petroleum Hydrocarbons Silica Cleanup  | Total Nitrogen Set (as N)  
   | Aromatic & Aliphatic (TRH) - NP  | Total Recoverable Hydrocarbons   | Cation Exchange Capacity   | TRH after Silica Cleanup (NEPM) *  |
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Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample Detail  Ty where analysis is conducted  Laboratory - NATA Site # 1254 & 14271  Aboratory - NATA Site # 20794  Laboratory - NATA Site # 20794  Laboratory - NATA Site # 20794  Laboratory - NATA Site # 3011  Soil S13-No00217  C) Oct 31, 2013 Soil S13-No00221  D) Cot 31, 2013 Soil S13-No00221  D) Cot 31, 2013 Soil S13-No00222  D) Cot 31, 2013 Soil S13-No00221  D) Cot 31, 2013 Soil S13-No00222  D) Cot 31, 2013 Soil S13-No00225  D) Cot 31, 2013 Soil S13-No00225  D) Cot 31, 2013 Soil S13-No00226  D) Cot 31, 2013 Soil S13-No00286 | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample
Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail 
Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample |

Company Name: JBS & G (NSW & WA) Pty Ltd

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Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.:

Report #: 398243

Phone: 02 8245 0300

Fax:

Received: Nov 1, 2013 9:52 AM Due:

Nov 8, 2013 Priority:

5 Day Michelle Delandro Contact Name:

																													- 3 -				
		Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
boratory w	here analysis is c	onducted																															
	aboratory - NATA		271											Х																		Х	
	oratory - NATA Site				Х	Х	Х			Х	Х	Х	Х		Х		Х	Х	Х	Х	Χ	Х	Х	Х	Х	Х	Χ	Х	Х	Х	Х		Х
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ternal Lab								Х	Х							Х																	
,26 0.5-0.6	Oct 31, 2013		Soil	S13-No00229	Х																			Х									
26 0.9-1.0	Oct 31, 2013		Soil	S13-No00230				Х	Х							Х																	
26 2.6-2.7	Oct 31, 2013		Soil	S13-No00231						Х																							
25 0.1-0.2	Oct 31, 2013		Soil	S13-No00232						Х																							
25 0.4-0.5	Oct 31, 2013		Soil	S13-No00233	Х																	Χ	Х	Χ		Х	Χ				Х		
25 1.1-1.2	Oct 31, 2013		Soil	S13-No00234						Х																							
25 3.3-3.4	Oct 31, 2013		Soil	S13-No00235						Х																							
22 0.1-0.2	Oct 31, 2013		Soil	S13-No00236	Х																	Χ	Χ	Χ		Χ	Χ				Χ		
22 0.9-1.0	Oct 31, 2013		Soil	S13-No00237	Х																			Χ									
22 1.7-1.8	Oct 31, 2013		Soil	S13-No00238						Х																							
22 2.7-2.8	Oct 31, 2013		Soil	S13-No00239						Х																						$\perp$	

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5 Day Michelle Delandro Contact Name:

																									<u> </u>				- 5 -				
		Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	ВТЕХ	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
boratory w	here analysis is c	onducted																															
elbourne La	boratory - NATA	Site # 1254 & 142	?71											Х																		Х	
dney Labo	ratory - NATA Site	e # 18217			Х	Х	Х			Х	Х	Х	Х		Х		Х	Х	Х	Х	Χ	Х	Х	Х	Χ	Х	Χ	Х	Χ	Х	Х		Х
isbane Lab	oratory - NATA Si	ite # 20794																															
ternal Labo	oratory							Х	Χ							Х																	
,18 1.0-1.1	Oct 31, 2013		Soil	S13-No00240	Х		Х	Х	Х			Х	Х			Х	Х	Х	Х	Х				Х		Х		Х	Χ	Х	Х		Х
20 18 1.8-1.9	Oct 31, 2013		Soil	S13-No00241	Х		Х	Х	Х			Х	Х			Х	Χ	Χ	Х	Χ				Χ		Х		Х	Χ	Χ	Χ		Χ
22 0.4-0.5	Oct 31, 2013		Soil	S13-No00242						Х																							
20 0.1-0.2	Oct 31, 2013		Soil	S13-No00243						Х																							
20 0.4-0.5	Oct 31, 2013		Soil	S13-No00244	Х																	Χ	Х	Χ		Χ	Χ	Χ			Χ		Χ
20 2.4-2.5	Oct 31, 2013		Soil	S13-No00245						Х																							
20 3.4-3.5	Oct 31, 2013		Soil	S13-No00246						Χ																							
21 0.1-0.2	Oct 31, 2013		Soil	S13-No00247	Х																	Х	Х	Χ		Χ	Χ				Χ		
21 0.4-0.5	Oct 31, 2013		Soil	S13-No00248	Х																			Χ									
21 1.4-1.5	Oct 31, 2013	+	Soil	S13-No00249						Х																							
21 2.9-3.0	Oct 31, 2013		Soil	S13-No00250						Х																						$\perp$	

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398243

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

																								J	1	g. o.		····	ugo.	1. 000	****	Jg	
		Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	ВТЕХ	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
boratory	vhere analysis is o	conducted																												П			
		Site # 1254 & 1427	1											Х																		Х	
	oratory - NATA Site				Х	Х	Х			Х	Х	Х	Х		Х		Х	Х	Х	Х	Х	Х	Х	Х	Χ	Х	Х	Х	Χ	Х	Х		Х
	boratory - NATA S																													П			
ternal Lak	oratory							Х	Х							Х																	
· '21 3.4-3.5	Oct 31, 2013	S	oil	S13-No00251						Х																							
2.0-1-0 19 <mark>0.1-</mark>	Oct 31, 2013	S	ioil S	S13-No00252	Х																	Х		Х						П			
19 0.1-0.2 19 0.4-0.5	Oct 31, 2013	S	ioil S	S13-No00253	Х																	Х		Х		Х		Х		Х	Х		Х
<u> 19 1.0-1.5</u>		S	oil S	S13-No00254		Х																											
19 3.9-4.0	Oct 31, 2013	S	ioil S	S13-No00255						Х																							
17 0.9-1.0	Oct 31, 2013	S	ioil S	S13-No00256		Х																											
17 1.8-1.9	Oct 31, 2013	S	ioil S	S13-No00257		Х																											
31 0.1-0.2	Oct 31, 2013	S	ioil S	S13-No00258	Χ																	Х		Χ									
231 0.9-1.0	Oct 31, 2013	S	ioil S	S13-No00259						Х																							
231 1.4-1.5	Oct 31, 2013	S	ioil S	S13-No00260						Х																				Ш			
30 0.1-0.2	Oct 31, 2013	s	ioil S	S13-No00261	Χ																			Х									

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

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Petroleum Hydrocarbons Silica Cleanup Polychlorinated Biphenyls (PCB) BTEX  Metals M8 filtered  Metals M8 filtered  Metals M8 filtered  Metals M8 filtered  Morganochlorine Pesticides  Total Alkalinity (as CaCO3)  Nitrite (as N)  Nitrite (as N)  Nitrite (as N)  Nitrite (as N)  Moratory where analysis is conducted  Albourne Laboratory - NATA Site # 1254 & 14271  Idney Laboratory - NATA Site # 18217  Isbane Laboratory - NATA Site # 18217  Isbane Laboratory - NATA Site # 20794  Iternal Laboratory  Total Alkalinity (as CaCO3)  North (as N)  Nitrite (as N)  North (as N)  Nort	TRH after Silica Cleanup (NEPM) * X  Cation Exchange Capacity X  Total Recoverable Hydrocarbons X
Selbourne Laboratory - NATA Site # 1254 & 14271	
Selbourne Laboratory - NATA Site # 1254 & 14271	
Control of the cont	XX
isbane Laboratory - NATA Site # 20794 tternal Laboratory  X X X X X X X X X X X X X X X X X X X	1 1 1 1 1 1 1
ternal Laboratory X X X X X X X X X X X X X X X X X X X	
ريا ( المراح) 30 0.9-1.0   Oct 31, 2013     Soil   S13-No00262	
20) 30 1.5-1.6 Oct 31, 2013 Soil S13-No00263 X	
NSATE Oct 31, 2013 Water S13-No00264 X X X X X X X X X X X X X X X X X X X	Х
— ) Oct 31, 2013 Soil S13-No00265 X X X	
'19 1.9-2.0 Oct 31, 2013 Soil S13-No00266 X X X X X X X X X X X X X X X X X X	Х
717 0.9-1.0 Oct 31, 2013 Soil S13-No00267 X X X X X X X X X X X X X X X X X X X	Х Х
717 1.8-1.9 Oct 31, 2013 Soil S13-No00268 X X X X X X X X X X X X X X X X X X X	X X
3 Oct 31, 2013 Soil S13-No00310 X X X	
<sup>2</sup> 19 0.9-1.0 Oct 31, 2013 Soil S13-No00737 X	
<sup>2</sup> 19 1.4-1.5 Oct 31, 2013 Soil S13-No00738 X	
20 1.4-1.5 Oct 31, 2013 Soil S13-No00739 X	



Company Name: JBS & G (NSW & WA) Pty Ltd

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Order No.: Report #: Phone:

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02 8245 0300

Nov 1, 2013 9:52 AM

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Priority:

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Due:

5 Day Michelle Delandro Contact Name:

Sample Detail	% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	<u>a</u>	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous			Organochlorine Pesticides	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	ogen Set (as N)	Aromatic & Alinhatic (TRH) - NP	Cation Exchange Capacity  Total Becoverable Hydrocarbons	TRH after Silica Cleanup (NEPM) *
boratory where analysis is conducted																												
elbourne Laboratory - NATA Site # 1254 & 14271										Χ																	Х	
dney Laboratory - NATA Site # 18217	Χ	Х	Χ			Χ	Х	Х	Х		Х		Х	Х	Х	X :	Х	Х	Х	Χ	Х	Χ	Х	Х	Х	x   :	X	Х
isbane Laboratory - NATA Site # 20794																												
ternal Laboratory				Χ	Χ							Х																
<sup>2</sup> 20 2.6-2.7 Oct 31, 2013 Soil S13-No00740						Χ																						
21 0.9-1.0 Oct 31, 2013 Soil S13-No00741						Χ																						
<sup>3</sup> 19 0.1-0.2 Oct 31, 2013 Soil S13-No00742						Χ																						
						Χ																						





#### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate**A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environment Protection Authority

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%

### **QC DATA GENERAL COMMENTS**

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank		<u>'</u>			
Total Recoverable Hydrocarbons - 1999 NEPM Fracti	ions				
TRH C6-C9	mg/kg	< 20	20	Pass	
TRH C10-C14	mg/kg	< 20	20	Pass	
TRH C15-C28	mg/kg	< 50	50	Pass	
TRH C29-C36	mg/kg	< 50	50	Pass	
Method Blank					
ВТЕХ					
Benzene	mg/kg	< 0.1	0.1	Pass	
Toluene	mg/kg	< 0.1	0.1	Pass	
Ethylbenzene	mg/kg	< 0.1	0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2	0.2	Pass	
o-Xylene	mg/kg	< 0.1	0.1	Pass	
Xylenes - Total	mg/kg	< 0.3	0.3	Pass	
Method Blank					
Total Recoverable Hydrocarbons - 2013 NEPM Fracti	ions				
Naphthalene	mg/kg	< 0.5	0.5	Pass	
TRH C6-C10	mg/kg	< 20	20	Pass	
TRH C6-C10 less BTEX (F1)	mg/kg	< 20	20	Pass	
TRH >C10-C16	mg/kg	< 50	50	Pass	
TRH >C16-C34	mg/kg	< 100	100	Pass	
TRH >C34-C40	mg/kg	< 100	100	Pass	
Method Blank	1 3 5			•	
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	mg/kg	< 0.5	0.5	Pass	
Acenaphthylene	mg/kg	< 0.5	0.5	Pass	
Anthracene	mg/kg	< 0.5	0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5	0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5	0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5	0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Chrysene	mg/kg	< 0.5	0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5	0.5	Pass	
Fluoranthene	mg/kg	< 0.5	0.5	Pass	
Fluorene	mg/kg	< 0.5	0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5	0.5	Pass	
Naphthalene	mg/kg	< 0.5	0.5	Pass	
Phenanthrene	mg/kg	< 0.5	0.5	Pass	
Pyrene	mg/kg	< 0.5	0.5	Pass	
Method Blank					
Organochlorine Pesticides					
Chlordanes - Total	mg/kg	< 0.1	0.1	Pass	
4.4'-DDD	mg/kg	< 0.05	0.05	Pass	
4.4'-DDE	mg/kg	< 0.05	0.05	Pass	
4.4'-DDT	mg/kg	< 0.05	0.05	Pass	
a-BHC	mg/kg	< 0.05	0.05	Pass	
Aldrin	mg/kg	< 0.05	0.05	Pass	
b-BHC	mg/kg	< 0.05	0.05	Pass	
d-BHC	mg/kg	< 0.05	0.05	Pass	
Dieldrin	mg/kg	< 0.05	0.05	Pass	
Endosulfan I	mg/kg	< 0.05	0.05	Pass	
Endosulfan II	mg/kg	< 0.05	0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05	0.05	Pass	



<b>T</b> 4	1114	D 15 4	Acceptance	Pass	Qualifying
Test	Units	Result 1	Limits	Limits	Code
Endrin	mg/kg	< 0.05	0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05	0.05	Pass	
Endrin ketone	mg/kg	< 0.05	0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05	0.05	Pass	
Heptachlor	mg/kg	< 0.05	0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05	0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05	0.05	Pass	
Methoxychlor	mg/kg	< 0.2	0.2	Pass	
Toxaphene	mg/kg	< 1	1	Pass	
Method Blank			 		
Polychlorinated Biphenyls (PCB)					
Aroclor-1016	mg/kg	< 0.5	0.5	Pass	
Aroclor-1232	mg/kg	< 0.5	0.5	Pass	
Aroclor-1242	mg/kg	< 0.5	0.5	Pass	
Aroclor-1248	mg/kg	< 0.5	0.5	Pass	
Aroclor-1254	mg/kg	< 0.5	0.5	Pass	
Aroclor-1260	mg/kg	< 0.5	0.5	Pass	
Total PCB	mg/kg	< 0.5	0.5	Pass	
Method Blank	ביייפייי ו				
Petroleum Hydrocarbons Silica Cleanup (TPH)					
TRH C10-C14 after Silica Cleanup (TPH)	mg/kg	< 50	50	Pass	
TRH C15-C28 after Silica Cleanup (TPH)	mg/kg	< 100	100	Pass	
TRH C29-C36 after Silica Cleanup (TPH)	mg/kg	< 100	100	Pass	
Method Blank	Ilig/kg	100	100	1 433	
TRH after Silica Cleanup (NEPM) *					
TRH >C10-C16 after Silica Cleanup	mg/kg	< 50	50	Pass	
•		< 100	100	Pass	
TRH > C16-C34 after Silica Cleanup	mg/kg	< 100	100	Pass	
TRH >C34-C40 after Silica Cleanup	mg/kg	< 100	100	Pass	
Method Blank		. 10	40	Dana	
Chloride	mg/kg	< 10	10	Pass	
Nitrate (as N)	mg/kg	< 0.1	0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1	0.1	Pass	
Sulphate (as S)	mg/kg	< 10	10	Pass	
Phosphorus	mg/kg	< 10	10	Pass	
Sulphur	mg/kg	< 100	100	Pass	
Method Blank		ı			
Total Nitrogen Set (as N)					
Nitrate & Nitrite (as N)	mg/kg	< 0.1	0.1	Pass	
Total Kjeldahl Nitrogen (as N)	mg/kg	< 10	10	Pass	
Method Blank					
Cation Exchange Capacity					
Cation Exchange Capacity	meq/100g	< 0.05	0.05	Pass	
Method Blank					
Heavy Metals					
Arsenic	mg/kg	< 2	2	Pass	
Cadmium	mg/kg	< 0.4	0.4	Pass	
Chromium	mg/kg	< 5	5	Pass	
Copper	mg/kg	< 5	5	Pass	
Iron	mg/kg	< 5	5	Pass	
Lead	mg/kg	< 5	5	Pass	
Mercury	mg/kg	< 0.05	0.05	Pass	
Nickel	mg/kg	< 5	5	Pass	
Zinc	mg/kg	< 5	5	Pass	
LCS - % Recovery	ı manıa				
Loo / //coovery					



ı iliği				1	
Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C9	%	92	70-130	Pass	
TRH C10-C14	%	80	70-130	Pass	
LCS - % Recovery					
BTEX					
Benzene	%	95	70-130	Pass	
Toluene	%	85	70-130	Pass	
Ethylbenzene	%	81	70-130	Pass	
m&p-Xylenes	%	79	70-130	Pass	
o-Xylene	%	82	70-130	Pass	
Xylenes - Total	%	80	70-130	Pass	
LCS - % Recovery					
Total Recoverable Hydrocarbons - 2013 NEPM Fractio	ns				
Naphthalene	%	81	70-130	Pass	
TRH C6-C10	%	94	70-130	Pass	
TRH >C10-C16	%	91	70-130	Pass	
LCS - % Recovery	·				
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	%	94	70-130	Pass	
Acenaphthylene	%	92	70-130	Pass	
Anthracene	%	100	70-130	Pass	
Benz(a)anthracene	%	97	70-130	Pass	
Benzo(a)pyrene	%	100	70-130	Pass	
Benzo(b&j)fluoranthene	%	92	70-130	Pass	
Benzo(g.h.i)perylene	%	97	70-130	Pass	
Benzo(k)fluoranthene	%	112	70-130	Pass	
Chrysene	%	101	70-130	Pass	
Dibenz(a.h)anthracene	%	95	70-130	Pass	
Fluoranthene	%	99	70-130	Pass	
	%	93		Pass	
Fluorene			70-130		
Indeno(1.2.3-cd)pyrene	%	96	70-130	Pass	
Naphthalene	%	96	70-130	Pass	
Phenanthrene	%	96	70-130	Pass	
Pyrene	%	101	70-130	Pass	
LCS - % Recovery		T T		Ι	
Organochlorine Pesticides		100			
Chlordanes - Total	%	102	70-130	Pass	
4.4'-DDD	%	111	70-130	Pass	
4.4'-DDE	%	105	70-130	Pass	
4.4'-DDT	%	106	70-130	Pass	
a-BHC	%	108	70-130	Pass	
Aldrin	%	109	70-130	Pass	
b-BHC	%	85	70-130	Pass	
d-BHC	%	92	70-130	Pass	
Dieldrin	%	104	70-130	Pass	
Endosulfan I	%	108	70-130	Pass	
Endosulfan II	%	95	70-130	Pass	
Endosulfan sulphate	%	72	70-130	Pass	
Endrin	%	111	70-130	Pass	
Endrin aldehyde	%	74	70-130	Pass	
Endrin ketone	%	88	70-130	Pass	
g-BHC (Lindane)	%	102	70-130	Pass	
Heptachlor	%	105	70-130	Pass	
Heptachlor epoxide	%	104	70-130	Pass	
Hexachlorobenzene	%	102	70-130	Pass	
Methoxychlor	%	98	70-130	Pass	



Test	i iii St		Units	Result 1	Acceptance	Pass	Qualifying Code
LCS - % Recovery					Limits	Limits	Code
Polychlorinated Biphenyls (PCB)							
Aroclor-1260			%	96	70-130	Pass	
LCS - % Recovery			/0	] 90	70-130	газэ	
Petroleum Hydrocarbons Silica Cl	(canun (TDH)						
TRH C10-C14 after Silica Cleanup (			%	86	70-130	Pass	
LCS - % Recovery	,1111)		70	1 00	70-130	1 433	
TRH after Silica Cleanup (NEPM) *							
TRH >C10-C16 after Silica Cleanup			%	99	70-130	Pass	
LCS - % Recovery	,		70	1 33	70-130	1 433	
Chloride			%	111	70-130	Pass	
Nitrate (as N)			%	119	70-130	Pass	
Nitrite (as N)			%	102	70-130	Pass	
Sulphate (as S)			%	93	70-130	Pass	
Phosphorus			%	75	70-130	Pass	
Sulphur			%	86	70-130	Pass	
LCS - % Recovery			/0	1 00	10-130	1 033	
Total Nitrogen Set (as N)							
Nitrate & Nitrite (as N)			%	111	70-130	Pass	
Total Kjeldahl Nitrogen (as N)			%	103	70-130	Pass	
LCS - % Recovery			70	100	70-130	1 433	
Heavy Metals							
Arsenic			%	76	70-130	Pass	
Cadmium			%	76	70-130	Pass	
Chromium			%	82	70-130	Pass	
Copper			%	93	70-130	Pass	
Iron			%	90	70-130	Pass	
Lead			%	79	70-130	Pass	
Mercury			%	77	70-130	Pass	
Nickel			%	84	70-130	Pass	
Zinc			%	90	70-130	Pass	
ZIIIC		QA	70	90	Acceptance	Pass	Qualifying
Test	Lab Sample ID	Source	Units	Result 1	Limits	Limits	Code
Spike - % Recovery							
Heavy Metals							
	-			Result 1			
Arsenic	S13-No00207	СР	%	Result 1	70-130	Pass	
Arsenic Cadmium	S13-No00207 S13-No00207	CP CP	%	+	70-130 70-130	Pass Pass	
				74	1		
Cadmium	S13-No00207	СР	%	74 94	70-130	Pass	
Cadmium Chromium	S13-No00207 S13-No00207	CP CP	% %	74 94 83	70-130 70-130	Pass Pass	
Cadmium Chromium Copper	\$13-No00207 \$13-No00207 \$13-No00207	CP CP	% % %	74 94 83 86	70-130 70-130 70-130	Pass Pass Pass	
Cadmium Chromium Copper Lead	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207	CP CP CP	% % %	74 94 83 86 108	70-130 70-130 70-130 70-130	Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207	CP CP CP CP	% % % %	74 94 83 86 108	70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207	CP CP CP CP CP	% % % %	74 94 83 86 108	70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207	CP CP CP CP CP	% % % %	74 94 83 86 108 88 99	70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery Total Recoverable Hydrocarbons	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207	CP CP CP CP CP CP CP CP	% % % % %	74 94 83 86 108 88 99	70-130 70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery Total Recoverable Hydrocarbons - TRH C6-C9	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 - 1999 NEPM Fract \$13-No00214	CP CP CP CP CP CP CP CP	% % % % % %	74 94 83 86 108 88 99 Result 1	70-130 70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery Total Recoverable Hydrocarbons - TRH C6-C9 TRH C10-C14	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 - 1999 NEPM Fract \$13-No00214	CP CP CP CP CP CP CP CP	% % % % % %	74 94 83 86 108 88 99 Result 1	70-130 70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery Total Recoverable Hydrocarbons - TRH C6-C9 TRH C10-C14 Spike - % Recovery	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 - 1999 NEPM Fract \$13-No00214	CP CP CP CP CP CP CP CP	% % % % % %	74 94 83 86 108 88 99 Result 1 96 80	70-130 70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery Total Recoverable Hydrocarbons - TRH C6-C9 TRH C10-C14 Spike - % Recovery BTEX	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 - 1999 NEPM Fract \$13-No00214 \$13-No00214	CP CP CP CP CP CP CP CP	% % % % % %	74 94 83 86 108 88 99 Result 1 96 80	70-130 70-130 70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery Total Recoverable Hydrocarbons - TRH C6-C9 TRH C10-C14 Spike - % Recovery BTEX Benzene	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 - 1999 NEPM Fract \$13-No00214 \$13-No00214	CP CP CP CP CP CP CP CP CP CP CP	% % % % % %	74 94 83 86 108 88 99 Result 1 96 80	70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery Total Recoverable Hydrocarbons - TRH C6-C9 TRH C10-C14 Spike - % Recovery BTEX Benzene Toluene	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 - 1999 NEPM Fract \$13-No00214 \$13-No00214 \$13-No00214	CP CP CP CP CP CP CP CP CP CP CP CP CP	% % % % % %	74 94 83 86 108 88 99  Result 1 96 80  Result 1 99 90	70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery Total Recoverable Hydrocarbons - TRH C6-C9 TRH C10-C14 Spike - % Recovery BTEX Benzene Toluene Ethylbenzene	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 <b>- 1999 NEPM Fract</b> \$13-No00214 \$13-No00214 \$13-No00214 \$13-No00214	CP CP CP CP CP CP CP CP CP CP CP CP CP	% % % % % %	74 94 83 86 108 88 99  Result 1 96 80  Result 1 99 90 83	70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass Pass Pass Pass	
Cadmium Chromium Copper Lead Nickel Zinc Spike - % Recovery Total Recoverable Hydrocarbons - TRH C6-C9 TRH C10-C14 Spike - % Recovery BTEX Benzene Toluene Ethylbenzene m&p-Xylenes	\$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 \$13-No00207 <b>- 1999 NEPM Fract</b> \$13-No00214 \$13-No00214 \$13-No00214 \$13-No00214 \$13-No00214 \$13-No00214	CP CP CP CP CP CP CP CP CP CP CP CP CP	% % % % % % % % % % % % % % % % % % %	74 94 83 86 108 88 99  Result 1 96 80  Result 1 99 90 83 83	70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130	Pass Pass Pass Pass Pass Pass Pass Pass	



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Test	Lab Sample ID	QA Source	Units	Result 1	,	Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1				
Naphthalene	S13-No00214	CP	%	72		70-130	Pass	
TRH C6-C10	S13-No00214	CP	%	97		70-130	Pass	
TRH >C10-C16	S13-No00214	CP	%	90		70-130	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons	5			Result 1				
Acenaphthene	S13-No00214	CP	%	98		70-130	Pass	
Acenaphthylene	S13-No00214	CP	%	97		70-130	Pass	
Anthracene	S13-No00214	CP	%	105		70-130	Pass	
Benz(a)anthracene	S13-No00214	CP	%	104		70-130	Pass	
Benzo(a)pyrene	S13-No00214	CP	%	95		70-130	Pass	
Benzo(b&j)fluoranthene	S13-No00214	CP	%	91		70-130	Pass	
Benzo(g.h.i)perylene	S13-No00214	CP	%	102		70-130	Pass	
Benzo(k)fluoranthene	S13-No00214	CP	%	117		70-130	Pass	
Chrysene	S13-No00214	CP	%	102		70-130	Pass	
Dibenz(a.h)anthracene	S13-No00214	CP	%	101		70-130	Pass	
Fluoranthene	S13-No00214	CP	%	106		70-130	Pass	
Fluorene	S13-No00214	CP	%	97		70-130	Pass	
Indeno(1.2.3-cd)pyrene	S13-No00214	CP	%	101		70-130	Pass	
Naphthalene	S13-No00214	СР	%	100		70-130	Pass	
Phenanthrene	S13-No00214	СР	%	104		70-130	Pass	
Pyrene	S13-No00214	СР	%	107		70-130	Pass	
Spike - % Recovery								
Organochlorine Pesticides				Result 1				
Chlordanes - Total	S13-No00214	СР	%	118		70-130	Pass	
4.4'-DDD	S13-No00214	CP	%	126		70-130	Pass	
4.4'-DDE	S13-No00214	CP	%	121		70-130	Pass	
4.4'-DDT	S13-No00214	CP	%	113		70-130	Pass	
a-BHC	S13-No00214	CP	%	122		70-130	Pass	
Aldrin	S13-No00214	CP	%	122		70-130	Pass	
b-BHC	S13-No00214	CP	%	87		70-130	Pass	
d-BHC	S13-No00214	CP	%	94		70-130	Pass	
Dieldrin	S13-No00214	CP	%	119		70-130	Pass	
Endosulfan I	S13-No00214	CP	%	125		70-130	Pass	
Endosulfan II	S13-No00214	CP	<del>//</del> 6	103		70-130	Pass	
Endosulfan sulphate	S13-No00214	CP	<del>//</del> 6	72		70-130	Pass	
Endrin	S13-No00214	CP	% %	125		70-130	Pass	
		CP	<del>%</del>	72				
Endrin aldehyde	S13-No00214	CP	% %			70-130	Pass	
Endrin ketone	S13-No00214			87		70-130	Pass	
g-BHC (Lindane)	S13-No00214	CP	%	112		70-130	Pass	
Heptachlor	S13-No00214	CP	%	122		70-130	Pass	
Heptachlor epoxide	S13-No00214	CP	%	119		70-130	Pass	
Hexachlorobenzene	S13-No00214	CP	%	120		70-130	Pass	
Methoxychlor	S13-No00214	CP	%	90		70-130	Pass	
Spike - % Recovery				B				
Polychlorinated Biphenyls (PCB)	040 11 0	05	21	Result 1		70.40-		
Aroclor-1260	S13-No00214	CP	%	91		70-130	Pass	
Spike - % Recovery								
Petroleum Hydrocarbons Silica Cle	eanup (TPH)			Result 1				
TRH C10-C14 after Silica Cleanup (TPH)	S13-No00214	СР	%	79		70-130	Pass	
Spike - % Recovery								
TRH after Silica Cleanup (NEPM) *	Т			Result 1				
TRH >C10-C16 after Silica Cleanup	S13-No00214	СР	%	89		70-130	Pass	



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Test	Lab Sample ID	QA Source	Units	Result 1		eptance .imits	Pass Limits	Qualifying Code
Spike - % Recovery								
Heavy Metals				Result 1				
Arsenic	S13-No00236	CP	%	79	70	0-130	Pass	
Cadmium	S13-No00236	CP	%	81	70	0-130	Pass	
Chromium	S13-No00236	CP	%	76	70	0-130	Pass	
Copper	S13-No00236	CP	%	90	70	0-130	Pass	
Lead	S13-No00236	CP	%	77	70	0-130	Pass	
Mercury	S13-No00236	CP	%	77	70	0-130	Pass	
Nickel	S13-No00236	CP	%	84	70	0-130	Pass	
Zinc	S13-No00236	CP	%	80	7	0-130	Pass	
Spike - % Recovery								
				Result 1				
Chloride	S13-No01952	NCP	%	102	70	0-130	Pass	
Sulphate (as S)	S13-No01952	NCP	%	103	70	0-130	Pass	
Sulphur	S13-No00240	СР	%	93	7(	0-130	Pass	
Spike - % Recovery				<u> </u>				
Heavy Metals				Result 1				
Arsenic	S13-No00240	СР	%	85	7	0-130	Pass	
Cadmium	S13-No00240	CP	%	85		0-130	Pass	
Chromium	S13-No00240	CP	%	75		0-130	Pass	
Copper	S13-No00240	CP	%	80		0-130	Pass	
Lead	S13-No00240	CP	%	84		0-130	Pass	
Mercury	S13-No00240	CP	%	77		0-130	Pass	
Zinc	S13-No00240	CP	%	72		0-130	Pass	
Spike - % Recovery	313-11000240	CF	/0	12		0-130	rass	
Polycyclic Aromatic Hydrocarbons				Result 1				
Acenaphthene	S13-No00258	СР	%	99	7/	0-130	Pass	
·	S13-N000258	CP	%	99		0-130		
Acenaphthylene							Pass	
Anthracene	S13-No00258	CP	%	102		0-130	Pass	
Benz(a)anthracene	S13-No00258	CP	%	103		0-130	Pass	
Benzo(a)pyrene	S13-No00258	CP	%	107		0-130	Pass	
Benzo(b&j)fluoranthene	S13-No00258	CP	%	99		0-130	Pass	
Benzo(g.h.i)perylene	S13-No00258	CP	%	100		0-130	Pass	
Benzo(k)fluoranthene	S13-No00258	CP	%	118		0-130	Pass	
Chrysene	S13-No00258	CP	%	106		0-130	Pass	
Dibenz(a.h)anthracene	S13-No00258	CP	%	100		0-130	Pass	
Fluoranthene	S13-No00258	CP	%	104		0-130	Pass	
Fluorene	S13-No00258	CP	%	98		0-130	Pass	
Indeno(1.2.3-cd)pyrene	S13-No00258	CP	%	100		0-130	Pass	
Naphthalene	S13-No00258	CP	%	99		0-130	Pass	
Phenanthrene	S13-No00258	CP	%	103		0-130	Pass	
Pyrene	S13-No00258	CP	%	104	7	0-130	Pass	
Spike - % Recovery				T				
Heavy Metals				Result 1				
Arsenic	S13-No00261	CP	%	77		0-130	Pass	
Cadmium	S13-No00261	CP	%	91		0-130	Pass	
Chromium	S13-No00261	CP	%	87		0-130	Pass	
Copper	S13-No00261	CP	%	120		0-130	Pass	
Lead	S13-No00261	CP	%	88		0-130	Pass	
Nickel	S13-No00261	CP	%	91	7	0-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1				
TRH C6-C9	S13-No00267	CP	%	87	7	0-130	Pass	
Spike - % Recovery								
ВТЕХ				Result 1				



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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzene	S13-No00267	CP	%	103			70-130	Pass	
Toluene	S13-No00267	CP	%	92			70-130	Pass	
Ethylbenzene	S13-No00267	CP	%	87			70-130	Pass	
m&p-Xylenes	S13-No00267	CP	%	85			70-130	Pass	
o-Xylene	S13-No00267	CP	%	91			70-130	Pass	
Xylenes - Total	S13-No00267	CP	%	87			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons	- 2013 NEPM Fract	tions		Result 1					
Naphthalene	S13-No00267	CP	%	88			70-130	Pass	
TRH C6-C10	S13-No00267	CP	%	98			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S13-No00207	CP	mg/kg	12	12	1.0	30%	Pass	
Cadmium	S13-No00207	CP	mg/kg	1.8	1.9	7.0	30%	Pass	
Chromium	S13-No00207	CP	mg/kg	46	49	7.0	30%	Pass	
Copper	S13-No00207	CP	mg/kg	110	110	8.0	30%	Pass	
Lead	S13-No00207	СР	mg/kg	96	110	10	30%	Pass	
Nickel	S13-No00207	CP	mg/kg	11	12	5.0	30%	Pass	
Zinc	S13-No00207	CP	mg/kg	240	270	10	30%	Pass	
Duplicate	·			•					
Total Recoverable Hydrocarbons	- 1999 NEPM Fract	tions		Result 1	Result 2	RPD			
TRH C6-C9	S13-No00214	СР	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S13-No00214	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S13-No00214	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S13-No00214	CP	mg/kg	< 50	< 50	<u></u>	30%	Pass	
Duplicate							2211	1 0.00	
BTEX				Result 1	Result 2	RPD			
Benzene	S13-No00214	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S13-No00214	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S13-No00214	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S13-No00214	CP	mg/kg	< 0.2	< 0.2	<u></u> <1	30%	Pass	
o-Xylene	S13-No00214	CP	mg/kg	< 0.1	< 0.1	<u></u>	30%	Pass	
Xylenes - Total	S13-No00214	CP	mg/kg	< 0.3	< 0.3	<u></u>	30%	Pass	
Duplicate		<u> </u>	mg/ng	1 0.0	1 0.0		3070	1 400	
Total Recoverable Hydrocarbons	- 2013 NEPM Fract	tions		Result 1	Result 2	RPD			
Naphthalene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S13-No00214	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-No00214	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S13-No00214	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S13-No00214	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S13-No00214	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate	010-14000214	01	mg/kg	100	100		3070	1 433	
Polycyclic Aromatic Hydrocarbor	ne .			Result 1	Result 2	RPD			
Acenaphthene	S13-No00214	СР	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
	S13-No00214	CP		< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%		
Benzo(a)pyrene		1	mg/kg	T				Pass	
Benzo(b&j)fluoranthene	\$13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	



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Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Fluoranthene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S13-No00214	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S13-No00214	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S13-No00214	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S13-No00214	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls (PCB)				Result 1	Result 2	RPD			
Aroclor-1016	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1232	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S13-No00214	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Petroleum Hydrocarbons Silica Cle	eanup (TPH)			Result 1	Result 2	RPD			
TRH C10-C14 after Silica Cleanup (TPH)	S13-No00214	СР	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C15-C28 after Silica Cleanup (TPH)	S13-No00214	СР	mg/kg	< 100	< 100	<1	30%	Pass	
TRH C29-C36 after Silica Cleanup (TPH)	S13-No00214	СР	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
TRH after Silica Cleanup (NEPM) *				Result 1	Result 2	RPD			
TRH >C10-C16 after Silica Cleanup	S13-No00214	СР	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34 after Silica Cleanup	S13-No00214	СР	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40 after Silica Cleanup	S13-No00214	СР	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S13-No00236	CP	mg/kg	4.6	5.1	12	30%	Pass	
				•			•	•	



	Illgt								
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Cadmium	S13-No00236	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S13-No00236	CP	mg/kg	9.4	11	13	30%	Pass	
Copper	S13-No00236	CP	mg/kg	10.0	11	8.0	30%	Pass	
Lead	S13-No00236	CP	mg/kg	8.7	11	25	30%	Pass	
Mercury	S13-No00236	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Nickel	S13-No00236	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S13-No00236	CP	mg/kg	8.9	9.8	9.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S13-No01952	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Nitrate (as N)	S13-No00240	CP	mg/kg	0.3	0.3	<1	30%	Pass	
Nitrite (as N)	S13-No00240	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Sulphate (as S)	S13-No01952	NCP	mg/kg	17	17	1.0	30%	Pass	
Phosphorus	S13-No00240	CP	mg/kg	2700	3300	19	30%	Pass	
Duplicate									
Total Nitrogen Set (as N)				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	S13-No00240	СР	mg/kg	0.3	0.3	<1	30%	Pass	
Total Kjeldahl Nitrogen (as N)	S13-No00240	СР	mg/kg	310	310	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S13-No00240	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S13-No00240	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S13-No00240	CP	mg/kg	12	9.9	19	30%	Pass	
Copper	S13-No00240	CP	mg/kg	32	30	7.0	30%	Pass	
Lead	S13-No00240	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	S13-No00240	CP	mg/kg	0.07	0.15	70	30%	Fail	Q15
Nickel	S13-No00240	CP	mg/kg	39	31	24	30%	Pass	
Zinc	S13-No00240	CP	mg/kg	19	21	6.0	30%	Pass	
Duplicate							<u> </u>		
Polycyclic Aromatic Hydrocarbor	ıs			Result 1	Result 2	RPD			
Acenaphthene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&i)fluoranthene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S13-No00258	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S13-No00261	CP	mg/kg	7.4	8.0	7.0	30%	Pass	
Cadmium	S13-No00261	CP	mg/kg	0.8	0.8	6.0	30%	Pass	
Chromium	S13-No00261	CP	mg/kg	23	24	4.0	30%	Pass	
Copper	S13-No00261	CP	mg/kg	39	43	9.0	30%	Pass	
			-33						
Lead	S13-No00261	CP	mg/kg	51	52	2.0	30%	Pass	



	0								
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Zinc	S13-No00261	CP	mg/kg	190	220	16	30%	Pass	
Duplicate									
Cation Exchange Capacity				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C)	M13-No00666	NCP	uS/cm	100	81	25	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C6-C9	S13-No00267	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-No00267	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S13-No00267	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S13-No00267	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S13-No00267	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S13-No00267	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S13-No00267	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
Naphthalene	S13-No00267	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S13-No00267	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-No00267	CP	mg/kg	< 20	< 20	<1	30%	Pass	



### Comments

E.Coli/Salmonella/Coliforms analysed by ALS, NATA:1247(site 2040), Job reference:FS1333590

### Sample Integrity

Custody Seals Intact (if used)	N/A
	Yes
Attempt to Chill was evident	
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

### **Qualifier Codes/Comments**

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins   mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

#### **Authorised By**

Jean Heng Client Services

Bob Symons Senior Analyst-Inorganic (NSW)
Emily Rosenberg Senior Analyst-Metal (VIC)
Huong Le Senior Analyst-Inorganic (VIC)
James Norford Senior Analyst-Metal (NSW)
Ryan Hamilton Senior Analyst-Organic (NSW)
Ryan Hamilton Senior Analyst-Volatile (NSW)



### Dr. Bob Symons Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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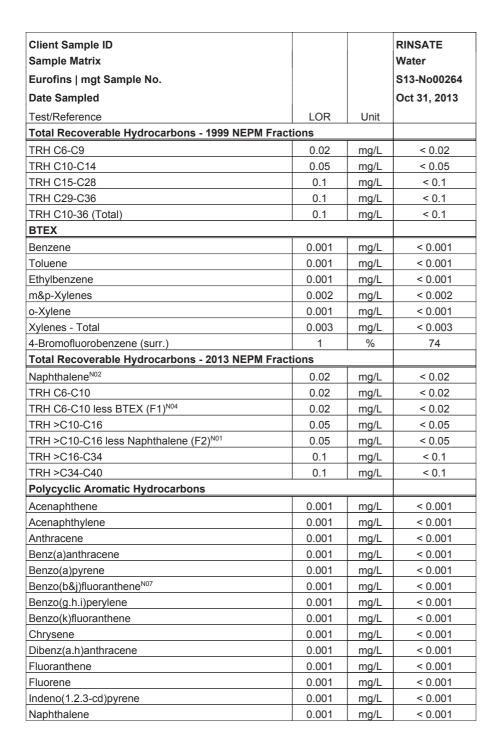
JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Michelle Delandro

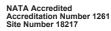
Report 398243-W

Client Reference URBAN GROWTH 43008

Received Date Nov 01, 2013



### Certificate of Analysis









Client Sample ID Sample Matrix			RINSATE Water
•			
Eurofins   mgt Sample No.			S13-No00264
Date Sampled			Oct 31, 2013
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons		T	
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	104
p-Terphenyl-d14 (surr.)	1	%	127
Organochlorine Pesticides			
Chlordanes - Total	0.001	mg/L	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001
а-ВНС	0.0001	mg/L	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001
Endrin	0.0001	mg/L	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001
Toxaphene	0.01	mg/L	< 0.01
Dibutylchlorendate (surr.)	1	%	111
Tetrachloro-m-xylene (surr.)	1	%	103
Polychlorinated Biphenyls (PCB)			
Aroclor-1016	0.005	mg/L	< 0.005
Aroclor-1232	0.005	mg/L	< 0.005
Aroclor-1242	0.005	mg/L	< 0.005
Aroclor-1248	0.005	mg/L	< 0.005
Aroclor-1254	0.005	mg/L	< 0.005
Aroclor-1260	0.005	mg/L	< 0.005
Total PCB	0.005	mg/L	< 0.005
Dibutylchlorendate (surr.)	1	%	111
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0001	mg/L	< 0.0001
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005



Description Total Passycrable Lludragarhana 1000 NEDM Fractions	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Nov 01, 2013	7 Day
- Method: E004 Petroleum Hydrocarbons (TPH)			_
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 01, 2013	7 Day
- Method: LM-LTM-ORG2010			
BTEX	Sydney	Nov 01, 2013	14 Day
- Method: E029/E016 BTEX			
Polycyclic Aromatic Hydrocarbons	Sydney	Nov 01, 2013	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Organochlorine Pesticides	Sydney	Nov 01, 2013	7 Day
- Method: E013 Organochlorine Pesticides (OC)			
Polychlorinated Biphenyls (PCB)	Sydney	Nov 01, 2013	7 Day
- Method: E013 Polychlorinated Biphenyls (PCB)			
Metals M8 filtered	Sydney	Nov 04, 2013	28 Day
- Method: E020/E030 Filtered Metals in Water & E026 Mercury			

💸 eurofins

Company Name: JBS & G (NSW & WA) Pty Ltd

Level 1, 50 Margaret St Address:

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398243

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
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ad	mple ID	Sample Date	Sampling Time	Matrix	LAB ID																													
<b>E</b> ¹16	0.1-0.2	Oct 31, 2013		Soil	S13-No00207	Х																			Χ									
<sup>2</sup> 16	0.9-1.0	Oct 31, 2013		Soil	S13-No00208	Х																			Χ									
216	1.4-1.5	Oct 31, 2013		Soil	S13-No00209						Х																							
	2.7-2.8	Oct 31, 2013		Soil	S13-No00210				Χ	Χ							Χ																	
	0.1-0.2	Oct 31, 2013		Soil	S13-No00211	Χ																			Χ			<u> </u>	$\bigsqcup$				$\perp$	_
	0.4-0.5	Oct 31, 2013		Soil	S13-No00212	Χ																			Χ			<u> </u>	$\bigsqcup$				$\perp$	_
215	1.4-1.5	Oct 31, 2013		Soil	S13-No00213						Χ																	<u> </u>	$\bigsqcup$				$\perp$	_
	0.1-0.2	Oct 31, 2013		Soil	S13-No00214	Χ																	Χ	Χ	Χ		Χ	Χ	Х			Х	$\bot$	Χ
214	0.4-0.5	Oct 31, 2013		Soil	S13-No00215						Χ																	<u> </u>	$\bigsqcup$					_
214	0.9-1.0	Oct 31, 2013		Soil	S13-No00216						Χ																						$\perp$	



Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398243

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 8, 2013

Priority:

5 Day Michelle Delandro Contact Name:

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Sample Detail			% Moisture
   | Nitrite (as N)   | Organic Matter %               | pH (1:5 Aqueous extract)   | Salmonella   | Sulphate (as S)  | Sulphur  
   | Total Alkalinity (as CaCO3)  | Total Phosphorous  | TRH C6-C9  | Polycyclic Aromatic Hydrocarbons   | Organochlorine Pesticides   
  | Metals M8  | Metals M8 filtered   | втех   | Polychlorinated Biphenyls (PCB)  | Petroleum Hydrocarbons Silica
Cleanup  | Total Nitrogen Set (as N)  | Aromatic & Aliphatic (TRH) - NP  | Total Recoverable Hydrocarbons   | Cation Exchange Capacity   
   | TRH after Silica Cleanup (NEPM) *  |
nalysis is conducted									
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   |  |
31, 2013	Soil S	S13-No00228						X	
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   |  |
| 3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3 | alysis is conducted by - NATA Site # 1254 & 143 NATA Site # 18217 - NATA Site # 20794  1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 1, 2013 | alysis is conducted Ty - NATA Site # 1254 & 14271  NATA Site # 18217  - NATA Site # 20794  1, 2013   Soil   alysis is conducted y - NATA Site # 1254 & 14271  NATA Site # 18217 - NATA Site # 20794  1, 2013 | Sample Detail  alysis is conducted  ry - NATA Site # 1254 & 14271  NATA Site # 18217  - NATA Site # 20794  1, 2013   Soil   S13-No00217   X  1, 2013   Soil   S13-No00218    1, 2013   Soil   S13-No00219    1, 2013   Soil   S13-No00220    1, 2013   Soil   S13-No00220    1, 2013   Soil   S13-No00221    1, 2013   Soil   S13-No00222    1, 2013   Soil   S13-No00222    1, 2013   Soil   S13-No00222    1, 2013   Soil   S13-No00223   X  1, 2013   Soil   S13-No00224   X  1, 2013   Soil   S13-No00225    1, 2013   Soil   S13-No00226    1, 2013   Soil   S13-No00225    1, 2013   Soil   S13-No00226 | Sample Detail    Sample Detail | Sample Detail    Sample Detail | Sample Detail    Sample Detail | Sample Detail  Sample | Sample Detail  Sample Detail  Alysis is conducted  Ty - NATA Site # 1254 & 14271  NATA Site # 18217  - NATA Site # 20794  1, 2013   Soil   S13-No00217   X   X   X   X    1, 2013   Soil   S13-No00218   X   X    1, 2013   Soil   S13-No00219   X    1, 2013   Soil   S13-No00220   X    1, 2013   Soil   S13-No00221   X    1, 2013   Soil   S13-No00221   X    1, 2013   Soil   S13-No00222   X    1, 2013   Soil   S13-No00224   X    1, 2013   Soil   S13-No00224   X    1, 2013   Soil   S13-No00225   X    1, 2013   Soil   S13-No00226   X    1, 2014   Soil   S13-No00226   X    1, 2015   S13-No00226   X    1, 2016   S13-No00226   X    1, 2017   S13-No00226   X    1, 2018   S13-No00226   X    1, 2018   S13-No00226   X | Sample Detail  Sample | Sample Detail  Sample | Sample Detail    Sample Detail | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail   Sample Detai | Sample Detail   Sample Detai | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail   Sample Detai | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail   Sample Detai | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample | Sample Detail  Sample |

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.:

Report #: 398243

Phone: 02 8245 0300

Fax:

Received: Nov 1, 2013 9:52 AM Due:

Nov 8, 2013 Priority:

5 Day Michelle Delandro Contact Name:

																													- 3 -				
		Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
boratory w	here analysis is c	onducted																															
	aboratory - NATA		271											Х																		Х	
	oratory - NATA Site				Х	Х	Х			Х	Х	Х	Х		Х		Х	Х	Х	Х	Χ	Х	Х	Х	Х	Х	Χ	Х	Х	Х	Х		Х
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ternal Lab								Х	Х							Х																	
,26 0.5-0.6	Oct 31, 2013		Soil	S13-No00229	Х																			Х									
26 0.9-1.0	Oct 31, 2013		Soil	S13-No00230				Х	Х							Х																	
26 2.6-2.7	Oct 31, 2013		Soil	S13-No00231						Х																							
25 0.1-0.2	Oct 31, 2013		Soil	S13-No00232						Х																							
25 0.4-0.5	Oct 31, 2013		Soil	S13-No00233	Х																	Χ	Х	Χ		Х	Χ				Χ		
25 1.1-1.2	Oct 31, 2013		Soil	S13-No00234						Х																							
25 3.3-3.4	Oct 31, 2013		Soil	S13-No00235						Х																							
22 0.1-0.2	Oct 31, 2013		Soil	S13-No00236	Х																	Χ	Χ	Χ		Χ	Χ				Χ		
22 0.9-1.0	Oct 31, 2013		Soil	S13-No00237	Х																			Χ									
22 1.7-1.8	Oct 31, 2013		Soil	S13-No00238						Х																							
22 2.7-2.8	Oct 31, 2013		Soil	S13-No00239						Х																						$\perp$	

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boratory	where analysis is o	conducted																														
elbourne	Laboratory - NATA	Site # 1254 & 14271											Х																		Х	
	boratory - NATA Site			Х	Х	Х			Х	Х	Х	Х		Х		Х	Χ	Х	Х	Χ	Х	Χ	Х	Х	Χ	Χ	Х	Χ	Х	Х		Х
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ternal La	aboratory						Х	Х							Х																	
<sup>7</sup> 18 1.0-1	.1 Oct 31, 2013	Soil	S13-No00240	Х		Х	Х	Х			Х	Х			Х	Χ	Χ	Х	Х				Χ		Χ		Χ	Χ	Х	Х		Х
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18 1.0-1 18 1.8-1 22 0.4-0	.5 Oct 31, 2013	Soil	S13-No00242						Х																							
<u>20 0.1-0 20 -</u>		Soil	S13-No00243						Х																							
20 0.4-0	.5 Oct 31, 2013	Soil	S13-No00244	Х																	Χ	Χ	Χ		Χ	Χ	Χ			Х		Χ
20 2.4-2	.5 Oct 31, 2013	Soil	S13-No00245						Х																							
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21 0.1-0	.2 Oct 31, 2013	Soil	S13-No00247	Х																	Χ	Χ	Χ		Χ	Χ				Х		
21 0.4-0		Soil	S13-No00248	X					$\perp$		_												Χ									_
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Phone: 02 8245 0300 Received: Due:

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5 Day Michelle Delandro Contact Name:

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		Sample Detail		% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	Total Phosphorous	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
boratory wh	ere analysis is c	onducted																											П			
elbourne Lat	boratory - NATA	Site # 1254 & 14271											Х																П		Х	
	atory - NATA Site			Х	Х	Χ			Х	Х	Х	Х		Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Χ	Х	Х		Х
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ternal Labor	ratory						Х	Х							Х																	
21 3.4-3.5	Oct 31, 2013	Soil	S13-No00251						Х																							
2.0.1-0.2 <sup>20</sup>	Oct 31, 2013	Soil	S13-No00252	Х																	Х		Х						П			
°19 0.4-0.5	Oct 31, 2013	Soil	S13-No00253	Х																	Х		Х		Χ		Χ		Х	Х		Х
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19 3.9-4.0	Oct 31, 2013	Soil	S13-No00255						Х																							
17 0.9-1.0	Oct 31, 2013	Soil	S13-No00256		Х																											
217 1.8-1.9	Oct 31, 2013	Soil	S13-No00257		Х																											
31 0.1-0.2	Oct 31, 2013	Soil	S13-No00258	Х																	Х		Х									
231 0.9-1.0	Oct 31, 2013	Soil	S13-No00259						Х																							
231 1.4-1.5	Oct 31, 2013	Soil	S13-No00260						Х																				Ш			
230 0.1-0.2	Oct 31, 2013	Soil	S13-No00261	Х																			Х									

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Phone: 02 8245 0300

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Received: Due:

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5 Day Michelle Delandro Contact Name:

BTEX Polychlorinated Biphenyls (PCB) BTEX Unbrait (TRH) - NP  BTEX CanCellie  Sample Detail  Sam	Cation Exchange Capacity  Total Recoverable Hydrocarbons  X
Selbourne Laboratory - NATA Site # 1254 & 14271	
Selbourne Laboratory - NATA Site # 1254 & 14271	
Control of the cont	x 2
isbane Laboratory - NATA Site # 20794 sternal Laboratory  X X X X X X X X X X X X X X X X X X X	
ternal Laboratory X X X X X X X X X X X X X X X X X X X	
00.3-1.0   Oct 31, 2013	
20) 30 1.5-1.6 Oct 31, 2013 Soil S13-No00263 X	
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<sup>2</sup> 19 1.9-2.0 Oct 31, 2013 Soil S13-No00266 X X X X X X X X X X X X X X X X X X	Х
717 0.9-1.0 Oct 31, 2013 Soil S13-No00267 X X X X X X X X X X X X X X X X X X X	X X
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3 Oct 31, 2013 Soil S13-No00310 X X X	
<sup>2</sup> 19 0.9-1.0 Oct 31, 2013 Soil S13-No00737 X	
<sup>2</sup> 19 1.4-1.5 Oct 31, 2013 Soil S13-No00738 X	
20 1.4-1.5 Oct 31, 2013 Soil S13-No00739 X	



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Nov 1, 2013 9:52 AM

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Sample Detail	% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	<u>a</u>	Sulphate (as S)	Sulphur (20 02000)	Total Alkalinity (as CaCO3)	Total Phosphorous	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	Metals M8 filtered	ВТЕХ	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup	ogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Cation Exchange Capacity  Total Recoverable Hydrocarbons	
boratory where analysis is conducted																											
elbourne Laboratory - NATA Site # 1254 & 14271										Χ																>	(
dney Laboratory - NATA Site # 18217	Χ	Х	Х			Χ	Χ	Х	Х		Х		X	Х	x   :	x >	( x	X	Х	Х	Х	Х	Х	Х	Х	Х	X
isbane Laboratory - NATA Site # 20794																											
ternal Laboratory				Χ	Χ							Х															
<sup>2</sup> 20 2.6-2.7 Oct 31, 2013 Soil S13-No00740						Χ																					
21 0.9-1.0 Oct 31, 2013 Soil S13-No00741						Χ																					
<sup>2</sup> 19 0.1-0.2 Oct 31, 2013 Soil S13-No00742						Χ																					
						Χ																					





#### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environment Protection Authority

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%

### **QC DATA GENERAL COMMENTS**

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank					
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	mg/L	< 0.02	0.02	Pass	
TRH C10-C14	mg/L	< 0.05	0.05	Pass	
TRH C15-C28	mg/L	< 0.1	0.1	Pass	
TRH C29-C36	mg/L	< 0.1	0.1	Pass	
Method Blank					
ВТЕХ					
Benzene	mg/L	< 0.001	0.001	Pass	
Toluene	mg/L	< 0.001	0.001	Pass	
Ethylbenzene	mg/L	< 0.001	0.001	Pass	
m&p-Xylenes	mg/L	< 0.002	0.002	Pass	
o-Xylene	mg/L	< 0.001	0.001	Pass	
Xylenes - Total	mg/L	< 0.003	0.003	Pass	
Method Blank		<u> </u>			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene	mg/L	< 0.02	0.02	Pass	
TRH C6-C10	mg/L	< 0.02	0.02	Pass	
TRH C6-C10 less BTEX (F1)	mg/L	< 0.02	0.02	Pass	
TRH >C10-C16	mg/L	< 0.05	0.05	Pass	
TRH >C16-C34	mg/L	< 0.1	0.1	Pass	
TRH >C34-C40	mg/L	< 0.1	0.1	Pass	
Method Blank	IIIg/L	1 10.1	0.1	1 433	
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	mg/L	< 0.001	0.001	Pass	
Acenaphthylene	mg/L	< 0.001	0.001	Pass	
Anthracene	mg/L	< 0.001	0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001	0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001	0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001	0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001	0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001	0.001	Pass	
Chrysene	mg/L	< 0.001	0.001	Pass	
Dibenz(a.h)anthracene		< 0.001	0.001	Pass	
	mg/L	< 0.001	0.001	Pass	
Fluoranthene Fluorene	mg/L				
	mg/L	< 0.001	0.001	Pass	
Indeno(1.2.3-cd)pyrene Naphthalene	mg/L	< 0.001	0.001	Pass	
-	mg/L	< 0.001	0.001	Pass	
Phenanthrene	mg/L	< 0.001	0.001	Pass	
Pyrene Method Blank	mg/L	< 0.001	0.001	Pass	
Method Blank				T	
Organochlorine Pesticides	mc/l	< 0.001	0.004	Page	
Chlordanes - Total	mg/L	< 0.001	0.001	Pass	
4.4'-DDD	mg/L	< 0.0001	0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001	0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001	0.0001	Pass	
a-BHC	mg/L	< 0.0001	0.0001	Pass	
Aldrin	mg/L	< 0.0001	0.0001	Pass	
b-BHC	mg/L	< 0.0001	0.0001	Pass	
d-BHC	mg/L	< 0.0001	0.0001	Pass	
Dieldrin	mg/L	< 0.0001	0.0001	Pass	
Endosulfan I	mg/L	< 0.0001	0.0001	Pass	
Endosulfan II	mg/L	< 0.0001	0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001	0.0001	Pass	



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Test	Units	Result 1	Acceptanc Limits	Pass Limits	Qualifying Code
Endrin	mg/L	< 0.0001	0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001	0.0001	Pass	
Endrin ketone	mg/L	< 0.0001	0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001	0.0001	Pass	
Heptachlor	mg/L	< 0.0001	0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001	0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001	0.0001	Pass	
Methoxychlor	mg/L	< 0.0001	0.0001	Pass	
Toxaphene	mg/L	< 0.01	0.01	Pass	
Method Blank					
Polychlorinated Biphenyls (PCB)					
Aroclor-1016	mg/L	< 0.005	0.005	Pass	
Aroclor-1232	mg/L	< 0.005	0.005	Pass	
Aroclor-1242	mg/L	< 0.005	0.005	Pass	
Aroclor-1248	mg/L	< 0.005	0.005	Pass	
Aroclor-1254	mg/L	< 0.005	0.005	Pass	
Aroclor-1260	mg/L	< 0.005	0.005	Pass	
Total PCB	mg/L	< 0.005	0.005	Pass	
Method Blank					
Heavy Metals					
Arsenic (filtered)	mg/L	< 0.001	0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0001	0.0001	Pass	
Chromium (filtered)	mg/L	< 0.001	0.001	Pass	
Copper (filtered)	mg/L	< 0.001	0.001	Pass	
Lead (filtered)	mg/L	< 0.001	0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001	0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001	0.001	Pass	
Zinc (filtered)	mg/L	< 0.005	0.005	Pass	
LCS - % Recovery	19.=	0.000	0.000		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				$\overline{}$	
TRH C6-C9	%	77	70-130	Pass	
TRH C10-C14	%	86	70-130	Pass	
LCS - % Recovery	70		70 100	1 400	
BTEX				Т	
Benzene	%	88	70-130	Pass	
Toluene	%	90	70-130	Pass	
Ethylbenzene	%	82	70-130	Pass	
m&p-Xylenes	%	92	70-130	Pass	
o-Xylene	%	85	70-130	Pass	
Xylenes - Total	%	89	70-130	Pass	
LCS - % Recovery	/0	09	70-130	Fass	
				Т	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	%	99	70 120	Door	
Naphthalene			70-130	Pass	
TRH C6-C10	%	84	70-130	Pass	
TRH >C10-C16	%	96	70-130	Pass	
LCS - % Recovery					
Polycyclic Aromatic Hydrocarbons	0/	100	70.400	Date	
Acenaphthene	%	102	70-130	Pass	
Acetagonathylene	%	98	70-130	Pass	
Anthracene	%	106	70-130	Pass	
Benz(a)anthracene	%	84	70-130	Pass	
Benzo(a)pyrene	%	91	70-130	Pass	
Benzo(b&j)fluoranthene	%	80	70-130	Pass	
Benzo(g.h.i)perylene	%	88	70-130	Pass	
Benzo(k)fluoranthene	%	99	70-130	Pass	



	Iligi						т	T
Test			Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Chrysene			%	104		70-130	Pass	
Dibenz(a.h)anthracene			%	80		70-130	Pass	
Fluoranthene			%	106		70-130	Pass	
Fluorene			%	102		70-130	Pass	
Indeno(1.2.3-cd)pyrene			%	77		70-130	Pass	
Naphthalene			%	101		70-130	Pass	
Phenanthrene			%	105		70-130	Pass	
Pyrene			%	110		70-130	Pass	
LCS - % Recovery								
Organochlorine Pesticides								
Chlordanes - Total			%	100		70-130	Pass	
4.4'-DDD			%	100		70-130	Pass	
4.4'-DDE			%	100		70-130	Pass	
4.4'-DDT			%	100		70-130	Pass	
a-BHC			%	100		70-130	Pass	
Aldrin			%	100		70-130	Pass	
b-BHC			%	100		70-130	Pass	
d-BHC			%	100		70-130	Pass	
Dieldrin			%	110		70-130	Pass	
Endosulfan I			%	100		70-130	Pass	
Endosulfan II			%	110		70-130	Pass	
Endosulfan sulphate			%	110		70-130	Pass	
Endrin			%	110		70-130	Pass	
Endrin aldehyde			%	100		70-130	Pass	
Endrin ketone			%	110		70-130	Pass	
g-BHC (Lindane)			%	100		70-130	Pass	
Heptachlor			%	100		70-130	Pass	
Heptachlor epoxide			%	100		70-130	Pass	
Hexachlorobenzene			%	100		70-130	Pass	
Methoxychlor			%	120		70-130	Pass	
LCS - % Recovery								
Polychlorinated Biphenyls (PCB)								
Aroclor-1260			%	115		70-130	Pass	
LCS - % Recovery				<u> </u>				
Heavy Metals								
Arsenic (filtered)			%	105		70-130	Pass	
Cadmium (filtered)			%	106		70-130	Pass	
Chromium (filtered)			%	109		70-130	Pass	
Copper (filtered)			%	101		70-130	Pass	
Lead (filtered)			%	103		70-130	Pass	
Mercury (filtered)			<del>%</del>	98		70-130	Pass	
Nickel (filtered)			%	107		70-130	Pass	
Zinc (filtered)		04	%	116		70-130	Pass	Ouglife des
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery				T				
Total Recoverable Hydrocarbons -				Result 1				
TRH C10-C14	S13-No00652	NCP	%	114		70-130	Pass	
Spike - % Recovery					1			
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1				
TRH >C10-C16	S13-No00652	NCP	%	128		70-130	Pass	
TKIT > C 10 - C 10								
Spike - % Recovery								
	<u> </u>			Result 1				
Spike - % Recovery	S13-Oc24820	NCP	%	Result 1		70-130	Pass	



Company   Comp		in 8 c						1		
Benzical parthrapene	Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(philymene	Anthracene	S13-Oc24820			95			70-130	Pass	
Benzeng Billuranthene	Benz(a)anthracene	S13-Oc24820			109			70-130	Pass	
Benzo(All)perylene	Benzo(a)pyrene	S13-Oc24820	NCP		96			70-130	Pass	
Beruso(Nituoramithene	Benzo(b&j)fluoranthene	S13-Oc24820	NCP	%	116			70-130	Pass	
Chrysene	Benzo(g.h.i)perylene	S13-Oc24820	NCP	%	94			70-130	Pass	
Dibenzica   Disparcia   Disp	Benzo(k)fluoranthene	S13-Oc24820	NCP	%	105			70-130	Pass	
Fluoranthene	Chrysene	S13-Oc24820	NCP	%	103			70-130	Pass	
Fluorene	Dibenz(a.h)anthracene	S13-Oc24820	NCP	%	85			70-130	Pass	
Indenot(1.2 3-cd)pyrene	Fluoranthene	S13-Oc24820	NCP	%	114			70-130	Pass	
Naphthalane	Fluorene	S13-Oc24820	NCP	%	107			70-130	Pass	
Pyrene	Indeno(1.2.3-cd)pyrene	S13-Oc24820	NCP	%	95			70-130	Pass	
Pyrene	Naphthalene	S13-Oc24820	NCP	%	104			70-130	Pass	
Pyrene   S13-Oc24820   NCP   %   113					110			70-130		
Heavy Metals				7,0	113					
Arsenic (filtered)					Result 1					
Cadmium (filtered)		S13-No00634	NCP	%				70-130	Pass	
Chromium (filtered)										
Copper (filtered)										
Lead (filtered)	·									
Mercury (filtered)										
Nickel (filtered)	, ,									
Test										
Test										
Code   Code	Zinc (filtered)	S13-No00634		%	91					
Duplicate   Total Recoverable Hydrocarbons - 1999 NEPM Fractions   Result 1   Result 2   RPD	Test	Lab Sample ID	QA	Units	Result 1			Acceptance		Qualifying
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Duplicate									
TRH C6-C9		1999 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C10-C14         S13-No00650         NCP         mg/L         < 0.05         < 0.05         < 1         30%         Pass           TRH C15-C28         S13-No00650         NCP         mg/L         1.5         1.3         9.0         30%         Pass           TRH C29-C36         S13-No00650         NCP         mg/L         < 0.1				ma/l	<u> </u>	<del>                                     </del>		30%	Pass	
TRH C15-C28					<u> </u>	<del>                                     </del>		<del>                                     </del>		
TRH C29-C36						<del>                                     </del>		<del>                                     </del>		
Duplicate   STEX								<del> </del>		
Result 1   Result 2   RPD		010-14000000	1401	IIIg/L	1 0.1	· 0.1	-11	3070	1 433	
Benzene					Posult 1	Popult 2	DDD			
Toluene		C12 No01172	NCD	ma/l		<del>                                     </del>		200/	Doos	
Ethylbenzene         \$13-No01172         NCP         mg/L         < 0.001         < 0.001         < 1         30%         Pass           m&p-Xylenes         \$13-No01172         NCP         mg/L         < 0.002		1						<u> </u>		
m8 <sub>P</sub> -Xylenes         S13-No01172         NCP         mg/L         < 0.002         < 0.002         < 1         30%         Pass           o-Xylene         S13-No01172         NCP         mg/L         < 0.001					i e					
o-Xylene         \$13-No01172         NCP         mg/L         < 0.001         < 0.001         < 1         30%         Pass           Xylenes - Total         \$13-No01172         NCP         mg/L         < 0.003         < 0.003         < 1         30%         Pass           Duplicate           Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Result 1         Result 2         RPD         RPD           Naphthalene         \$13-No01172         NCP         mg/L         < 0.02	,									
Note	<u> </u>									
Duplicate           Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Result 1         Result 2         RPD           Naphthalene         \$13-No01172         NCP         mg/L         < 0.02										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Result 1         Result 2         RPD           Naphthalene         \$13-No01172         NCP         mg/L         < 0.02	,	S13-No01172	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Naphthalene         \$13-No01172         NCP         mg/L         < 0.02         < 0.02         < 1         30%         Pass           TRH C6-C10         \$13-No01172         NCP         mg/L         < 0.02	-				I	1 1				
TRH C6-C10         S13-No01172         NCP         mg/L         < 0.02         < 0.02         < 1         30%         Pass           TRH C6-C10 less BTEX (F1)         S13-No01172         NCP         mg/L         < 0.02					i					
TRH C6-C10 less BTEX (F1)         S13-No01172         NCP         mg/L         < 0.02         < 0.02         < 1         30%         Pass           TRH >C10-C16         S13-No00650         NCP         mg/L         0.060         0.050         18         30%         Pass           TRH >C16-C34         S13-No00650         NCP         mg/L         1.6         1.5         9.0         30%         Pass           TRH >C34-C40         S13-No00650         NCP         mg/L         < 0.1				mg/L						
TRH > C10-C16         S13-No00650         NCP         mg/L         0.060         0.050         18         30%         Pass           TRH > C16-C34         S13-No00650         NCP         mg/L         1.6         1.5         9.0         30%         Pass           TRH > C34-C40         S13-No00650         NCP         mg/L         < 0.1		S13-No01172	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C16-C34         S13-No00650         NCP         mg/L         1.6         1.5         9.0         30%         Pass           TRH >C34-C40         S13-No00650         NCP         mg/L         < 0.1	TRH C6-C10 less BTEX (F1)	S13-No01172	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C34-C40         S13-No00650         NCP         mg/L         < 0.1         < 1         30%         Pass           Duplicate         Polycyclic Aromatic Hydrocarbons           Acenaphthene         S13-Oc24819         NCP         mg/L         < 0.001	TRH >C10-C16	S13-No00650	NCP	mg/L	0.060	0.050	18	30%	Pass	
Duplicate           Polycyclic Aromatic Hydrocarbons         Result 1         Result 2         RPD           Acenaphthene         \$13-Oc24819         NCP         mg/L         < 0.001	TRH >C16-C34	S13-No00650	NCP	mg/L	1.6	1.5	9.0	30%	Pass	
Polycyclic Aromatic Hydrocarbons         Result 1         Result 1         Result 2         RPD           Acenaphthene         \$13-Oc24819         NCP         mg/L         < 0.001	TRH >C34-C40	S13-No00650	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Acenaphthene         \$13-Oc24819         NCP         mg/L         < 0.001         < 0.001         < 1         30%         Pass           Acenaphthylene         \$13-Oc24819         NCP         mg/L         < 0.001	Duplicate									
Acenaphthene         \$13-Oc24819         NCP         mg/L         < 0.001         < 0.001         < 1         30%         Pass           Acenaphthylene         \$13-Oc24819         NCP         mg/L         < 0.001	Polycyclic Aromatic Hydrocarbons	s			Result 1	Result 2	RPD			
Acenaphthylene         S13-Oc24819         NCP         mg/L         < 0.001         < 0.001         <1         30%         Pass           Anthracene         S13-Oc24819         NCP         mg/L         < 0.001			NCP	mg/L	i		<1	30%	Pass	
Anthracene         S13-Oc24819         NCP         mg/L         < 0.001         < 0.001         < 1         30%         Pass           Benz(a)anthracene         S13-Oc24819         NCP         mg/L         < 0.001	'									
Benz(a)anthracene S13-Oc24819 NCP mg/L < 0.001 < 0.001 <1 30% Pass	' '									
	Benzo(a)pyrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	



Duplicate									
Polycyclic Aromatic Hydrocar	bons			Result 1	Result 2	RPD			
Benzo(b&j)fluoranthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S13-No00633	NCP	mg/L	< 0.001	0.0010	5.0	30%	Pass	
Cadmium (filtered)	S13-No00633	NCP	mg/L	0.00090	0.00080	5.0	30%	Pass	
Chromium (filtered)	S13-No00633	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S13-No00633	NCP	mg/L	0.0090	0.0090	<1	30%	Pass	
Lead (filtered)	S13-No00633	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	S13-No00633	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S13-No00633	NCP	mg/L	0.015	0.015	2.0	30%	Pass	
Zinc (filtered)	S13-No00633	NCP	mg/L	0.032	0.032	1.0	30%	Pass	



### Comments

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

### **Qualifier Codes/Comments**

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

#### **Authorised By**

N07

Jean Heng Client Services

 James Norford
 Senior Analyst-Metal (NSW)

 Ryan Hamilton
 Senior Analyst-Organic (NSW)

 Ryan Hamilton
 Senior Analyst-Volatile (NSW)

### Dr. Bob Symons Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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Lopet #398304

PROJECT NO.: PROJECT NO.: PROJECT NO.: PROJECT NO.: PROJECT NO.: SAMPLE 10  SAMPLE 10  TP 16 0.1-0.2  TP 15 0.1-0.2  TP 15 0.1-0.2  TP 14 0.4-0.5  TP 15 0.1-0.2  TP 15 0.1-0.3  TP 15 0.1	CHAIN OF CUSTODY  CHAIN OF CUSTODY  LABORATORY BATCH NO. SAMPLERS SEND INVOICE TO: OPEN PROVE. WE STAND SOON EMAIL!	IE TYPE & PRESERVATIVE DH		X	X   X   X   X   X   X   X   X   X   X				RECEIVED BY:	OF:	UFF 6
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OF: JBS&G		TRAN	SPORT	TRANSPORT CO.			0	ij.							COOLER TEMP deg C	EMP	dea C		
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OF: Container & Preservative Codes: 6 - Section 1 - Cod Land Codes		TRAN	SPORT	8			O	OF:						ជ	COOLER TEMP	EMP	Oeg C		
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BY: Sea. D. 1/4/3 9:52

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e.mail : EnviroSales@eurofins.com.au

web: www.eurofins.com.au

Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

**Brisbane**1/21 Smallwood Place
Murarrie QLD 4172
Phone: +61 7 3902 4600
NATA # 1261 Site # 20794

# Sample Receipt Advice

Company name: JBS & G (NSW & WA) Pty Ltd

Contact name: Michelle Delandro

Client job number: EXTERNAL: URBAN GROWTH 43008

COC number: Not provided Turn around time: 10 Day

Date/Time received: Nov 1, 2013 9:52 AM

Eurofins | mgt reference: 398304

# Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 14 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Organic samples had Teflon liners.
- ✓ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

#### **Notes**

Parent report 398243 | Anlaysis performed by Environmental Pathogens Canberra

# **Contact notes**

If you have any questions with respect to these samples please contact:

Jean Heng on Phone: (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Michelle Delandro - MDelandro@jbsg.com.au.

# Eurofins | mgt Sample Receipt



Environmental Laboratory Air Analysis Water Analysis Soil Contamination Analysis NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



eurofins 🔅

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: EXTERNAL: URBAN GROWTH 43008 Order No.: Report #:

398304

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 15, 2013

Priority:

10 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

		Sample Detail			Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)	Helminth Ova							
boratory who	poratory where analysis is conducted												
Ibourne Laboratory - NATA Site # 1254 & 14271													
dney Laboratory - NATA Site # 1234 & 1427 I													
isbane Laboi	ratory - NATA Si	te # 20794											
ternal Labor	atory				Х	Χ							
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
16 2.7-2.8	Oct 31, 2013		Soil	S13-No00568	Х	Χ							
26 0.9-1.0	Oct 31, 2013		Soil	S13-No00569	Х	Χ							
18 1.0-1.1	Oct 31, 2013		Soil	S13-No00570	Х	Χ							
18 1.8-1.9	Oct 31, 2013		Soil	S13-No00571	Х	Χ							
19 1.9-2.0	Oct 31, 2013		Soil	S13-No00572	Х	Χ							
17 0.9-1.0	Oct 31, 2013		Soil	S13-No00573	Х	Χ							
17 1.8-1.9	Oct 31, 2013		Soil	S13-No00574	Х	Χ							



# **Environmental** pathogens

Sefton McGraw Eurofins Environment Testing Australia P/L PO Box 276 Oakleigh VIC 3166 ph 03 95647055 fax 03 95647190

# Final Report - 08/11/13

Seven biosolid samples were received and analysed for Viruses as requested.

For virus detection -20g of sample was dissolved in buffer and processed by PEG precipitation and analysed by cell culture.

All samples are processed according to methods WI 300, WI 429, WI 500-561 inclusive as appropriate.

All controls were valid. (<1 denotes viruses not detected.) The results are shown in the following table.

# VIRUSES DETECTED BY CELL CULTURE

Sample	Date	Laboratory	Viruses	Number of
Identification	Sampled	Number	isolated in	Viruses detected
			Cell Culture	Per 10 grams
No00568	01/11/13	13-0509	Reovirus	<1
	1		Enterovirus	<1
			Adenovirus	<1
No00569	01/11/13	13-0510	Reovirus	<1
	1		Enterovirus	<1
		1	Adenovirus	<1
No00570	01/11/13	13-0511	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<
No00571	01/11/13	13-0512	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<1
No00572	01/11/13	13-0513	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<1
No00573	01/11/13	13-0514	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<1
No00574	01/11/13	13-0515	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<1

Dr. G. S. Grohmann Principal Consultant

Ref.c:\puthogens\mgt\081113 rep

Page 1 of 1

Canberra Sydney Tel/fax 61.2.6247 0982 Tel/fax 61.2.9449 6901 Mobile 0419 414 572



JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Michelle Delandro

Report 398304-S

Client Reference EXTERNAL: URBAN GROWTH 43008

Received Date Nov 01, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TP16 2.7-2.8 Soil S13-No00568 Oct 31, 2013	TP26 0.9-1.0 Soil S13-No00569 Oct 31, 2013	TP18 1.0-1.1 Soil S13-No00570 Oct 31, 2013	TP18 1.8-1.9 Soil S13-No00571 Oct 31, 2013
Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)						
Helminth Ova						

Client Sample ID Sample Matrix Eurofins   mgt Sample No.			TP19 1.9-2.0 Soil S13-No00572	TP17 0.9-1.0 Soil S13-No00573	TP17 1.8-1.9 Soil S13-No00574
Date Sampled Test/Reference	LOR	Unit	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)					
Helminth Ova					



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

DescriptionTesting SiteExtractedHolding TimeHelminth OvaSydneyNov 01, 20130 Day

Report Number: 398304-S

eurofins 🔅

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: EXTERNAL: URBAN GROWTH 43008 Order No.: Report #:

398304

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 9:52 AM Nov 15, 2013

Priority:

10 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

		Sample Detail			Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)	Helminth Ova							
boratory who	poratory where analysis is conducted												
Ibourne Laboratory - NATA Site # 1254 & 14271													
dney Laboratory - NATA Site # 1234 & 1427 I													
isbane Laboi	ratory - NATA Si	te # 20794											
ternal Labor	atory				Х	Χ							
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
16 2.7-2.8	Oct 31, 2013		Soil	S13-No00568	Х	Χ							
26 0.9-1.0	Oct 31, 2013		Soil	S13-No00569	Х	Χ							
18 1.0-1.1	Oct 31, 2013		Soil	S13-No00570	Х	Χ							
18 1.8-1.9	Oct 31, 2013		Soil	S13-No00571	Х	Χ							
19 1.9-2.0	Oct 31, 2013		Soil	S13-No00572	Х	Χ							
17 0.9-1.0	Oct 31, 2013		Soil	S13-No00573	Х	Χ							
17 1.8-1.9	Oct 31, 2013		Soil	S13-No00574	Х	Χ							



#### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

## **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance quidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

#### OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Report Number: 398304-S



### Comments

Helminth ova and Enteric viruses analysed by Environmental Pathogens

### Sample Integrity

Custody Seals Intact (if used)	N/A
	Yes
Attempt to Chill was evident	
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

# **Authorised By**

Jean Heng Client Services

Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Report Number: 398304-S

Sefton McGraw Eurofins Environment Testing Australia P/L PO Box 276 Oakleigh VIC 3166 ph 03 95647055 fax 03 95647190

## **Final Report – 14/11/13**

Three biosolid samples were received and analysed for Viruses as requested.

For virus detection  $\sim$ 20g of sample was dissolved in buffer and processed by PEG precipitation and analysed by cell culture.

All samples are processed according to methods WI 300, WI 429, WI 500-561 inclusive as appropriate.

All controls were valid. (<1 denotes viruses not detected.) The results are shown in the following table.

# VIRUSES DETECTED BY CELL CULTURE

Sample	Date	Laboratory	Viruses	Number of
Identification	Sampled	Number	isolated in	Viruses detected
			Cell Culture	Per 10 grams
No00922	04/11/13	13-0521	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<1
No00923	04/11/13	13-0522	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<1
No00924	04/11/13	13-0523	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<1

Dr. G. S. Grohmann Principal Consultant

Ref:c:\pathogens\mgt\141113.rep

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EXTERNAL, 398367

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PROJECT NAME: (Y.D.A.) (MOLLAND. SEN SEN REPORT TO: SEN DATE NEEDED BY: COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: MATRIX DATE 30/10/13 RELINQUISHED BY:

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tharding@jbsg.con.ev ellu@gbsg.con.dy.con.ev mdeldydno@jpsg.con.ev

CHAIN OF CUSTODY

#398113 **MABSEG** 

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EXTLEMP. # 398367

From: Thomas Harding [mailto:THarding@jbsg.com.au]

Sent: Friday, 1 November 2013 8:17 AM

**To:** Jean Heng **Subject:** Ed Park

Jean,

The auditor works these works would like to include the following analysis for all the biological works:

· enteric viruses and helminth ova

Apologies, we were only told this morning.

Thank you

Tom

MS # 398367



Tom Harding | Hydrogeologist | JBS&G Sydney | Melbourne | Adelaide | Perth | Brisbane Level 1, 50 Margaret Street Sydney NSW 2000

T: 02 8245 0300 | M: 0418 560 381 | www.jbsg.com.au

Contaminated Land | Groundwater Remediation | Auditing and Compliance | Assessments and Approvals | Occupational Hygiene and Monitoring

If you would like to send through large electronic files (>25MB), please use JBS&G's secure internet-based file delivery system located at <a href="http://dropbox.yousendit.com/JBSG">http://dropbox.yousendit.com/JBSG</a>. Place "Tom Harding - Sydney' in the subject.

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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: EXTERNAL: URBAN GROWTH 43008 Order No.: Report #:

398367

Phone: 02 8245 0300

Fax:

Received: Oct 31, 2013 11:20 PM Due: Nov 8, 2013

Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

			Sample Detail			Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)	Helminth Ova						
b	boratory where analysis is conducted												
əlk	oourne Lab	oratory - NATA S	Site # 1254 & 14	271									
/di	ney Labora	tory - NATA Site	# 18217										
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Sa M	ample ID	Sample Date	Sampling Time	Matrix	LAB ID								
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·0	4 3.6-3.7	Oct 30, 2013		Soil	S13-No00923	Х	Х						
20	9 0.1-0.2	Oct 30, 2013		Soil	S13-No00924	Х	Х						





JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Michelle Delandro

Report 398367-S

Client Reference EXTERNAL: URBAN GROWTH 43008

Received Date Oct 31, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TP01 1.9-2.0 Soil S13-No00922 Oct 30, 2013	TP04 3.6-3.7 Soil S13-No00923 Oct 30, 2013	TP09 0.1-0.2 Soil S13-No00924 Oct 30, 2013
	'				
Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)					
Helminth Ova					



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

DescriptionTesting SiteExtractedHolding TimeHelminth OvaSydneyNov 01, 20130 Day

Report Number: 398367-S

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: EXTERNAL: URBAN GROWTH 43008 Order No.: Report #:

398367

Phone: 02 8245 0300

Fax:

Received: Oct 31, 2013 11:20 PM Due: Nov 8, 2013

Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

			Sample Detail			Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)	Helminth Ova
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·0	4 3.6-3.7	Oct 30, 2013		Soil	S13-No00923	Х	Х
20	9 0.1-0.2	Oct 30, 2013		Soil	S13-No00924	Х	Х





#### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

 mg/kg: milligrams per Kilogram
 mg/l: milligrams per litre

 ug/l: micrograms per litre
 ppm: Parts per million

 ppb: Parts per billion
 %: Percentage

 org/100ml: Organisms per 100 millilitres
 NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate**A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

## **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

#### OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Report Number: 398367-S



## Comments

Viruses analysed by Environmental Pathogens

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	No
Some samples have been subcontracted	No

# **Authorised By**

Jean Heng Client Services

Dr. Bob Symons Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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Report Number: 398367-S

Sefton McGraw Eurofins Environment Testing Australia P/L PO Box 276 Oakleigh VIC 3166 ph 03 95647055 fax 03 95647190

## **Final Report – 15/11/13**

Four biosolid samples were received and analysed for Viruses as requested.

For virus detection  $\sim$ 20g of sample was dissolved in buffer and processed by PEG precipitation and analysed by cell culture.

All samples are processed according to methods WI 300, WI 429, WI 500-561 inclusive as appropriate.

All controls were valid. (<1 denotes viruses not detected.) The results are shown in the following table.

# VIRUSES DETECTED BY CELL CULTURE

Sample Identification	Date Sampled	Laboratory Number	Viruses isolated in Cell Culture	Number of Viruses detected Per 10 grams
No01401	04/11/13	13-0528	Reovirus Enterovirus Adenovirus	<1 <1 <1
No01402	04/11/13	13-0529	Reovirus Enterovirus Adenovirus	<1 <1 <1
No01403	04/11/13	13-0530	Reovirus Enterovirus Adenovirus	<1 <1 <1
No01404	04/11/13	13-0531	Reovirus Enterovirus Adenovirus	<1 <1 <1

Dr. G. S. Grohmann Principal Consultant

 $Ref:c:\pathogens\mgt\151113.rep$ 

Page 1 of 1

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ABN - 50 005 085 521

e.mail : EnviroSales@eurofins.com.au

web: www.eurofins.com.au

Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794

# Sample Receipt Advice

Company name: JBS & G (NSW & WA) Pty Ltd

Contact name: Thomas Harding

Client job number: EXTERNAL : URBAN GROWTH 43008

COC number: Not provided Turn around time: 10 Day

Date/Time received: Nov 1, 2013 5:15 PM

Eurofins | mgt reference: 398436

# Sample information

- A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 9.5 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Organic samples had Teflon liners.
- ✓ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

#### **Notes**

Parent report 398440 | Anlaysis performed by Environmental Pathogens Canberra

# **Contact notes**

If you have any questions with respect to these samples please contact:

Jean Heng on Phone: (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Thomas Harding - tharding@jbsg.com.au.

# Eurofins | mgt Sample Receipt



Environmental Laboratory Air Analysis Water Analysis Soil Contamination Analysis NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



Company Name: Address:

JBS & G (NSW & WA) Pty Ltd

Level 1, 50 Margaret St

Sydney

NSW 2000

EXTERNAL: URBAN GROWTH 43008 Client Job No.:

Order No.:

Report #: 398436

Phone:

Fax:

Helminth Ova

Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)

02 8245 0300

Received: Due:

Nov 1, 2013 5:15 PM

Nov 18, 2013 10 Day Priority:

Contact Name: Thomas Harding

**Eurofins | mgt Client Manager: Jean Heng** 

Sample Detail

boratory where analysis is conducted elbourne Laboratory - NATA Site # 1254 & 14271

dney Laboratory - NATA Site # 18217

isbane Laboratory - NATA Site # 20794

ternal Laboratory

Χ Χ Sampling Time Sample ID Sample Date Matrix LAB ID 232 7.9-8.0 Nov 01, 2013 Soil S13-No01401 Χ Χ Χ 33 0.1-0.2 Nov 01, 2013 Soil S13-No01402 Χ Soil Χ Χ 34 0.1-0.2 Nov 01, 2013 S13-No01403 S13-No01404 Nov 01, 2013 Soil 35 0.1-0.2





JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Thomas Harding

Report 398436-S

Client Reference EXTERNAL: URBAN GROWTH 43008

Received Date Nov 01, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP32 6.9-7.0 Soil S13-No01401 Nov 01, 2013	TP33 0.1-0.2 Soil S13-No01402 Nov 01, 2013	TP34 0.1-0.2 Soil S13-No01403 Nov 01, 2013	TP35 0.1-0.2 Soil S13-No01404 Nov 01, 2013
Test/Reference	LOR	Unit				
Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)			see attached	see attached	see attached	see attached
Helminth Ova			see attached	see attached	see attached	see attached



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

DescriptionTesting SiteExtractedHolding TimeHelminth OvaSydneyNov 04, 20130 Day

Report Number: 398436-S

Company Name: Address:

JBS & G (NSW & WA) Pty Ltd

Level 1, 50 Margaret St

Sydney

NSW 2000

EXTERNAL: URBAN GROWTH 43008 Client Job No.:

Order No.:

Report #: 398436

Phone:

Fax:

Helminth Ova

Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)

02 8245 0300

Received: Due:

Nov 1, 2013 5:15 PM

Nov 18, 2013 10 Day Priority:

Contact Name: Thomas Harding

**Eurofins | mgt Client Manager: Jean Heng** 

Sample Detail

boratory where analysis is conducted elbourne Laboratory - NATA Site # 1254 & 14271

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Χ Χ Sampling Time Sample ID Sample Date Matrix LAB ID 232 7.9-8.0 Nov 01, 2013 Soil S13-No01401 Χ Χ Χ 33 0.1-0.2 Nov 01, 2013 Soil S13-No01402 Χ Soil Χ Χ 34 0.1-0.2 Nov 01, 2013 S13-No01403 S13-No01404 Nov 01, 2013 Soil 35 0.1-0.2





#### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

## **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance quidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

#### OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Report Number: 398436-S



## Comments

Virus/Helminth analysed by Environmental Pathogen;

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

# **Authorised By**

Jean Heng Client Services

Dr. Bob Symons Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Report Number: 398436-S

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EUROFINS ENVIRONMENT TESTING AUSTRALIA P/L UNIT F3 PARK VIEW BUILDING 16 MARS ROAD LANE COVE NSW, 2066

Attention: Jean Heng

# **CERTIFICATE OF ANALYSIS**

Our Ref No: FS1333747 Your Ref: 13-827-398440

Report Date: 11 Nov 2013. Project:

Overall Description: Soil Samples

Samples Received: 05 Nov 2013 at 13:17 hrs. Testing Commenced: 05 Nov 2013 at 17:30 hrs.

This report cannot be reproduced except in full, without written approval from the laboratory. Samples tested as received into the laboratory.

Sample Details: Test Description		Results	Units	Site
001 Client ID: TP32 6.9	-7.0 Eurofin/MGT ID: No01491 (NATA A	Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW
002 Client ID: TP33 0.1	-0.2 Eurofin/MGT ID: No01494 (NATA A	Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW
003 Client ID: TP34 0.1	-0.2 Eurofin/MGT ID: No01495 (NATA A	Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW
004 Client ID: TP35 0.1	-0.2 Eurofin/MGT ID: No01496 (NATA A	Accredited)		
WM0001	Salmonella spp	N/D	in 25g	NSW
WM0010	E. coli	<2.0	MPN/g	NSW
WM0010	Faecal Coliforms	<2.0	MPN/g	NSW

NATA: NSW - 1247 (site: 2040) TGA: NSW - MI- 2012 - LI - 05733 - 3 VIC - 1247 (sites: 1240, 16438, 16566)

VIC - MI-2012 - LI - 06776 - 3

Page 1 of 2

**APVMA: NSW** - 6179

VIC - 6181

Accredited for compliance with ISO/IEC 17025

10/2-8 South Street, Rydalmere NSW 2116 Phone: +61 2 8832 7500 Fax: +61 2 9898 3472 Food & Pharmaceutical. An ALS Limited Company



Your Ref: 13-827-398440 **Our Ref No:** FS1333747

Report Date: 11 Nov 2013.

**Signatories** 

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories Accreditation Category Position

Tina Papadopoulos Laboratory Manager - Microbiology Water Microbiology



**General Comments** 

NATA: NSW - 1247 (site: 2040) TGA: **NSW** - MI- 2012 - LI - 05733 - 3

**APVMA: NSW** - 6179

VIC - 1247 (sites: 1240, 16438, 16566) **VIC** - MI-2012 - LI - 06776 - 3

VIC - 6181

Page 2 of 2

Accredited for compliance with ISO/IEC 17025

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web: www.eurofins.com.au

Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

**Brisbane**1/21 Smallwood Place
Murarrie QLD 4172
Phone: +61 7 3902 4600
NATA # 1261 Site # 20794

# Sample Receipt Advice

Company name: JBS & G (NSW & WA) Pty Ltd

Contact name: Michelle Delandro

Client job number: URBAN GROWTH 43008

COC number: Not provided

Turn around time: 5 Day

Date/Time received: Nov 1, 2013 5:15 PM

Eurofins | mgt reference: 398440

## Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 9.5 degrees Celsius.
- All samples have been received as described on the above COC.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Organic samples had Teflon liners.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✓ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

### **Notes**

Asbestos conducted at Envirolab | Microbiological analysis conducted at ALS | QS004A forwarded to Envirolab and Pickford as requested | QS003, QA003A and TP29 1.9-2.0 not received, analysis cancelled | TP33 0.1-0.2, TP34 0.1-0.2 and TP35 0.1-0.2 doubled up on the COC, one set removed | One bag labeled as TP34, not found on COC, thus placed on hold

### **Contact notes**

If you have any questions with respect to these samples please contact:

Jean Heng on Phone : (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Michelle Delandro - MDelandro@jbsg.com.au.



eurofins 🔅

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.:

Report #: 398440

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 5:15 PM Nov 11, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
		ere analysis is c																											$\sqcup$	$\vdash$	$\vdash$	
		oratory - NATA		271											Х									1	1				$\vdash \vdash$	$\vdash$	Х	
		atory - NATA Site				Х	X	Х			Χ	Χ	Χ	Х		Х	Χ		Х	Χ	Х	Х	Х	X	Х	Х	Х	Χ	Х	Х	$\vdash$	Х
		ratory - NATA Si	te # 20794				-																		1				$\vdash \vdash$	$\vdash$	$\vdash$	
_	rnal Labor						-		Х	Χ								Х											$\vdash\vdash$		$\vdash$	
ຼ Sa ໝ	imple ID	Sample Date	Sampling Time	Matrix	LAB ID																											
25. =	0.1-0.2	Nov 01, 2013		Soil	S13-No01465	X																	Χ	X	Х	Χ	Х		Ш	Х		
229	0.4-0.5	Nov 01, 2013		Soil	S13-No01466						Χ																		Ш			
229	1.4-1.5	Nov 01, 2013		Soil	S13-No01467						Х																		Ш			
229	1.9-2.0	Nov 01, 2013		Soil	S13-No01468		Х																						Ш			
229	2.4-2.5	Nov 01, 2013		Soil	S13-No01469						Χ																		Ш			
229	2.9-3.0	Nov 01, 2013		Soil	S13-No01470	Х						Χ			Χ	Х													Ш		Х	
300	03	Nov 01, 2013		Soil	S13-No01471		Х																						Ш	Ш	Ш	
300	03A	Nov 01, 2013		Soil	S13-No01472		Х																						Ш		ш	
27	7 0.1-0.2	Nov 01, 2013		Soil	S13-No01473						Χ													$\perp$	<u> </u>				Ш	Ш	ш	
27	7 0.4-0.5	Nov 01, 2013		Soil	S13-No01474	Х																	Χ		Х	Χ		Χ	ш	X	ш	Χ



Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398440

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 5:15 PM Nov 11, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
bo	oratory who	ere analysis is c	onducted																											<u> </u>	$\longrightarrow$	
_		oratory - NATA		271											Х															<u> </u>	Х	
		tory - NATA Site				Х	Х	Х			Χ	Χ	Х	Х		X	Χ		Х	Х	Х	Х	Χ	X	Х	Х	Х	Х	Х	Х	$\vdash$	X
		ratory - NATA Si	ite # 20794																											<u> </u>	$\vdash$	
_	rnal Labor		1	Г					Х	Χ								Х												<u> </u>	$\vdash$	
	7 0.9-1.0	Nov 01, 2013		Soil	S13-No01475						Χ																			<u> </u>	$\vdash$	
	7 2.4-2.5	Nov 01, 2013		Soil	S13-No01476						Χ																	-		$\vdash$	$\longmapsto$	
	4 0.1-0.2	Nov 01, 2013		Soil	S13-No01477	Х																			Х			-		$\vdash$	$\longmapsto$	
	7 0.4-0.5	Nov 01, 2013		Soil	S13-No01478						Χ																			$\vdash$	$\longrightarrow$	
	4 1.4-1.5	Nov 01, 2013		Soil	S13-No01479						Χ																	-		$\vdash \vdash$	$\longmapsto$	
_	4 2.4-2.5	Nov 01, 2013		Soil	S13-No01480						Χ																			<u> </u>	$\vdash$	
_	3 0.1-0.2	Nov 01, 2013		Soil	S13-No01481	Х																	Х	Х	Х	Χ	Х			Х	$\longmapsto$	
	2 0.1-0.2	Nov 01, 2013		Soil	S13-No01482						Χ																			<u> </u>	$\longmapsto$	
	2 0.4-0.5	Nov 01, 2013		Soil	S13-No01483	Х																			Х					<u> </u>	$\longmapsto$	
	2 0.9-1.0	Nov 01, 2013		Soil	S13-No01484						Χ																			<u> </u>	$\longmapsto$	
232	2 1.4-1.5	Nov 01, 2013		Soil	S13-No01485						Χ																				Ш	

Company Name: JBS & G (NSW & WA) Pty Ltd

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			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	ВТЕХ	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
ıb	oratory who	ere analysis is c	onducted																													
		oratory - NATA		271											Х																Х	
		tory - NATA Site				Х	Х	Х			Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
		ratory - NATA Si																														
cto	ernal Labora	atory							Х	Х								Х														
'3	32 2.4-2.5	Nov 01, 2013		Soil	S13-No01486						Х																					
<b>20</b> 3	32 3.4-3.5	Nov 01, 2013		Soil	S13-No01487						Х																					
-		Nov 01, 2013		Soil	S13-No01488						Х																					
_ 23	32 5.4-5.5	Nov 01, 2013		Soil	S13-No01489						Χ																					
23	32 6.4-6.5	Nov 01, 2013		Soil	S13-No01490						Χ																					
23	32 6.9-7.0	Nov 01, 2013		Soil	S13-No01491				Χ	Х								Χ														
23	32 7.9-8.0	Nov 01, 2013		Soil	S13-No01492	Х		Х					Х	Х			Χ		Χ	Х	Χ								Х			
23	32 9.9-10.0	Nov 01, 2013		Soil	S13-No01493						Χ																					
23	33 0.1-0.2	Nov 01, 2013		Soil	S13-No01494				Χ	Х								Χ														
23	34 0.1-0.2	Nov 01, 2013		Soil	S13-No01495				Χ	Х								Χ						<u> </u>							$\sqcup$	
23	35 0.1-0.2	Nov 01, 2013		Soil	S13-No01496				Χ	Х								Χ													Ш	

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398440

Phone: 02 8245 0300

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Nov 1, 2013 5:15 PM Nov 11, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
bo	ratory whe	ere analysis is c	onducted																													
		oratory - NATA		271											Х																Х	
		tory - NATA Site				Х	Х	X			Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		X
		ratory - NATA Si																														
	rnal Labora								Х	Х								Х														
		Nov 01, 2013		Soil	S13-No01497						Х																					
		Nov 01, 2013		Soil	S13-No01498						Х																					
		Nov 01, 2013		Water	S13-No01502																		Х	Х	Х	Χ	Х			Х		
<u> - 313</u>	31029-2	Oct 29, 2013		Soil	S13-No01503																	Х				Χ						
313	31029-2	Oct 29, 2013		Soil	S13-No01504																	Х				Χ						
218	3 0.4-0.5	Oct 29, 2013		Soil	S13-No01505						Χ																					
229	0.9-1	Oct 29, 2013		Soil	S13-No01506						Χ																					
30	04	Oct 29, 2013		Soil	S13-No01507	Х																	Χ	Χ	Χ	Χ	Χ			Х		
3LA	AB131029-	Oct 29, 2013		Soil	S13-No01508																	Х				Х						
234	;	Oct 29, 2013		Soil	S13-No01955						Χ																					



JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Thomas Harding

Report 398440-S

Client Reference URBAN GROWTH 43008

Received Date Nov 01, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID			TP29 0.1-0.2	TP29 2.9-3.0	TP27 0.4-0.5	TP24 0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No01465	S13-No01470	S13-No01474	S13-No01477
Date Sampled			Nov 01, 2013	Nov 01, 2013	Nov 01, 2013	Nov 01, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM	Fractions					
TRH C6-C9	20	mg/kg	< 20	-	< 20	-
TRH C10-C14	20	mg/kg	< 20	-	< 20	-
TRH C15-C28	50	mg/kg	< 50	-	< 50	-
TRH C29-C36	50	mg/kg	< 50	-	< 50	-
TRH C10-36 (Total)	50	mg/kg	< 50	-	< 50	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	120	-	117	-
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	-	< 0.5	-
TRH C6-C10	20	mg/kg	< 20	-	< 20	-
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	-	< 20	-
TRH >C10-C16	50	mg/kg	< 50	-	< 50	_
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	-	< 50	-
TRH >C16-C34	100	mg/kg	< 100	-	< 100	_
TRH >C34-C40	100	mg/kg	< 100	-	< 100	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	_



Client Sample ID Sample Matrix			TP29 0.1-0.2 Soil	TP29 2.9-3.0 Soil	TP27 0.4-0.5 Soil	TP24 0.1-0.2 Soil
· ·						
Eurofins   mgt Sample No.			S13-No01465	S13-No01470	S13-No01474	S13-No01477
Date Sampled			Nov 01, 2013	Nov 01, 2013	Nov 01, 2013	Nov 01, 2013
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Phenanthrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PAH	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	-	0.6	-
2-Fluorobiphenyl (surr.)	1	%	88	-	93	-
p-Terphenyl-d14 (surr.)	1	%	75	-	72	-
Organochlorine Pesticides		-				
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	_	_	_
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	_	_	_
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	_	_	_
g-BHC (Lindane)	0.05	mg/kg	< 0.05	_	_	_
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	_	_	_
Hexachlorobenzene	0.05	mg/kg	< 0.05	_	_	_
Methoxychlor	0.2	mg/kg	< 0.2	_	_	_
Toxaphene	1	mg/kg	< 1	_	_	_
Dibutylchlorendate (surr.)	1	%	97	_	_	_
Tetrachloro-m-xylene (surr.)	1	%	112	_	_	_
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	_	_	_
Aroclor-1232	0.5	mg/kg	< 0.5	_	_	_
Aroclor-1242	0.5	mg/kg	< 0.5	_	_	_
Aroclor-1248	0.5	mg/kg	< 0.5	_	_	_
Aroclor-1254	0.5	mg/kg	< 0.5	_	_	_
Aroclor-1260	0.5	mg/kg	< 0.5	_	_	_
Total PCB	0.5	mg/kg	< 0.5	_	_	_
Dibutylchlorendate (surr.)	1	%	97	_	_	_
Petroleum Hydrocarbons Silica Cleanup (TPH)	<u> </u>	1 /	Ţ.			
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	_	_	< 50	_
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	_	-	< 100	_
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	_	-	< 100	_
TRH after Silica Cleanup (NEPM) *	1 100	i mg/kg	_	_	- 100	_
	50	malka			_ <u> </u>	
TRH >C10-C16 after Silica Cleanup TRH >C16-C34 after Silica Cleanup	50	mg/kg	-	-	< 50	-
	100	mg/kg	-	-	< 100	-
TRH >C34-C40 after Silica Cleanup	100	mg/kg	-	-	< 100	-



Client Sample ID Sample Matrix Eurofins   mgt Sample No.			TP29 0.1-0.2 Soil S13-No01465	TP29 2.9-3.0 Soil S13-No01470	TP27 0.4-0.5 Soil S13-No01474	TP24 0.1-0.2 Soil S13-No01477
Date Sampled			Nov 01, 2013	Nov 01, 2013	Nov 01, 2013	Nov 01, 2013
Test/Reference	LOR	Unit				
	1	T				
Organic Matter %	0.01	% w/w	-	4.2	-	-
pH (1:5 Aqueous extract)	0.1	units	-	8.5	-	-
% Moisture	0.1	%	14	17	17	11
Cation Exchange Capacity						
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	-	120	-	-
Cation Exchange Capacity	0.05	meq/100g	-	17	-	-
Heavy Metals						
Arsenic	2	mg/kg	6.0	-	3.6	5.2
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	0.4
Chromium	5	mg/kg	8.4	-	11	27
Copper	5	mg/kg	16	-	13	44
Iron	5	mg/kg	-	17000	-	-
Lead	5	mg/kg	10	-	6.3	19
Mercury	0.05	mg/kg	< 0.05	-	< 0.05	0.56
Nickel	5	mg/kg	< 5	-	< 5	20
Zinc	5	mg/kg	34	-	9.8	68

Client Sample ID Sample Matrix			TP23 0.1-0.2 Soil	TP32 0.4-0.5 Soil	TP32 6.9-7.0 Soil	TP32 7.9-8.0 Soil
Eurofins   mgt Sample No.			S13-No01481	S13-No01483	S13-No01491	S13-No01492
Date Sampled			Nov 01, 2013	Nov 01, 2013	Nov 01, 2013	Nov 01, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM	Fractions					
TRH C6-C9	20	mg/kg	< 20	-	-	-
TRH C10-C14	20	mg/kg	< 20	-	-	-
TRH C15-C28	50	mg/kg	< 50	-	_	_
TRH C29-C36	50	mg/kg	< 50	-	_	_
TRH C10-36 (Total)	50	mg/kg	< 50	-	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	-
4-Bromofluorobenzene (surr.)	1	%	117	-	-	_
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	-	-	-
TRH C6-C10	20	mg/kg	< 20	-	-	_
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	-	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-	_
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	-	-	_
TRH >C16-C34	100	mg/kg	< 100	-	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-	-



Client Sample ID			TP23 0.1-0.2	TP32 0.4-0.5	TP32 6.9-7.0	TP32 7.9-8.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No01481	S13-No01483	S13-No01491	S13-No01492
Date Sampled			Nov 01, 2013	Nov 01, 2013	Nov 01, 2013	Nov 01, 2013
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons	'					
Acenaphthene	0.5	mg/kg	< 0.5	-	_	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	_	-
Anthracene	0.5	mg/kg	< 0.5	-	_	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	_
Pyrene	0.5	mg/kg	< 0.5	-	-	_
Total PAH	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ*	0.5	mg/kg	0.6	-	-	-
2-Fluorobiphenyl (surr.)	1	%	103	-	-	-
p-Terphenyl-d14 (surr.)	1	%	76	-	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.2	mg/kg	< 0.2	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-
Dibutylchlorendate (surr.)	1	%	100	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	110	-	-	-
Polychlorinated Biphenyls (PCB)	T					
Aroclor-1016	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	-	-



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Client Sample ID			TP23 0.1-0.2	TP32 0.4-0.5	TP32 6.9-7.0	TP32 7.9-8.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No01481	S13-No01483	S13-No01491	S13-No01492
Date Sampled			Nov 01, 2013	Nov 01, 2013	Nov 01, 2013	Nov 01, 2013
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls (PCB)						
Aroclor-1248	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	-	-
Total PCB	0.5	mg/kg	< 0.5	-	-	-
Dibutylchlorendate (surr.)	1	%	100	-	-	-
Chloride	10	mg/kg	_	_	_	67
Nitrate (as N)	0.1	mg/kg	_	_	-	0.1
Nitrite (as N)	0.1	mg/kg	-	-	-	< 0.1
Sulphate (as S)	10	mg/kg	-	-	-	18
Phosphorus	10	mg/kg	-	-	-	400
Sulphur	100	mg/kg	-	-	-	1200
% Moisture	0.1	%	21	16	-	3.2
Alkalinity	·	•				
Total Alkalinity (as CaCO3)	50	mg/kg	-	-	-	1000
Total Nitrogen Set (as N)	·					
Nitrate & Nitrite (as N)	0.1	mg/kg	-	-	-	0.2
Total Kjeldahl Nitrogen (as N)	10	mg/kg	-	-	-	1300
Total Nitrogen (as N)	10	mg/kg	-	-	-	1300
Heavy Metals						
Arsenic	2	mg/kg	33	6.4	-	-
Cadmium	0.4	mg/kg	1.2	< 0.4	-	-
Chromium	5	mg/kg	36	8.6	-	-
Copper	5	mg/kg	46	15	-	-
Lead	5	mg/kg	59	9.1	-	-
Mercury	0.05	mg/kg	0.91	0.08	-	-
Nickel	5	mg/kg	17	< 5	-	-
Zinc	5	mg/kg	190	19	-	-
E.Coli	1	MPN/g	-	-	see attached	-
Faecal Coliforms	1	MPN/g	-	-	see attached	-
Salmonella	1	org/g	-	-	see attached	-

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP33 0.1-0.2 Soil S13-No01494 Nov 01, 2013	TP34 0.1-0.2 Soil S13-No01495 Nov 01, 2013	TP35 0.1-0.2 Soil S13-No01496 Nov 01, 2013	TS131029-2 Soil S13-No01503 Oct 29, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	-	-	-	100%
BTEX						
Benzene	0.1	mg/kg	-	-	-	98%
Toluene	0.1	mg/kg	-	-	-	100%
Ethylbenzene	0.1	mg/kg	-	-	-	101%
m&p-Xylenes	0.2	mg/kg	-	-	_	101%



Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled Test/Reference BTEX	LOR	Unit	TP33 0.1-0.2 Soil S13-No01494 Nov 01, 2013	TP34 0.1-0.2 Soil S13-No01495 Nov 01, 2013	TP35 0.1-0.2 Soil S13-No01496 Nov 01, 2013	TS131029-2 Soil S13-No01503 Oct 29, 2013
o-Xylene	0.1	mg/kg	_	_	_	101%
Xylenes - Total	0.1	mg/kg	_	-	_	101%
4-Bromofluorobenzene (surr.)	1	%	-	-	-	130
	•	•				
E.Coli	1	MPN/g	see attached	see attached	see attached	-
Faecal Coliforms	1	MPN/g	see attached	see attached	see attached	-
Salmonella	1	org/g	see attached	see attached	see attached	-

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TB131029-2 Soil S13-No01504 Oct 29, 2013	QS004 Soil S13-No01507 Oct 29, 2013
Total Recoverable Hydrocarbons - 1999 NEPM	Fractions			
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20
TRH C15-C28	50	mg/kg	-	< 50
TRH C29-C36	50	mg/kg	-	< 50
TRH C10-36 (Total)	50	mg/kg	-	< 50
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	125	120
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions			
Naphthalene <sup>N02</sup>	0.5	mg/kg	-	< 0.5
TRH C6-C10	20	mg/kg	_	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	_	< 20
TRH >C10-C16	50	mg/kg	-	< 50
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	-	< 50
TRH >C16-C34	100	mg/kg	-	< 100
TRH >C34-C40	100	mg/kg	-	< 100
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.5	mg/kg	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5
Benzo(b&j)fluorantheneN07	0.5	mg/kg	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5
Chrysene	0.5	mg/kg	-	< 0.5



Client Sample ID Sample Matrix			TB131029-2 Soil	QS004 Soil
•				
Eurofins   mgt Sample No.			S13-No01504	S13-No01507
Date Sampled			Oct 29, 2013	Oct 29, 2013
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5
Fluorene	0.5	mg/kg	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5
Total PAH	0.5	mg/kg	-	< 0.5
Benzo(a)pyrene TEQ*	0.5	mg/kg	-	0.6
2-Fluorobiphenyl (surr.)	1	%	-	93
p-Terphenyl-d14 (surr.)	1	%	-	71
Organochlorine Pesticides	T.			
Chlordanes - Total	0.1	mg/kg	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05
Methoxychlor	0.2	mg/kg	-	< 0.2
Toxaphene	1	mg/kg	-	< 1
Dibutylchlorendate (surr.)	1	%	-	108
Tetrachloro-m-xylene (surr.)	1	%	-	109
Polychlorinated Biphenyls (PCB)				
Aroclor-1016	0.5	mg/kg	-	< 0.5
Aroclor-1232	0.5	mg/kg	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	< 0.5
Total PCB	0.5	mg/kg	-	< 0.5
Dibutylchlorendate (surr.)	1	%	-	108
% Moisture	0.1	%	-	17
Heavy Metals				
Arsenic	2	mg/kg	-	3.8



Client Sample ID Sample Matrix			TB131029-2 Soil	QS004 Soil
Eurofins   mgt Sample No.			S13-No01504	S13-No01507
Date Sampled			Oct 29, 2013	Oct 29, 2013
Test/Reference	LOR	Unit		
Heavy Metals				
Cadmium	0.4	mg/kg	-	< 0.4
Chromium	5	mg/kg	-	8.5
Copper	5	mg/kg	-	15
Lead	5	mg/kg	-	14
Mercury	0.05	mg/kg	-	< 0.05
Nickel	5	mg/kg	-	< 5
Zinc	5	mg/kg	-	32



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

<b>Description</b> Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Testing Site Sydney	Extracted Nov 06, 2013	<b>Holding Time</b> 14 Day
- Method: E004 Petroleum Hydrocarbons (TPH)  Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 06, 2013	14 Day
- Method: LM-LTM-ORG2010 BTEX - Method: E029/E016 BTEX	Sydney	Nov 05, 2013	14 Day
Polycyclic Aromatic Hydrocarbons - Method: E007 Polyaromatic Hydrocarbons (PAH)	Sydney	Nov 06, 2013	14 Day
Organochlorine Pesticides - Method: E013 Organochlorine Pesticides (OC)	Sydney	Nov 06, 2013	14 Day
Polychlorinated Biphenyls (PCB) - Method: E013 Polychlorinated Biphenyls (PCB)	Sydney	Nov 06, 2013	28 Day
TRH after Silica Cleanup (NEPM) * - Method: LM-LTM-ORG2010	Sydney	Nov 05, 2013	14 Day
Chloride - Method: E033 /E045 /E047 Chloride	Sydney	Nov 06, 2013	28 Day
Nitrate (as N) - Method: E037 /E051 Nitrate as N Nitrite (as N)	Sydney	Nov 06, 2013 Nov 06, 2013	28 Day 28 Day
- Method: E037 /E051 Nitrite as N Organic Matter %	Melbourne	Nov 07, 2013	5 Day
- Method: APHA 2540E Fixed and Volatile Solids Ignited at 550C pH (1:5 Aqueous extract)	Sydney	Nov 06, 2013	7 Day
- Method: E018.2 pH Sulphate (as S)	Sydney	Nov 06, 2013	28 Day
- Method: E045 Sulphate Phosphorus	Sydney	Nov 05, 2013	180 Day
- Method: E020/E030 Metals Sulphur	Sydney	Nov 05, 2013	7 Day
- Method: E020/E030 Metals  % Moisture	Sydney	Nov 05, 2013	28 Day
- Method: E005 Moisture Content Alkalinity Total Nitrogen Set (as N)	Sydney	Nov 07, 2013	0 Day
Nitrate & Nitrite (as N)  - Method: E037 /E051 NOx (as N)	Sydney	Nov 06, 2013	28 Day
Total Kjeldahl Nitrogen (as N) - Method: E039/E053 Unfiltered Total Kjeldahl Nitrogen as N	Sydney	Nov 06, 2013	28 Day
Cation Exchange Capacity - Method: 15B1, 15B2, 15B3 Soil Chemical Methods	Melbourne	Nov 06, 2013	28 Day
- Method: Rayment and Lyons  Metals M8	Sydney	Nov 05, 2013	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury  Heavy Metals  - Method: E022 Acid Extractable metals in Soils	Sydney	Nov 05, 2013	180 Day
Petroleum Hydrocarbons Silica Cleanup (TPH)  - Method: E004 Petroleum Hydrocarbons Silica Cleanup (TPH)	Sydney	Nov 06, 2013	14 Day

eurofins 🔅

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.:

Report #: 398440

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 5:15 PM Nov 11, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
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		atory - NATA Site				Х	X	Х			Χ	Χ	Χ	Х		Х	Χ		Х	Х	Х	Х	Х	X	Х	Х	Х	Χ	Х	Х	$\vdash$	Х
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_	rnal Labor						-		Х	Χ								Х											$\vdash\vdash$		$\vdash$	
ຼ Sa ໝ	imple ID	Sample Date	Sampling Time	Matrix	LAB ID																											
25. =	0.1-0.2	Nov 01, 2013		Soil	S13-No01465	X																	Χ	X	Х	Χ	Х		Ш	Х		
229	0.4-0.5	Nov 01, 2013		Soil	S13-No01466						Χ																		Ш			
229	1.4-1.5	Nov 01, 2013		Soil	S13-No01467						Х																		Ш			
229	1.9-2.0	Nov 01, 2013		Soil	S13-No01468		Х																						Ш			
229	2.4-2.5	Nov 01, 2013		Soil	S13-No01469						Χ																		Ш			
229	2.9-3.0	Nov 01, 2013		Soil	S13-No01470	Х						Χ			Χ	Х													Ш		Х	
300	03	Nov 01, 2013		Soil	S13-No01471		Х																						Ш	Ш	Ш	
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27	7 0.1-0.2	Nov 01, 2013		Soil	S13-No01473						Χ													$\perp$	<u> </u>				Ш	Ш	ш	
27	7 0.4-0.5	Nov 01, 2013		Soil	S13-No01474	Х																	Χ		Х	Χ		Χ	ш	X	ш	Χ



Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398440

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 5:15 PM Nov 11, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
bo	oratory who	ere analysis is c	onducted																											<u> </u>	$\longrightarrow$	
_		oratory - NATA		271											Χ															<u> </u>	Х	
		tory - NATA Site				Х	Х	Х			Χ	Χ	X	Х		X	Χ		Х	Х	Х	Х	Χ	X	Х	Х	Х	Х	Х	Х	$\vdash$	X
		ratory - NATA Si	ite # 20794																											<u> </u>	$\vdash$	
_	rnal Labor		1	Г					Х	Χ								Х												<u> </u>	$\vdash$	
	7 0.9-1.0	Nov 01, 2013		Soil	S13-No01475						Χ																			<u> </u>	$\vdash$	
	7 2.4-2.5	Nov 01, 2013		Soil	S13-No01476						Χ																	-		$\vdash$	$\longmapsto$	
	4 0.1-0.2	Nov 01, 2013		Soil	S13-No01477	Х																			Х			-		$\vdash$	$\longmapsto$	
	7 0.4-0.5	Nov 01, 2013		Soil	S13-No01478						Χ																			$\vdash$	$\longrightarrow$	
	4 1.4-1.5	Nov 01, 2013		Soil	S13-No01479						Χ																	-		$\vdash$	$\longmapsto$	
_	4 2.4-2.5	Nov 01, 2013		Soil	S13-No01480						Χ																			<u> </u>	$\vdash$	
_	3 0.1-0.2	Nov 01, 2013		Soil	S13-No01481	Х																	Χ	Х	Χ	Χ	Х			Х	$\longmapsto$	
	2 0.1-0.2	Nov 01, 2013		Soil	S13-No01482						Χ																			<u> </u>	$\longmapsto$	
	2 0.4-0.5	Nov 01, 2013		Soil	S13-No01483	Х																			Х					<u> </u>	$\longmapsto$	
	2 0.9-1.0	Nov 01, 2013		Soil	S13-No01484						Χ																			<u> </u>	$\longmapsto$	
232	2 1.4-1.5	Nov 01, 2013		Soil	S13-No01485						Χ																				Ш	

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398440

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 5:15 PM Nov 11, 2013

Priority:

5 Day Michelle Delandro Contact Name:

																									<u> </u>			- 5				
			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	ВТЕХ	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
ıb	oratory who	ere analysis is c	onducted																													
		oratory - NATA		271											Х																Х	
		tory - NATA Site				Х	Х	Х			Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
		ratory - NATA Si																														
cto	ernal Labora	atory							Х	Х								Х														
'3	32 2.4-2.5	Nov 01, 2013		Soil	S13-No01486						Х																					
<b>20</b> 3	32 3.4-3.5	Nov 01, 2013		Soil	S13-No01487						Х																					
-		Nov 01, 2013		Soil	S13-No01488						Х																					
_ 23	32 5.4-5.5	Nov 01, 2013		Soil	S13-No01489						Χ																					
23	32 6.4-6.5	Nov 01, 2013		Soil	S13-No01490						Χ																					
23	32 6.9-7.0	Nov 01, 2013		Soil	S13-No01491				Χ	Х								Χ														
23	32 7.9-8.0	Nov 01, 2013		Soil	S13-No01492	Х		Х					Х	Х			Χ		Χ	Х	Χ								Х			
23	32 9.9-10.0	Nov 01, 2013		Soil	S13-No01493						Χ																					
23	33 0.1-0.2	Nov 01, 2013		Soil	S13-No01494				Χ	Х								Χ														
23	34 0.1-0.2	Nov 01, 2013		Soil	S13-No01495				Χ	Х								Χ						<u> </u>							$\sqcup$	
23	35 0.1-0.2	Nov 01, 2013		Soil	S13-No01496				Χ	Х								Χ													Ш	

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

398440

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 5:15 PM Nov 11, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
bo	ratory whe	ere analysis is c	onducted																													
		oratory - NATA		271											Х																Х	
		tory - NATA Site				Х	Х	X			Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		X
		ratory - NATA Si																														
	rnal Labora								Х	Х								Х														
		Nov 01, 2013		Soil	S13-No01497						Х																					
		Nov 01, 2013		Soil	S13-No01498						Х																					
		Nov 01, 2013		Water	S13-No01502																		Х	Х	Х	Χ	Х			Х		
<u> - 313</u>	31029-2	Oct 29, 2013		Soil	S13-No01503																	Х				Χ						
313	31029-2	Oct 29, 2013		Soil	S13-No01504																	Х				Χ						
218	3 0.4-0.5	Oct 29, 2013		Soil	S13-No01505						Χ																					
229	0.9-1	Oct 29, 2013		Soil	S13-No01506						Χ																					
30	04	Oct 29, 2013		Soil	S13-No01507	Х																	Χ	Χ	Χ	Χ	Χ			Х		
3LA	AB131029-	Oct 29, 2013		Soil	S13-No01508																	Х				Х						
234	;	Oct 29, 2013		Soil	S13-No01955						Χ																					



### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate**A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environment Protection Authority

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody
SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%

### **QC DATA GENERAL COMMENTS**

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank		<u>'</u>			
Total Recoverable Hydrocarbons - 1999 NEPM Fracti	ions				
TRH C6-C9	mg/kg	< 20	20	Pass	
TRH C10-C14	mg/kg	< 20	20	Pass	
TRH C15-C28	mg/kg	< 50	50	Pass	
TRH C29-C36	mg/kg	< 50	50	Pass	
Method Blank					
ВТЕХ					
Benzene	mg/kg	< 0.1	0.1	Pass	
Toluene	mg/kg	< 0.1	0.1	Pass	
Ethylbenzene	mg/kg	< 0.1	0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2	0.2	Pass	
o-Xylene	mg/kg	< 0.1	0.1	Pass	
Xylenes - Total	mg/kg	< 0.3	0.3	Pass	
Method Blank					
Total Recoverable Hydrocarbons - 2013 NEPM Fracti	ions				
Naphthalene	mg/kg	< 0.5	0.5	Pass	
TRH C6-C10	mg/kg	< 20	20	Pass	
TRH C6-C10 less BTEX (F1)	mg/kg	< 20	20	Pass	
TRH >C10-C16	mg/kg	< 50	50	Pass	
TRH >C16-C34	mg/kg	< 100	100	Pass	
TRH >C34-C40	mg/kg	< 100	100	Pass	
Method Blank	1 3 5			•	
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	mg/kg	< 0.5	0.5	Pass	
Acenaphthylene	mg/kg	< 0.5	0.5	Pass	
Anthracene	mg/kg	< 0.5	0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5	0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5	0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5	0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5	0.5	Pass	
Chrysene	mg/kg	< 0.5	0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5	0.5	Pass	
Fluoranthene	mg/kg	< 0.5	0.5	Pass	
Fluorene	mg/kg	< 0.5	0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5	0.5	Pass	
Naphthalene	mg/kg	< 0.5	0.5	Pass	
Phenanthrene	mg/kg	< 0.5	0.5	Pass	
Pyrene	mg/kg	< 0.5	0.5	Pass	
Method Blank					
Organochlorine Pesticides					
Chlordanes - Total	mg/kg	< 0.1	0.1	Pass	
4.4'-DDD	mg/kg	< 0.05	0.05	Pass	
4.4'-DDE	mg/kg	< 0.05	0.05	Pass	
4.4'-DDT	mg/kg	< 0.05	0.05	Pass	
a-BHC	mg/kg	< 0.05	0.05	Pass	
Aldrin	mg/kg	< 0.05	0.05	Pass	
b-BHC	mg/kg	< 0.05	0.05	Pass	
d-BHC	mg/kg	< 0.05	0.05	Pass	
Dieldrin	mg/kg	< 0.05	0.05	Pass	
Endosulfan I	mg/kg	< 0.05	0.05	Pass	
Endosulfan II	mg/kg	< 0.05	0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05	0.05	Pass	



1118						
Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Endrin	mg/kg	< 0.05		0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05		0.05	Pass	
Endrin ketone	mg/kg	< 0.05		0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05		0.05	Pass	
Heptachlor	mg/kg	< 0.05		0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05		0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05		0.05	Pass	
Methoxychlor	mg/kg	< 0.2		0.2	Pass	
Toxaphene	mg/kg	< 1		1	Pass	
Method Blank						
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	mg/kg	< 0.5		0.5	Pass	
Aroclor-1232	mg/kg	< 0.5		0.5	Pass	
Aroclor-1242	mg/kg	< 0.5		0.5	Pass	
Aroclor-1248	mg/kg	< 0.5		0.5	Pass	
Aroclor-1254	mg/kg	< 0.5		0.5	Pass	
Aroclor-1260	mg/kg	< 0.5		0.5	Pass	
Total PCB	mg/kg	< 0.5		0.5	Pass	
Method Blank	Ilig/kg	1 10.0		0.0	1 433	
Chloride	mg/kg	< 10		10	Pass	
Nitrate (as N)		< 0.1		0.1	Pass	
` '	mg/kg			0.1		
Nitrite (as N)	mg/kg	< 0.1			Pass	
Sulphate (as S)	mg/kg	< 10		10	Pass	
Phosphorus	mg/kg	< 10		10	Pass	
Sulphur	mg/kg	< 100		100	Pass	
Method Blank		Г			Γ	
Alkalinity					_	
Total Alkalinity (as CaCO3)	mg/kg	< 50		50	Pass	
Method Blank						
Total Nitrogen Set (as N)						
Nitrate & Nitrite (as N)	mg/kg	< 0.1		0.1	Pass	
Total Kjeldahl Nitrogen (as N)	mg/kg	< 10		10	Pass	
Method Blank						
Heavy Metals						
Arsenic	mg/kg	< 2		2	Pass	
Cadmium	mg/kg	< 0.4		0.4	Pass	
Chromium	mg/kg	< 5		5	Pass	
Copper	mg/kg	< 5		5	Pass	
Iron	mg/kg	< 5		5	Pass	
Lead	mg/kg	< 5		5	Pass	
Mercury	mg/kg	< 0.05		0.05	Pass	
Nickel	mg/kg	< 5		5	Pass	
Zinc	mg/kg	< 5		5	Pass	
LCS - % Recovery	, 5 5		<u>'</u>			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	%	94		70-130	Pass	
TRH C10-C14	%	80		70-130	Pass	
LCS - % Recovery	,,,					
BTEX						
Benzene	%	101		70-130	Pass	
Toluene	%	96		70-130	Pass	
	%	98		70-130	Pass	
Ethylbenzene						
m&p-Xylenes	%	91		70-130	Pass	
o-Xylene	%	93		70-130	Pass	
Xylenes - Total	%	92		70-130	Pass	



Test	Units	Result 1	Acceptance		Qualifying
	- Cilito	Troount 1	Limits	Limits	Code
LCS - % Recovery		Т		П	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions Naphthalene	%	98	70-130	Pass	
TRH C6-C10	%	95	70-130	Pass	
TRH >C10-C10	%	88	70-130	Pass	
	70	00	70-130	Pass	
LCS - % Recovery Polycyclic Aromatic Hydrocarbons		Т		Т	
	%	130	70-130	Pass	
Acenaphthylana	%			+	
Acenaphthylene		118	70-130	Pass	
Anthracene	%	124	70-130	Pass	
Benz(a)anthracene	%	124	70-130	Pass	
Benzo(a)pyrene	%	107	70-130	Pass	
Benzo(b&j)fluoranthene	%	75	70-130	Pass	
Benzo(g.h.i)perylene	%	108	70-130	Pass	
Benzo(k)fluoranthene	%	129	70-130	Pass	
Chrysene	%	120	70-130	Pass	
Dibenz(a.h)anthracene	%	107	70-130	Pass	
Fluoranthene	%	125	70-130	Pass	
Fluorene	%	122	70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	109	70-130	Pass	
Naphthalene	%	126	70-130	Pass	
Phenanthrene	%	129	70-130	Pass	
Pyrene	%	130	70-130	Pass	
LCS - % Recovery		<del> </del>			
Organochlorine Pesticides					
Chlordanes - Total	%	102	70-130	Pass	
4.4'-DDD	%	111	70-130	Pass	
4.4'-DDE	%	105	70-130	Pass	
4.4'-DDT	%	106	70-130	Pass	
a-BHC	%	108	70-130	Pass	
Aldrin	%	109	70-130	Pass	
b-BHC	%	85	70-130	Pass	
d-BHC	%	92	70-130	Pass	
Dieldrin	%	104	70-130	Pass	
Endosulfan I	%	108	70-130	Pass	
Endosulfan II	%	95	70-130	Pass	
Endosulfan sulphate	%	72	70-130	Pass	
Endrin	%	111	70-130	Pass	
Endrin aldehyde	%	74	70-130	Pass	
Endrin ketone	%	88	70-130	Pass	
g-BHC (Lindane)	%	102	70-130	Pass	
Heptachlor	%	105	70-130	Pass	
Heptachlor epoxide	%	104	70-130	Pass	
Hexachlorobenzene	%	102	70-130	Pass	
Methoxychlor	%	98	70-130	Pass	
LCS - % Recovery					
Polychlorinated Biphenyls (PCB)					
Aroclor-1260	%	96	70-130	Pass	
LCS - % Recovery					
Chloride	%	88	70-130	Pass	
Nitrate (as N)	%	79	70-130	Pass	
Nitrite (as N)	%	95	70-130	Pass	
Sulphate (as S)	%	90	70-130	Pass	
Phosphorus	%	90	70-130	Pass	
Sulphur	%	95	70-130	Pass	



	Illgt					Acceptance	Pass	Qualifying
Test			Units	Result 1		Limits	Limits	Code
LCS - % Recovery				T		I	Ι	
Alkalinity			I					
Total Alkalinity (as CaCO3)			%	97		70-130	Pass	
LCS - % Recovery				T		ı	Γ	
Total Nitrogen Set (as N)								
Nitrate & Nitrite (as N)			%	87		70-130	Pass	
Total Kjeldahl Nitrogen (as N)			%	115		70-130	Pass	
LCS - % Recovery					l I	I		
Heavy Metals			0/	0.4				
Arsenic			%	81		70-130	Pass	
Cadmium			%	82		70-130	Pass	
Chromium			%	87		70-130	Pass	
Copper			%	96		70-130	Pass	
Iron			%	105		70-130	Pass	
Lead			%	84		70-130	Pass	
Mercury			%	98		70-130	Pass	
Nickel			%	90		70-130	Pass	
Zinc			%	87		70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Total Recoverable Hydrocarbons	- 1999 NEPM Fract	ions		Result 1				
TRH C6-C9	S13-No01465	CP	%	88		70-130	Pass	
TRH C10-C14	S13-No01465	CP	%	84		70-130	Pass	
Spike - % Recovery								
BTEX				Result 1				
Benzene	S13-No01465	CP	%	95		70-130	Pass	
Toluene	S13-No01465	CP	%	89		70-130	Pass	
Ethylbenzene	S13-No01465	CP	%	87		70-130	Pass	
m&p-Xylenes	S13-No01465	CP	%	85		70-130	Pass	
o-Xylene	S13-No01465	CP	%	88		70-130	Pass	
Xylenes - Total	S13-No01465	CP	%	86		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons	- 2013 NEPM Fract	ions		Result 1				
Naphthalene	S13-No01465	CP	%	78		70-130	Pass	
TRH C6-C10	S13-No01465	CP	%	88		70-130	Pass	
TRH >C10-C16	S13-No01465	CP	%	89		70-130	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbon	s			Result 1				
Acenaphthene	S13-No01465	CP	%	126		70-130	Pass	
Acenaphthylene	S13-No01465	CP	%	118		70-130	Pass	
Anthracene	S13-No01465	CP	%	111		70-130	Pass	
Benz(a)anthracene	S13-No01465	CP	%	102		70-130	Pass	
Benzo(a)pyrene	S13-No01465	CP	%	130		70-130	Pass	
Benzo(b&j)fluoranthene	S13-No01465	CP	%	95		70-130	Pass	
Benzo(g.h.i)perylene	S13-No01465	CP	%	130		70-130	Pass	
Benzo(k)fluoranthene	S13-No01465	CP	%	127		70-130	Pass	
Chrysene	S13-No01465	CP	%	125		70-130	Pass	
Dibenz(a.h)anthracene	S13-No01465	CP	%	130		70-130	Pass	
Fluoranthene	S13-No01465	CP	%	129		70-130	Pass	
Fluorene	S13-No01465	CP	%	128		70-130	Pass	
Indeno(1.2.3-cd)pyrene	S13-No01465	CP	%	123		70-130	Pass	
Naphthalene	S13-No01465	CP	%	127		70-130	Pass	
Phenanthrene	S13-No01465	CP	%	119		70-130	Pass	
Pyrene	S13-No01465	CP	%	119		70-130	Pass	



Chinds	Acceptance Pass Qualifying			D 14 4	11-24-	QA	Lab Carrela ID	T
Organochlorine Pesticides         Result 1         Companies - Total         \$13-N000214         NCP         %         118         70-130         Pass           4.4*-DDD         \$13-N000214         NCP         %         126         70-130         Pass           4.4*-DDT         \$13-N000214         NCP         %         113         70-130         Pass           4.4*-DDT         \$13-N000214         NCP         %         113         70-130         Pass           Aldrin         \$13-N000214         NCP         %         112         70-130         Pass           Aldrin         \$13-N000214         NCP         %         122         70-130         Pass           Aldrin         \$13-N000214         NCP         %         87         70-130         Pass           AlBHC         \$13-N000214         NCP         %         87         70-130         Pass           Endosulfan I         \$13-N000214         NCP         %         94         70-130         Pass           Endosulfan II         \$13-N000214         NCP         %         125         70-130         Pass           Endosulfan II         \$13-N000214         NCP         %         72         70-130				Result 1	Units		Lab Sample ID	
Chiordanes - Total				T				•
4.4-DDD								
4.4*-DDE								
Ad-PODT								
B-BHC								
Addrin								
b-BHC         \$13-N000214         NCP         %         87         70-130         Pass           d-BHC         \$13-N000214         NCP         %         94         70-130         Pass           Lodsulfan I         \$13-N000214         NCP         %         119         70-130         Pass           Endosulfan II         \$13-N000214         NCP         %         125         70-130         Pass           Endosulfan II         \$13-N000214         NCP         %         125         70-130         Pass           Endosulfan Sulphate         \$13-N000214         NCP         %         125         70-130         Pass           Endrin         \$13-N000214         NCP         %         125         70-130         Pass           Endrin ketone         \$13-N000214         NCP         %         72         70-130         Pass           Endrin ketone         \$13-N000214         NCP         %         87         70-130         Pass           B-Btothior         \$13-N000214         NCP         %         112         70-130         Pass           Heytachlor epoxide         \$13-N001244         NCP         %         120         70-130         Pass <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
G-BHC								
Dieldrin								
Endosulfan I								
Endosulfan II								
Endosulfan sulphate								
Endrin								
Endrin aldehyde								
Endrin ketone								
g-BHC (Lindane)         \$13-N000214         NCP         %         112         70-130         Pass           Heptachlor         \$13-N000214         NCP         %         122         70-130         Pass           Heptachlor epoxide         \$13-N000214         NCP         %         119         70-130         Pass           Hexachlorobenzene         \$13-N000214         NCP         %         120         70-130         Pass           Methoxychlor         \$13-N000214         NCP         %         120         70-130         Pass           Spike - ** Recovery         ***Polychlorinated Biphenyls (PCB)**         Result 1         ***         ***         70-130         Pass           Spike - ** Recovery         ***Polychlorinated Biphenyls (PCB)**         Result 1         ***         ***         70-130         Pass           Spike - ** Recovery         ***Polychlorinated Biphenyls (PCB)**         ***         ***         70-130         Pass           Spike - ** Recovery         ****Pass         ***         70-130         Pass         ***         70-130         Pass         ***         70-130         Pass         ***         ***         70-130         Pass         ***         ***         70-130         Pass								
Heptachlor								
Heptachlor epoxide								,
Hexachlorobenzene								· ·
Methoxychlor								
Spike - % Recovery								
Polychlorinated Biphenyls (PCB)	70-100   1 433			30	70	1401	010-11000214	
Aroclor-1260				Result 1				•
Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 1   Result 2   Result 3   Result 4   Result 4   Result 2   Result 3   Result 4	70-130 Pass				%	CP	S13-No01465	
Result 1	70 100   1 000				70	O.	01011001100	
Arsenic         \$13-No01465         \$CP         %         79         70-130         Pass           Cadmium         \$13-No01465         \$CP         %         97         70-130         Pass           Chromium         \$13-No01465         \$CP         %         92         70-130         Pass           Copper         \$13-No01465         \$CP         %         110         70-130         Pass           Lead         \$13-No01465         \$CP         %         102         70-130         Pass           Mercury         \$13-No01465         \$CP         %         102         70-130         Pass           Nickel         \$13-No01465         \$CP         %         92         70-130         Pass           Zinc         \$13-No01465         \$CP         %         92         70-130         Pass           Zinc         \$13-No01465         \$CP         %         92         70-130         Pass           Zinc         \$13-No01465         \$CP         %         92         70-130         Pass           Zinc         \$13-No01465         \$CP         \$0         \$1         30         70-130         Pass           Zinc         \$13-No01465				Result 1				
Cadmium         \$13-No01465         CP         %         97         70-130         Pass           Chromium         \$13-No01465         CP         %         92         70-130         Pass           Copper         \$13-No01465         CP         %         110         70-130         Pass           Lead         \$13-No01465         CP         %         102         70-130         Pass           Mercury         \$13-No00597         NCP         %         98         70-130         Pass           Nickel         \$13-No01465         CP         %         92         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Test         Lab Sample ID         QA         Uni	70-130 Pass				%	CP	S13-No01465	
Chromium         \$13-No01465         \$CP         %         92         70-130         Pass           Copper         \$13-No01465         \$CP         %         \$110         70-130         Pass           Lead         \$13-No01465         \$CP         %         \$102         70-130         Pass           Mercury         \$13-No00597         NCP         %         98         70-130         Pass           Nickel         \$13-No01465         \$CP         %         92         70-130         Pass           Zinc         \$13-No01465         \$CP         %         92         70-130         Pass           Zinc         \$13-No01465         \$CP         %         103         70-130         Pass           Zinc         \$13-No01465         \$CP         %         103         70-130         Pass           Zinc         \$13-No01465         \$CP         %         103         70-130         Pass           Zinc         \$13-No01465         \$CP         %         103         70-130         Pass           Zinc         \$13-No01465         \$CP         mg/kg         < 20						CP		
Copper         \$13-No01465         CP         %         110         70-130         Pass           Lead         \$13-No01465         CP         %         102         70-130         Pass           Mercury         \$13-No00597         NCP         %         98         70-130         Pass           Nickel         \$13-No01465         CP         %         92         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Zinc         \$13-No01465         CP         %         103         70-130         Pass           Zinc         \$13-No01465         CP         mg/kg         20         20         41         30%         Pass           TRH C6-C9         \$13-No01465         CP         mg/kg         420         420         41         30%         Pass						СР		
Lead	70-130 Pass			110	%	CP	S13-No01465	Copper
Nickel	70-130 Pass			102	%	CP	S13-No01465	•
Zinc         \$13-No01465         CP         %         103         70-130         Pass           Test         Lab Sample ID         QA Source         Units         Result 1         Result 1         Acceptance Limits           Duplicate           Total Recoverable Hydrocarbons - 1999 NEPM Fractions         Result 1         Result 2         RPD         RPD           TRH C6-C9         \$13-No01465         CP         mg/kg         < 20	70-130 Pass			98	%	NCP	S13-No00597	Mercury
Test   Lab Sample ID   QA Source   Units   Result 1   Result 2   RPD	70-130 Pass			92	%	CP	S13-No01465	Nickel
Duplicate   Total Recoverable Hydrocarbons - 1999 NEPM Fractions   Result 1   Result 2   RPD   Result 1   Result 2   RPD   Result 1   Result 2   RPD   Result 1   Result 2   RPD   Result 1   Result 2   RPD   Result 1   Result 2   RPD   Result 2   RPD   Result 2   RPD   Result 3   Result 3   Result 4   Result 2   RPD   Result 4   Result 2   RPD   Result 6   Result 6   Result 7   Result 7   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 8   Result 9   Res	70-130 Pass			103	%	CP	S13-No01465	Zinc
Duplicate           Total Recoverable Hydrocarbons - 1999 NEPM Fractions         Result 1         Result 2         RPD           TRH C6-C9         \$13-No01465         CP         mg/kg         < 20         < 20         < 1         30%         Pass           TRH C10-C14         \$13-No01465         CP         mg/kg         < 20         < 20         < 1         30%         Pass           TRH C15-C28         \$13-No01465         CP         mg/kg         < 50         < 50         < 1         30%         Pass           TRH C29-C36         \$13-No01465         CP         mg/kg         < 50         < 50         < 1         30%         Pass           Duplicate           BTEX         Result 1         Result 2         RPD         RPD           Benzene         \$13-No01465         CP         mg/kg         < 0.1         < 0.1         < 1         30%         Pass           Toluene         \$13-No01465         CP         mg/kg         < 0.1         < 0.1         < 1         30%         Pass           Ethylbenzene         \$13-No01465         CP         mg/kg         < 0.1         < 0.1         < 1         30%         Pass	Acceptance Pass Qualifying			Result 1	Units	QA	Lah Sample ID	Test
Total Recoverable Hydrocarbons - 1999 NEPM Fractions         Result 1         Result 2         RPD           TRH C6-C9         S13-No01465         CP         mg/kg         < 20         < 20         < 1         30%         Pass           TRH C10-C14         S13-No01465         CP         mg/kg         < 20         < 20         < 1         30%         Pass           TRH C15-C28         S13-No01465         CP         mg/kg         < 50         < 50         < 1         30%         Pass           TRH C29-C36         S13-No01465         CP         mg/kg         < 50         < 50         < 1         30%         Pass           Duplicate           BTEX         Result 1         Result 2         RPD         RPD           Benzene         S13-No01465         CP         mg/kg         < 0.1         < 0.1         < 1         30%         Pass           Toluene         S13-No01465         CP         mg/kg         < 0.1         < 0.1         < 1         30%         Pass           Ethylbenzene         S13-No01465         CP         mg/kg         < 0.1         < 0.1         < 1         30%         Pass	Limits Limits Code					Source		
TRH C6-C9         S13-No01465         CP         mg/kg         < 20         < 20         < 1         30%         Pass           TRH C10-C14         S13-No01465         CP         mg/kg         < 20		DDD	Dogult 2	Dogult 1		iono	4000 NEDM Erock	
TRH C10-C14         S13-No01465         CP         mg/kg         < 20         < 20         < 1         30%         Pass           TRH C15-C28         S13-No01465         CP         mg/kg         < 50	20% Page				mallea			· ·
TRH C15-C28         S13-No01465         CP         mg/kg         < 50         < 50         < 1         30%         Pass           TRH C29-C36         S13-No01465         CP         mg/kg         < 50         < 50         < 1         30%         Pass           Duplicate           BTEX         Result 1         Result 2         RPD         RPD           Benzene         S13-No01465         CP         mg/kg         < 0.1								
TRH C29-C36         S13-No01465         CP         mg/kg         < 50         < 50         < 1         30%         Pass           Duplicate           BTEX         Result 1         Result 2         RPD         RPD           Benzene         S13-No01465         CP         mg/kg         < 0.1								
Duplicate           BTEX         Result 1         Result 2         RPD           Benzene         \$13-No01465         CP         mg/kg         < 0.1								
BTEX         Result 1         Result 2         RPD           Benzene         \$13-No01465         CP         mg/kg         < 0.1	30%   Fass		<u> </u>	<u> </u>	mg/kg	CF	313-11001403	
Benzene         \$13-No01465         \$CP         \$mg/kg         < 0.1         < 0.1         < 1         30%         Pass           Toluene         \$13-No01465         \$CP         \$mg/kg         < 0.1		PPD	Posult 2	Pacult 1				•
Toluene         S13-No01465         CP         mg/kg         < 0.1         < 1         30%         Pass           Ethylbenzene         S13-No01465         CP         mg/kg         < 0.1	30% Page				ma/ka	CP	\$13-No01465	
Ethylbenzene         S13-No01465         CP         mg/kg         < 0.1         < 1         30%         Pass								
HIQU=AVENES	30% Pass	<1	< 0.1	< 0.1	mg/kg	CP	S13-No01465	m&p-Xylenes
o-Xylene S13-No01465 CP mg/kg < 0.1 < 0.1 <1 30% Pass								' '
Xylenes - Total         S13-No01465         CP         mg/kg         < 0.1         < 1         30%         Pass								
Duplicate	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		0.0			<u> </u>	0.014001400	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions Result 1 Result 2 RPD		RPD	Result 2	Result 1		ions	2013 NEPM Fract	
Naphthalene         S13-No01465         CP         mg/kg         < 0.5         < 0.5         < 1         30%         Pass	30% Pass				ma/ka			
TRH C6-C10 S13-No01465 CP mg/kg < 20 < 20 <1 30% Pass								-



	Illgt								
Duplicate									
Total Recoverable Hydrocarbons	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C6-C10 less BTEX (F1)	S13-No01465	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S13-No01465	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S13-No01465	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S13-No01465	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbon	s			Result 1	Result 2	RPD			
Acenaphthene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S13-No01465	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S13-No01465	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S13-No01465	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S13-No01465	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate				I					
Polychlorinated Biphenyls (PCB)	T		1	Result 1	Result 2	RPD		<u> </u>	
Aroclor-1016	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1232	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S13-No01465	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	



Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S13-No01465	CP	mg/kg	6.0	5.1	17	30%	Pass	
Cadmium	S13-No01465	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S13-No01465	CP	mg/kg	8.4	7.2	15	30%	Pass	
Copper	S13-No01465	CP	mg/kg	16	15	4.0	30%	Pass	
Lead	S13-No01465	CP	mg/kg	10	9.4	11	30%	Pass	
Mercury	S13-No00597	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Nickel	S13-No01465	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S13-No01465	CP	mg/kg	34	28	18	30%	Pass	
Duplicate									
Cation Exchange Capacity				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C)	M13-No01902	NCP	uS/cm	110	110	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Nitrate (as N)	S13-No01399	NCP	mg/kg	1.7	1.7	<1	30%	Pass	
Nitrite (as N)	S13-No01399	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Phosphorus	S13-No03512	NCP	mg/kg	16	45	95	30%	Fail	Q15
Duplicate									
Total Nitrogen Set (as N)				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	S13-No01399	NCP	mg/kg	1.7	1.7	<1	30%	Pass	



### Comments

E.Coli/Coliforms/Salmonella analysed by ALS,

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

### **Qualifier Codes/Comments**

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins   mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

#### **Authorised By**

Jean Heng Client Services

Bob Symons Senior Analyst-Inorganic (NSW)
Emily Rosenberg Senior Analyst-Metal (VIC)
Huong Le Senior Analyst-Inorganic (VIC)
James Norford Senior Analyst-Metal (NSW)
Ryan Hamilton Senior Analyst-Organic (NSW)
Ryan Hamilton Senior Analyst-Volatile (NSW)



# Dr. Bob Symons

### **Laboratory Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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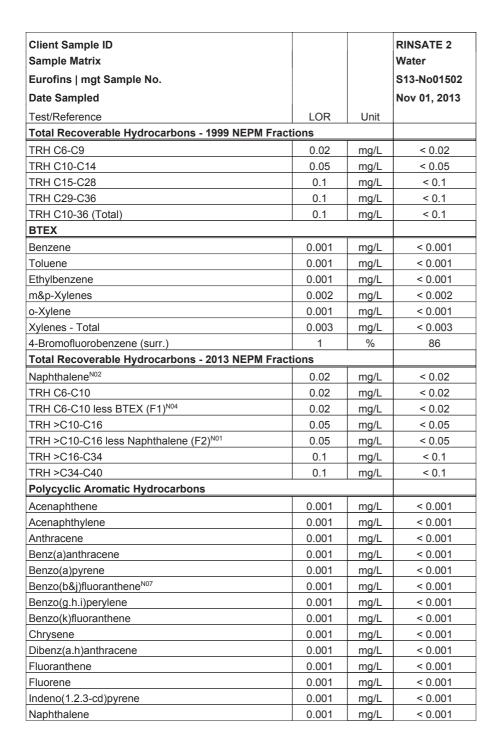
JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Thomas Harding

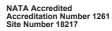
Report 398440-W

Client Reference URBAN GROWTH 43008

Received Date Nov 01, 2013



### Certificate of Analysis









Client Sample ID Sample Matrix			RINSATE 2 Water
Eurofins   mgt Sample No.			S13-No01502
Date Sampled			Nov 01, 2013
•	LOD	l lmit	1107 01, 2010
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			2 2 2 4
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	98
p-Terphenyl-d14 (surr.)	1	%	115
Organochlorine Pesticides			
Chlordanes - Total	0.001	mg/L	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001
Endrin	0.0001	mg/L	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001
Toxaphene	0.01	mg/L	< 0.01
Dibutylchlorendate (surr.)	1	%	73
Tetrachloro-m-xylene (surr.)	1	%	88
Polychlorinated Biphenyls (PCB)	1		
Aroclor-1016	0.005	mg/L	< 0.005
Aroclor-1232	0.005	mg/L	< 0.005
Aroclor-1232 Aroclor-1242	0.005	mg/L	< 0.005
Aroclor-1248	0.005	mg/L	< 0.005
Aroclor-1246 Aroclor-1254	0.005	mg/L	< 0.005
Aroclor-1260	0.005	mg/L	< 0.005
Total PCB	0.005	mg/L	< 0.005
Dibutylchlorendate (surr.)	1	mg/L %	73
Heavy Metals		70	13
	0.005	n	10.005
Arsenic	0.005	mg/L	< 0.005
Cadmium	0.0005	mg/L	< 0.0005
Chromium	0.005	mg/L	< 0.005
Copper	0.005	mg/L	< 0.005
Lead	0.005	mg/L	< 0.005
Mercury	0.0001	mg/L	< 0.0001
Nickel	0.005	mg/L	< 0.005
Zinc	0.005	mg/L	< 0.005



<b>Description</b> Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Testing Site Sydney	Extracted Nov 05, 2013	Holding Time 7 Day
- Method: E004 Petroleum Hydrocarbons (TPH)	Cydnoy	1107 00, 2010	. Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 05, 2013	7 Day
- Method: LM-LTM-ORG2010			•
BTEX	Sydney	Nov 04, 2013	14 Day
- Method: E029/E016 BTEX			
Polycyclic Aromatic Hydrocarbons	Sydney	Nov 05, 2013	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Organochlorine Pesticides	Sydney	Nov 05, 2013	7 Day
- Method: E013 Organochlorine Pesticides (OC)			
Polychlorinated Biphenyls (PCB)	Sydney	Nov 05, 2013	7 Day
- Method: E013 Polychlorinated Biphenyls (PCB)			
Metals M8	Sydney	Nov 04, 2013	28 Day
- Method: E022/E030 Unfiltered Metals in Water & E026 Mercury			

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Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.:

Report #: 398440

Phone: 02 8245 0300

Fax:

Received: Due:

Nov 1, 2013 5:15 PM Nov 11, 2013

Priority:

5 Day Michelle Delandro Contact Name:

			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
		ere analysis is c																											$\sqcup$	$\vdash$	$\vdash$	
		oratory - NATA		271											Х									1	1				$\vdash \vdash$	$\vdash\vdash$	Х	
		atory - NATA Site				Х	X	Х			Χ	Χ	Χ	Х		Х	Χ		Х	Х	Х	Х	Х	X	Х	Х	Х	Χ	Х	Х	$\vdash$	Х
		ratory - NATA Si	te # 20794				-																		1				$\vdash \vdash$	$\vdash$	$\vdash$	
_	rnal Labor						-		Х	Χ								Х											$\vdash\vdash$		$\vdash$	
ຼ Sa ໝ	imple ID	Sample Date	Sampling Time	Matrix	LAB ID																											
25. =	0.1-0.2	Nov 01, 2013		Soil	S13-No01465	X																	Χ	X	Х	Χ	Х		Ш	Х		
229	0.4-0.5	Nov 01, 2013		Soil	S13-No01466						Χ																		Ш			
229	1.4-1.5	Nov 01, 2013		Soil	S13-No01467						Х																		Ш			
229	1.9-2.0	Nov 01, 2013		Soil	S13-No01468		Х																						Ш			
229	2.4-2.5	Nov 01, 2013		Soil	S13-No01469						Χ																		Ш			
229	2.9-3.0	Nov 01, 2013		Soil	S13-No01470	Х						Χ			Χ	Х													Ш		Х	
300	03	Nov 01, 2013		Soil	S13-No01471		Х																						Ш	Ш	Ш	
300	03A	Nov 01, 2013		Soil	S13-No01472		Х																						Ш		ш	
27	7 0.1-0.2	Nov 01, 2013		Soil	S13-No01473						Χ													$\perp$					Ш	Ш	ш	
27	7 0.4-0.5	Nov 01, 2013		Soil	S13-No01474	Х																	Χ		Х	Χ		Χ	ш	X	ш	Χ



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bo	oratory who	ere analysis is c	onducted																											<u> </u>	$\longmapsto$	
_		oratory - NATA		271											Χ															<u> </u>	Х	
		tory - NATA Site				Х	Х	Х			Χ	Χ	X	Х		X	Χ		Х	Х	Х	Х	Χ	X	Х	Х	Х	Х	Х	Х	$\vdash$	X
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	7 0.9-1.0	Nov 01, 2013		Soil	S13-No01475						Χ																			<u> </u>	$\vdash$	
	7 2.4-2.5	Nov 01, 2013		Soil	S13-No01476						Χ																	-		$\vdash$	$\longmapsto$	
	4 0.1-0.2	Nov 01, 2013		Soil	S13-No01477	Х																			Х			-		$\vdash$	$\longmapsto$	
	7 0.4-0.5	Nov 01, 2013		Soil	S13-No01478						Χ																			$\vdash$	$\longrightarrow$	
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_	3 0.1-0.2	Nov 01, 2013		Soil	S13-No01481	Х																	Χ	Х	Х	Χ	Х			Х	$\longmapsto$	
	2 0.1-0.2	Nov 01, 2013		Soil	S13-No01482						Χ																			<u> </u>	$\longmapsto$	
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232	2 1.4-1.5	Nov 01, 2013		Soil	S13-No01485						Χ																				Ш	

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ıb	oratory who	ere analysis is c	onducted																													
		oratory - NATA		271											Х																Х	
		tory - NATA Site				Х	Х	Х			Х	Х	Х	Х		Х	Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х
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cto	ernal Labora	atory							Х	Х								Х														
'3	32 2.4-2.5	Nov 01, 2013		Soil	S13-No01486						Х																					
<b>20</b> 3	32 3.4-3.5	Nov 01, 2013		Soil	S13-No01487						Х																					
-		Nov 01, 2013		Soil	S13-No01488						Х																					
_ 23	32 5.4-5.5	Nov 01, 2013		Soil	S13-No01489						Χ																					
23	32 6.4-6.5	Nov 01, 2013		Soil	S13-No01490						Χ																					
23	32 6.9-7.0	Nov 01, 2013		Soil	S13-No01491				Χ	Х								Χ														
23	32 7.9-8.0	Nov 01, 2013		Soil	S13-No01492	Χ		Х					Х	Х			Χ		Χ	Х	Χ								Х			
23	32 9.9-10.0	Nov 01, 2013		Soil	S13-No01493						Χ																					
23	33 0.1-0.2	Nov 01, 2013		Soil	S13-No01494				Χ	Х								Χ														
23	34 0.1-0.2	Nov 01, 2013		Soil	S13-No01495				Χ	Х								Χ						<u> </u>							$\sqcup$	
23	35 0.1-0.2	Nov 01, 2013		Soil	S13-No01496				Χ	Х								Χ													Ш	

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	8 0.4-0.5 Nov 01, 2013 So 6ATE 2 Nov 01, 2013 Wa 81029-2 Oct 29, 2013 So 81029-2 Oct 29, 2013 So 8 0.4-0.5 Oct 29, 2013 So 9 0.9-1 Oct 29, 2013 So 04 Oct 29, 2013 So AB131029- Oct 29, 2013 So																															
			Sample Detail			% Moisture	CANCELLED	Chloride	E.Coli	Faecal Coliforms	HOLD	Iron	Nitrate (as N)	Nitrite (as N)	Organic Matter %	pH (1:5 Aqueous extract)	Phosphorus	Salmonella	Sulphate (as S)	Sulphur	Total Alkalinity (as CaCO3)	TRH C6-C9	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	втех	Polychlorinated Biphenyls (PCB)	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Total Recoverable Hydrocarbons	Cation Exchange Capacity	TRH after Silica Cleanup (NEPM) *
bo	ratory whe	ere analysis is c	onducted																													
				271											Х																Х	
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									Х	Х								Х														
				Soil	S13-No01497						Х																					
		Nov 01, 2013		Soil	S13-No01498						Х																					
		Nov 01, 2013		Water	S13-No01502																		Х	Х	Х	Χ	Х			Х		
<u> - 313</u>	31029-2	Oct 29, 2013		Soil	S13-No01503																	Х				Χ						
313	31029-2	Oct 29, 2013		Soil	S13-No01504																	Х				Χ						
218	3 0.4-0.5	Oct 29, 2013		Soil	S13-No01505						Χ																					
229	0.9-1	Oct 29, 2013		Soil	S13-No01506						Χ																					
30	04	Oct 29, 2013		Soil	S13-No01507	Х																	Χ	Χ	Χ	Χ	Χ			Х		
3LA	AB131029-	Oct 29, 2013		Soil	S13-No01508																	Х				Х						
234	;	Oct 29, 2013		Soil	S13-No01955						Χ																					



### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate**A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environment Protection Authority

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%

### **QC DATA GENERAL COMMENTS**

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	Method Blank					
TRH C10-C14	Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C15-C28	TRH C6-C9	mg/L	< 0.02	0.02	Pass	
Method Blank   STEX   Senzene   mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.001   Senzene   Mg/L   < 0.002   Senzene   Senzene   Mg/L   < 0.002   Senzene   Senzene   Mg/L   < 0.002   Senzene   Senzene   Senzene   Mg/L   < 0.001   Senzene   Senzen	TRH C10-C14	mg/L	< 0.05	0.05	Pass	
Method Blank	TRH C15-C28	mg/L	< 0.1	0.1	Pass	
Benzene   mg/L   0.001   Dess	TRH C29-C36	mg/L	< 0.1	0.1	Pass	
Benzene	Method Blank					
Toluene	BTEX					
Ethylbenzene	Benzene	mg/L	< 0.001	0.001	Pass	
m8p-Xylenes         mg/L         < 0.002         Pass           0-Xylene         mg/L         < 0.001	Toluene	mg/L	< 0.001	0.001	Pass	
e-Xylene         mg/L         < 0.001         0.001         Pass           Xylenes - Total         mg/L         < 0.003         0.003         Pass           Xylenes - Total         mg/L         < 0.003         0.003         Pass           Method Blank         mg/L         < 0.02         0.02         Pass           TRH C6-C10         mg/L         < 0.02         0.02         Pass           TRH C6-C10 less BTEX (F1)         mg/L         < 0.02         0.02         Pass           TRH > C16-C34         mg/L         < 0.01         0.05         Pass           TRH > C16-C34         mg/L         < 0.1         0.1         Pass           TRH > C34-C40         mg/L         < 0.1         0.1         Pass           TRH > C16-C34         mg/L         < 0.1         0.1         Pass           TRH > C16-C34         mg/L         < 0.1         0.1         Pass           TRH > C16-C34         mg/L         < 0.1         0.1         Pass           REN S4-C4-Q0         mg/L         < 0.01         0.1         Pass           Rehthod Blank         mg/L         < 0.001         0.001         Pass           Polycelic Aromatic Hydrocarbons         mg/L	Ethylbenzene	mg/L	< 0.001	0.001	Pass	
Wethod Blank         mg/L         < 0.003         Pass           Total Recoverable Hydrocarbons - 2013 NEPM Fractions           Naphthalene         mg/L         < 0.02	m&p-Xylenes	mg/L	< 0.002	0.002	Pass	
Method Blank   Total Recoverable Hydrocarbons - 2013 NEPM Fractions   mg/L   < 0.02   0.02   Pass   TRH C6-C10   mg/L   < 0.02   0.02   Pass   TRH C6-C10   mg/L   < 0.02   0.02   Pass   TRH C6-C10   mg/L   < 0.02   0.02   Pass   TRH C6-C10   mg/L   < 0.05   0.05   Pass   TRH C6-C10   mg/L   < 0.05   0.05   Pass   TRH C6-C10   mg/L   < 0.05   0.05   Pass   TRH C16-C34   mg/L   < 0.01   0.1   Pass   TRH C16-C34   mg/L   < 0.1   0.1   Pass   Method Blank   Polycyclic Aromatic Hydrocarbons	o-Xylene	mg/L	< 0.001	0.001	Pass	
Naphthalene	Xylenes - Total	mg/L	< 0.003	0.003	Pass	
Naphthalene	Method Blank					
TRH C6-C10   mg/L   < 0.02   0.02   Pass	Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH C6-C10 less BTEX (F1)         mg/L         < 0.02	Naphthalene	mg/L	< 0.02	0.02	Pass	
TRH C6-C10 less BTEX (F1)	TRH C6-C10	1	< 0.02	0.02	Pass	
TRH > C10-C16	TRH C6-C10 less BTEX (F1)	1	< 0.02	0.02	Pass	
TRH > C16-C34	TRH >C10-C16	1	< 0.05	0.05	Pass	
TRH > C34 - C40	TRH >C16-C34	1	< 0.1	0.1	Pass	
Polycyclic Aromatic Hydrocarbons   mg/L	TRH >C34-C40		< 0.1	0.1	Pass	
Acenaphthene         mg/L         < 0.001         0.001         Pass           Acenaphthylene         mg/L         < 0.001	Method Blank				<u>'</u>	
Acenaphthene         mg/L         < 0.001         0.001         Pass           Acenaphthylene         mg/L         < 0.001	Polycyclic Aromatic Hydrocarbons					
Acenaphthylene		mg/L	< 0.001	0.001	Pass	
Anthracene         mg/L         < 0.001         0.001         Pass           Benz(a)anthracene         mg/L         < 0.001	•	1	< 0.001	0.001	Pass	
Benz(a)anthracene         mg/L         < 0.001         D.001         Pass           Benzo(a)pyrene         mg/L         < 0.001		1				
Benzo(a)pyrene         mg/L         < 0.001         Pass           Benzo(b&)fluoranthene         mg/L         < 0.001		1				
Benzo(b&j)fluoranthene         mg/L         < 0.001         Pass           Benzo(g,h.i)perylene         mg/L         < 0.001		1				
Benzo(g.h.i)perylene         mg/L         < 0.001         Pass           Benzo(k)fluoranthene         mg/L         < 0.001	· 11 -	1				
Benzo(k)fluoranthene         mg/L         < 0.001         D.001         Pass           Chrysene         mg/L         < 0.001		1				
Chrysene         mg/L         < 0.001         Donot not not not not not not not not not	(6 )1	1				
Dibenz(a.h)anthracene         mg/L         < 0.001         0.001         Pass           Fluoranthene         mg/L         < 0.001	• •	1				
Fluoranthene						
Fluorene	`				_	
Indeno(1.2.3-cd)pyrene						
Naphthalene         mg/L         < 0.001         Pass           Phenanthrene         mg/L         < 0.001						
Phenanthrene         mg/L         < 0.001         Pass           Pyrene         mg/L         < 0.001         Pass           Method Blank           Organochlorine Pesticides           Chlordanes - Total         mg/L         < 0.001         0.001         Pass           4.4'-DDD         mg/L         < 0.0001		1			<u> </u>	
Pyrene         mg/L         < 0.001         Pass           Method Blank           Organochlorine Pesticides         Book of the pass o	•				<u> </u>	
Method Blank           Organochlorine Pesticides         mg/L         < 0.001         0.001         Pass           4.4'-DDD         mg/L         < 0.0001						
Organochlorine Pesticides         mg/L         < 0.001         Pass           4.4'-DDD         mg/L         < 0.0001		, mg/L	70.001	0.001	1 400	
Chlordanes - Total         mg/L         < 0.001         Pass           4.4'-DDD         mg/L         < 0.0001						
4.4'-DDD       mg/L       < 0.0001	_	ma/l	< 0.001	0.001	Pass	
4.4'-DDE       mg/L       < 0.0001		1			<u> </u>	
4.4'-DDT       mg/L       < 0.0001		1			<u> </u>	
a-BHC       mg/L       < 0.0001		1			<u> </u>	
Aldrin         mg/L         < 0.0001         0.0001         Pass           b-BHC         mg/L         < 0.0001					<u> </u>	
b-BHC         mg/L         < 0.0001         Pass           d-BHC         mg/L         < 0.0001					<u> </u>	
d-BHC         mg/L         < 0.0001         0.0001         Pass           Dieldrin         mg/L         < 0.0001					<u> </u>	
Dieldrin         mg/L         < 0.0001         0.0001         Pass           Endosulfan I         mg/L         < 0.0001					<u> </u>	
Endosulfan I         mg/L         < 0.0001         0.0001         Pass           Endosulfan II         mg/L         < 0.0001				<del>-   -   -   -   -   -   -   -   -   -  </del>	<u> </u>	
Endosulfan II         mg/L         < 0.0001         Pass					<del>                                     </del>	
					<del>                                     </del>	
Endosulfan sulphate mg/L < 0.0001 0.0001 Pass					<del>                                     </del>	



Test	Units	Result 1	Acce	eptance mits	Pass Limits	Qualifying Code
Endrin	mg/L	< 0.0001		0001	Pass	
Endrin aldehyde	mg/L	< 0.0001		0001	Pass	
Endrin ketone	mg/L	< 0.0001		0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001		0001	Pass	
Heptachlor	mg/L	< 0.0001		0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001		0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001		0001	Pass	
Methoxychlor	mg/L	< 0.0001		0001	Pass	
Toxaphene	mg/L	< 0.01		0.01	Pass	
Method Blank	IIIg/L	1 0.01		7.01	1 433	
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	mg/L	< 0.005	0.	.005	Pass	
Aroclor-1232	mg/L	< 0.005		.005	Pass	
Aroclor-1242	mg/L	< 0.005		.005	Pass	
Aroclor-1248	mg/L	< 0.005		.005	Pass	
Aroclor-1254	mg/L	< 0.005		.005	Pass	
Aroclor-1260	mg/L	< 0.005		.005	Pass	
Total PCB	mg/L	< 0.005		.005	Pass	
Method Blank	IIIg/L	0.005		.005	1 033	
Heavy Metals						
Arsenic	mg/L	< 0.005	0	.005	Pass	
Cadmium	mg/L	< 0.0005		0005	Pass	
Chromium	mg/L	< 0.005		.005	Pass	
Copper	mg/L	< 0.005		.005	Pass	
Lead		< 0.005		.005	Pass	
	mg/L	< 0.0001			Pass	
Mercury	mg/L	< 0.0001		.005		
Nickel Zing	mg/L				Pass	
Zinc	mg/L	< 0.005		.005	Pass	
LCS - % Recovery Total Recoverable Hydrocarbons - 1999 NEPM Fractions		Т		T		
TRH C6-C9	%	97	70	)-130	Pass	
TRH C10-C14	%	90		)-130	Pass	
LCS - % Recovery	70	90	10	J-130	F 455	
-				T		
BTEX	0/	100	70	120	Dana	
Benzene	%	103		)-130	Pass	
Toluene	%	95		)-130	Pass	
Ethylbenzene	%	95		)-130	Pass	
m&p-Xylenes	%	97		)-130	Pass	
o-Xylene	%	96		)-130	Pass	
Xylenes - Total	%	97		)-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	0/	106	70	120	Door	
Naphthalene TRU CC C40	%	106		)-130	Pass	
TRH C6-C10	%	91		)-130	Pass	
TRH >C10-C16	%	101		)-130	Pass	
LCS - % Recovery		<del></del>				
Polycyclic Aromatic Hydrocarbons	0/	74	70	120	Door	
Acenaphthylana	%	71		)-130	Pass	
Action	%	70		)-130	Pass	
Anthracene	%	89		)-130	Pass	
Benz(a)anthracene	%	79		)-130	Pass	
Benzo(a)pyrene	%	73		)-130	Pass	
Benzo(b&j)fluoranthene	%	71		)-130	Pass	
Benzo(g.h.i)perylene	%	80		)-130	Pass	
Benzo(k)fluoranthene	%	77	70	)-130	Pass	

Report Number: 398440-W



Test	11180	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code	
Chrysene			%	75	70-130	Pass	3046
Dibenz(a.h)anthracene			%	73	70-130	Pass	
Fluoranthene			%	90	70-130	Pass	
Fluorene			%	71	70-130	Pass	
Indeno(1.2.3-cd)pyrene			%	70	70-130	Pass	
Naphthalene		%	75	70-130	Pass		
Phenanthrene			%	93	70-130	Pass	
Pyrene			%	92	70-130	Pass	
LCS - % Recovery				<u>'</u>			
Organochlorine Pesticides							
Chlordanes - Total			%	100	70-130	Pass	
4.4'-DDD			%	100	70-130	Pass	
4.4'-DDE			%	100	70-130	Pass	
4.4'-DDT			%	100	70-130	Pass	
a-BHC			%	100	70-130	Pass	
Aldrin			%	100	70-130	Pass	
b-BHC			%	100	70-130	Pass	
d-BHC			%	100	70-130	Pass	
Dieldrin			%	110	70-130	Pass	
Endosulfan I			%	100	70-130	Pass	
Endosulfan II			%	110	70-130	Pass	
Endosulfan sulphate			%	110	70-130	Pass	
Endrin			%	110	70-130	Pass	
Endrin aldehyde			%	100	70-130	Pass	
Endrin ketone			%	110	70-130	Pass	
g-BHC (Lindane)			%	100	70-130	Pass	
Heptachlor			%	100	70-130	Pass	
Heptachlor epoxide			%	100	70-130	Pass	
Hexachlorobenzene			%	100	70-130	Pass	
Methoxychlor			%	120	70-130	Pass	
LCS - % Recovery				1			
Polychlorinated Biphenyls (PCB)							
Aroclor-1260			%	115	70-130	Pass	
LCS - % Recovery				T	ı		
Heavy Metals							
Arsenic			%	98	70-130	Pass	
Cadmium			%	104	70-130	Pass	
Chromium			%	104	70-130	Pass	
Copper			%	106	70-130	Pass	
Lead			%	117	70-130	Pass	
Mercury			%	92	70-130	Pass	
Nickel			%	99	70-130	Pass	
Zinc		6.1	%	99	70-130	Pass	0
Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery	4000 1:22:2						
Total Recoverable Hydrocarbons -			6,	Result 1	70.400		
TRH C6-C9	S13-No01533	NCP	%	95	70-130	Pass	
TRH C10-C14	S13-No01217	NCP	%	98	70-130	Pass	
Spike - % Recovery				De suit 4			
BTEX	042 Nc 04500	NOD	0/	Result 1	70.400	Darr	
Benzene	S13-No01533	NCP	%	104	70-130	Pass	
Toluene	S13-No01533	NCP	%	97	70-130	Pass	
Ethylbenzene	S13-No01533	NCP	%	95	70-130	Pass	
m&p-Xylenes	S13-No01533	NCP	%	98	70-130	Pass	<u> </u>



	T								
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
o-Xylene	S13-No01533	NCP	%	97			70-130	Pass	
Xylenes - Total	S13-No01533	NCP	%	97			70-130	Pass	
Spike - % Recovery				T	1				
Total Recoverable Hydrocarbons -	2013 NEPM Fract			Result 1					
Naphthalene	S13-No01533	NCP	%	107			70-130	Pass	
TRH C6-C10	S13-No01533	NCP	%	87			70-130	Pass	
TRH >C10-C16	S13-No01217	NCP	%	111			70-130	Pass	
Spike - % Recovery				T	1				
Polycyclic Aromatic Hydrocarbons				Result 1				_	
Acenaphthene	S13-Oc24820	NCP	%	104			70-130	Pass	
Acenaphthylene	S13-Oc24820	NCP	%	103			70-130	Pass	
Anthracene	S13-Oc24820	NCP	%	95			70-130	Pass	
Benz(a)anthracene	S13-Oc24820	NCP	%	109			70-130	Pass	
Benzo(a)pyrene	S13-Oc24820	NCP	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	S13-Oc24820	NCP	%	116			70-130	Pass	
Benzo(g.h.i)perylene	S13-Oc24820	NCP	%	94			70-130	Pass	
Benzo(k)fluoranthene	S13-Oc24820	NCP	%	105			70-130	Pass	
Chrysene	S13-Oc24820	NCP	%	103			70-130	Pass	
Dibenz(a.h)anthracene Fluoranthene	S13-Oc24820	NCP NCP	<u>%</u> %	85 114			70-130 70-130	Pass	
	S13-Oc24820	NCP	<del>%</del>	107				Pass	
Indeno(1.2.3-cd)pyrene	S13-Oc24820 S13-Oc24820	NCP	% %	95			70-130 70-130	Pass Pass	
Naphthalene	S13-Oc24820	NCP	%	104			70-130	Pass	
Phenanthrene	S13-Oc24820	NCP	%	110			70-130	Pass	
Pyrene	S13-Oc24820	NCP	%	113			70-130	Pass	
Spike - % Recovery	313-0024020	INCF	/0	1113			70-130	r ass	
Heavy Metals				Result 1					
Arsenic	M13-Oc23976	NCP	%	108			70-130	Pass	
Cadmium	M13-Oc23976	NCP	%	102			70-130	Pass	
Chromium	M13-Oc23976	NCP	%	102			70-130	Pass	
Copper	M13-Oc23976	NCP	%	91			70-130	Pass	
Lead	M13-Oc23976	NCP	%	99			70-130	Pass	
Mercury	M13-Oc23976	NCP	%	87			70-130	Pass	
Nickel	M13-Oc23976	NCP	%	93			70-130	Pass	
Zinc	M13-Oc23976	NCP	%	86			70-130	Pass	
Test	Lab Sample ID	QA	Units	Result 1			Acceptance	Pass	Qualifying
		Source					Limits	Limits	Code
Duplicate Total Recoverable Hydrocarbons -	1000 NEDM Front	lone		Result 1	Result 2	RPD			
TRH C6-C9	S13-No01520	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C0-C9	S13-No01216	NCP	mg/L	0.43	0.41	5.0	30%	Pass	
TRH C15-C28	S13-No01216	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S13-No01216	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate Duplicate	313-11001210	INCI	IIIg/L		V 0.1		30 /0	1 033	
BTEX				Result 1	Result 2	RPD			
Benzene	S13-No01520	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S13-No01520	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S13-No01520	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S13-No01520	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S13-No01520	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
	S13-No01520	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Xvienes - Total				, 0.000	2.500	•	, 55,0		
Xylenes - Total  Duplicate									
Duplicate	· 2013 NEPM Fract	ions		Result 1	Result 2	RPD			
	- <b>2013 NEPM Fract</b> S13-No01520	tions NCP	mg/L	Result 1 < 0.02	Result 2 < 0.02	RPD <1	30%	Pass	



8. E2.O.												
Duplicate												
Total Recoverable Hydrocarbons	2013 NEPM Fract	ions		Result 1	Result 2	RPD						
TRH C6-C10 less BTEX (F1)	S13-No01520	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass				
TRH >C10-C16	S13-No01216	NCP	mg/L	0.50	0.47	6.0	30%	Pass				
TRH >C16-C34	S13-No01216	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass				
TRH >C34-C40	S13-No01216	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass				
Duplicate												
Polycyclic Aromatic Hydrocarbon	S			Result 1	Result 2	RPD						
Acenaphthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Acenaphthylene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Anthracene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Benz(a)anthracene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Benzo(a)pyrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Benzo(b&j)fluoranthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Benzo(g.h.i)perylene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Benzo(k)fluoranthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Chrysene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Dibenz(a.h)anthracene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Fluoranthene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Fluorene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Indeno(1.2.3-cd)pyrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Naphthalene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Phenanthrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Pyrene	S13-Oc24819	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass				
Duplicate												
Heavy Metals				Result 1	Result 2	RPD						
Arsenic	M13-Oc23975	NCP	mg/L	0.011	0.011	4.0	30%	Pass				
Cadmium	M13-Oc23975	NCP	mg/L	< 0.0005	< 0.0005	<1	30%	Pass				
Chromium	M13-Oc23975	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass				
Copper	M13-Oc23975	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass				
Lead	M13-Oc23975	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass				
Mercury	M13-Oc23975	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass				
Nickel	M13-No00010	NCP	mg/L	0.37	0.38	3.0	30%	Pass				
Zinc	M13-Oc23975	NCP	mg/L	0.0080	0.0070	16	30%	Pass				

Report Number: 398440-W



#### Comments

#### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

### **Qualifier Codes/Comments**

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).

Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.

N02

F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes. N04

Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs N07

#### **Authorised By**

Jean Heng Client Services

James Norford Senior Analyst-Metal (NSW) Ryan Hamilton Senior Analyst-Organic (NSW) Ryan Hamilton Senior Analyst-Volatile (NSW)

Dr. Bob Symons

### **Laboratory Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Euroffies, Ingl shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In on case shall Euroffins | mg be liable for consequential damages including, but not limited to, lost profits, characes for refailure to meet declarations, and lost or refailure to meet declarations, the tests were performed on the samples as preceding and any other personal declarations.

Report Number: 398440-W

From: Thomas Harding [mailto:THarding@jbsg.com.au]

Sent: Thursday, 7 November 2013 3:09 PM

To: Jean Heng

**Cc:** Michelle Delandro **Subject:** Urban Growth

Jean,

Can I include the following samples on analysis for the Urban Growth Ed Park project please:

Lab report: 398440

Samples:

TP17 0.4-0.5 – Metals, TPH/BTEX, TPH aliphatic/aromatic spilt, TPH Silca gel clean up, Biologicals, nutrients

TP18 0.4-0.5 - Metals, TPH/BTEX, TPH aliphatic/aromatic spilt, TPH Silca gel clean up, Biologicals, nutrients

Thank you

Tom



ABN - 50 005 085 521

e.mail : EnviroSales@eurofins.com.au

web: www.eurofins.com.au

Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

**Brisbane**1/21 Smallwood Place
Murarrie QLD 4172
Phone: +61 7 3902 4600
NATA # 1261 Site # 20794

# Sample Receipt Advice

Company name: JBS & G (NSW & WA) Pty Ltd

Contact name: Thomas Harding

Client job number: ADDITIONAL : URBAN GROWTH 43008

COC number: Not provided

Turn around time: 6 Day

Date/Time received: Nov 11, 2013 9:20 AM

Eurofins | mgt reference: 399026

# Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 9.5 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Organic samples had Teflon liners.
- Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

### **Notes**

Additional from report 398440 | Microbiological analysis outside of holding time | Microbiological analysis conducted at Eurofins | mgt Melbourne

## Contact notes

NATA

ACCREDITATION

If you have any questions with respect to these samples please contact:

Jean Heng on Phone: (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Thomas Harding - tharding@jbsg.com.au.





NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: ADDITIONAL: URBAN GROWTH 43008 Order No.:

Report #: 399026

02 8245 0300

Phone: Fax:

Received: Due:

Nov 11, 2013 9:20 AM Nov 18, 2013

Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

	Sample Detail  Iboratory where analysis is conducted Isolatory - NATA Site # 1254 & 14271					% Moisture	Chloride	E.coli	Nitrate (as N)	Nitrite (as N)	Phosphorus	Salmonella	Salmonella Volume/Mass Tested	Sulphate (as S)	Sulphur	Thermotolerant Coliforms	Total Alkalinity (as CaCO3)	Metals M8	втех	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	TRH after Silica Cleanup (NEPM) *
l	boratory who	ere analysis is c	onducted																					
9	elbourne Lab	oratory - NATA	Site # 1254 & 14	271				Х				Х	Х			Х								
,	dney Labora	tory - NATA Site	# 18217			Х	Х		Х	Х	Х			Х	Х		Х	Х	Х	Х	Х	Х	Х	Х
·	isbane Labo	ratory - NATA Si	te # 20794																					
2	ternal Laboratory																							
<b>2</b>	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																			
<b>E</b>	17 0.4-0.5	Nov 01, 2013		Soil	S13-No04730	Χ	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Χ	Х	Х	Х	Х	Х
	18 0.4-0.5	Nov 01, 2013		Soil	S13-No04731	Χ	Χ	Χ	Χ	Χ	Χ	Х		Х	Χ	Χ	Χ	Χ	Χ	Х	Χ	Χ	Χ	Χ





JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney **NSW 2000** 

Attention: **Thomas Harding** 

Report 399026-S

Client Reference ADDITIONAL: URBAN GROWTH 43008

Received Date Nov 07, 2013





# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID			M01TP17 0.4-0.5	M01TP18 0.4-0.5
Sample Matrix			Soil	Soil
Eurofins   mgt Sample No.			S13-No04730	S13-No04731
Date Sampled			Nov 01, 2013	Nov 01, 2013
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM		01111		
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50
ВТЕХ				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	119	115
Aromatic & Aliphatic (TRH) - NP				
TRH >C35 Aromatic	200	mg/kg	< 200	< 200
TRH >C35 Aliphatic	1000	mg/kg	< 1000	< 1000
TRH C10-C15 Aliphatic	500	mg/kg	< 500	< 500
TRH C10-C15 Aromatic	50	mg/kg	< 50	< 50
TRH C16-C35 Aliphatic	1000	mg/kg	< 1000	< 1000
TRH C16-C35 Aromatic	50	mg/kg	< 50	< 50
Total Recoverable Hydrocarbons - 2013 NEPM	Fractions			
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
Petroleum Hydrocarbons Silica Cleanup (TPH)				
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	< 50	< 50
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	< 100	< 100
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	< 100	< 100
TRH after Silica Cleanup (NEPM) *				
TRH >C10-C16 after Silica Cleanup	50	mg/kg	< 50	< 50
TRH >C16-C34 after Silica Cleanup	100	mg/kg	< 100	< 100
TRH >C34-C40 after Silica Cleanup	100	mg/kg	< 100	< 100



Client Sample ID Sample Matrix			M01TP17 0.4-0.5 Soil	M01 <b>TP18 0.4-0.5</b> Soil
Eurofins   mgt Sample No.		4	S13-No04730	S13-No04731
Date Sampled			Nov 01, 2013	Nov 01, 2013
Test/Reference	LOR	Unit		
Chloride	10	mg/kg	< 10	< 10
Nitrate (as N)	0.1	mg/kg	0.2	1.9
Nitrite (as N)	0.1	mg/kg	< 0.1	< 0.1
Sulphate (as S)	10	mg/kg	< 10	< 10
Phosphorus	10	mg/kg	1600	2400
Sulphur	100	mg/kg	1100	480
E.coli	1	MPN/g	<1	<1
Salmonella			M10Not Detected	M10Not Detected
Salmonella Volume/Mass Tested		g	25	25
Thermotolerant Coliforms	-	MPN/g	M10<1	M10<1
% Moisture	0.1	%	1.9	1.4
Alkalinity				
Total Alkalinity (as CaCO3)	50	mg/kg	< 50	< 50
Total Nitrogen Set (as N)		-		
Nitrate & Nitrite (as N)	0.1	mg/kg	0.2	2.0
Total Kjeldahl Nitrogen (as N)	10	mg/kg	110	270
Total Nitrogen (as N)	10	mg/kg	110	270
Heavy Metals				
Arsenic	2	mg/kg	< 2	2.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	6.3	20
Copper	5	mg/kg	91	90
Lead	5	mg/kg	< 5	< 5
Mercury	0.05	mg/kg	< 0.05	< 0.05
Nickel	5	mg/kg	33	60
Zinc	5	mg/kg	54	78



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Nov 13, 2013	14 Day
- Method: E004 Petroleum Hydrocarbons (TPH)	0.1	N 40 0040	44.5
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 13, 2013	14 Day
- Method: LM-LTM-ORG2010	0.1	N 40 0040	44.5
BTEX	Sydney	Nov 13, 2013	14 Day
- Method: E029/E016 BTEX	0.1	N 40 0040	44.5
Aromatic & Aliphatic (TRH) - NP	Sydney	Nov 13, 2013	14 Day
- Method: E012 Aromatic & Aliphatic (TPH)	0.1	N 40 0040	44.5
TRH after Silica Cleanup (NEPM) *	Sydney	Nov 13, 2013	14 Day
- Method: LM-LTM-ORG2010			
Chloride	Sydney	Nov 14, 2013	28 Day
- Method: E033 /E045 /E047 Chloride			
Nitrate (as N)	Sydney	Nov 14, 2013	28 Day
- Method: E037 /E051 Nitrate as N			
Nitrite (as N)	Sydney	Nov 14, 2013	28 Day
- Method: E037 /E051 Nitrite as N			
Sulphate (as S)	Sydney	Nov 14, 2013	28 Day
- Method: E045 Sulphate			
Phosphorus	Sydney	Nov 13, 2013	180 Day
- Method: E020/E030 Metals			
Sulphur	Sydney	Nov 13, 2013	7 Day
- Method: E020/E030 Metals			
E.coli	Melbourne	Nov 13, 2013	72 Hour
- Method: 6621: E.coli in Soil by MPN			
Salmonella	Melbourne	Nov 13, 2013	72 Hour
Thermotolerant Coliforms	Melbourne	Nov 13, 2013	72 Hour
- Method: Inhouse: Thermotolerant Coliforms in Soil by MPN*			
% Moisture	Sydney	Nov 13, 2013	28 Day
- Method: E005 Moisture Content			
Alkalinity	Sydney	Nov 15, 2013	0 Day
Total Nitrogen Set (as N)			
Nitrate & Nitrite (as N)	Sydney	Nov 14, 2013	28 Day
- Method: E037 /E051 NOx (as N)			
Total Kjeldahl Nitrogen (as N)	Sydney	Nov 14, 2013	28 Day
- Method: E039/E053 Unfiltered Total Kjeldahl Nitrogen as N			
Metals M8	Sydney	Nov 13, 2013	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
Petroleum Hydrocarbons Silica Cleanup (TPH)	Sydney	Nov 13, 2013	14 Day
- Method: E004 Petroleum Hydrocarbons Silica Cleanup (TPH)			

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: ADDITIONAL: URBAN GROWTH 43008 Order No.:

Report #: 399026

02 8245 0300

Phone: Fax:

Received: Due:

Nov 11, 2013 9:20 AM Nov 18, 2013

Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

	Sample Detail  boratory where analysis is conducted					% Moisture	Chloride	E.coli	Nitrate (as N)	Nitrite (as N)	Phosphorus	Salmonella	Salmonella Volume/Mass Tested	Sulphate (as S)	Sulphur	Thermotolerant Coliforms	Total Alkalinity (as CaCO3)	Metals M8	BTEX	Petroleum Hydrocarbons Silica Cleanup (TPH)	Total Nitrogen Set (as N)	Aromatic & Aliphatic (TRH) - NP	Total Recoverable Hydrocarbons	TRH after Silica Cleanup (NEPM) *
ļ	boratory who	ere analysis is co	onducted																					
	elbourne Lab	oratory - NATA S	Site # 1254 & 14	271				Х				Х	Х			Х								
!	dney Labora	tory - NATA Site	# 18217			Х	Х		Х	Х	Х			Х	Х		Х	Х	Х	Х	Х	Х	Х	Х
	isbane Labo	ratory - NATA Si	te # 20794																					
	ternal Labor	atory																						
<b>8</b>	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																			
<b>E</b>	17 0.4-0.5	Nov 01, 2013		Soil	S13-No04730	Χ	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Χ	Х	Х	Χ
	18 0.4-0.5	Nov 01, 2013		Soil	S13-No04731	Χ	Χ	Х	Х	Χ	Χ	Х		Х	Х	Х	Х	Х	Х	Χ	Χ	Χ	Χ	Χ





#### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate**A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance quidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

#### OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Report Number: 399026-S



	mgt		
Test		Units	Result
Method Blank			

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank					
Total Recoverable Hydrocarbons - 1999 NEPM Fraction	ons				
TRH C6-C9	mg/kg	< 20	20	Pass	
TRH C10-C14	mg/kg	< 20	20	Pass	
TRH C15-C28	mg/kg	< 50	50	Pass	
TRH C29-C36	mg/kg	< 50	50	Pass	
Method Blank			 		
BTEX					
Benzene	mg/kg	< 0.1	0.1	Pass	
Toluene	mg/kg	< 0.1	0.1	Pass	
Ethylbenzene	mg/kg	< 0.1	0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2	0.2	Pass	
o-Xylene	mg/kg	< 0.1	0.1	Pass	
Xylenes - Total	mg/kg	< 0.3	0.3	Pass	
Method Blank			 		
Total Recoverable Hydrocarbons - 2013 NEPM Fraction	ons				
Naphthalene	mg/kg	< 0.5	0.5	Pass	
TRH C6-C10	mg/kg	< 20	20	Pass	
TRH C6-C10 less BTEX (F1)	mg/kg	< 20	20	Pass	
TRH >C10-C16	mg/kg	< 50	50	Pass	
TRH >C16-C34	mg/kg	< 100	100	Pass	
TRH >C34-C40	mg/kg	< 100	100	Pass	
Method Blank			 		
Petroleum Hydrocarbons Silica Cleanup (TPH)					
TRH C10-C14 after Silica Cleanup (TPH)	mg/kg	< 50	50	Pass	
TRH C15-C28 after Silica Cleanup (TPH)	mg/kg	< 100	100	Pass	
TRH C29-C36 after Silica Cleanup (TPH)	mg/kg	< 100	100	Pass	
Method Blank					
TRH after Silica Cleanup (NEPM) *					
TRH >C10-C16 after Silica Cleanup	mg/kg	< 50	50	Pass	
TRH >C16-C34 after Silica Cleanup	mg/kg	< 100	100	Pass	
TRH >C34-C40 after Silica Cleanup	mg/kg	< 100	100	Pass	
Method Blank					
Chloride	mg/kg	< 10	10	Pass	
Nitrate (as N)	mg/kg	< 0.1	0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1	0.1	Pass	
Sulphate (as S)	mg/kg	< 10	10	Pass	
Phosphorus	mg/kg	< 10	10	Pass	
Sulphur	mg/kg	< 100	100	Pass	
Method Blank					
Total Nitrogen Set (as N)					
Nitrate & Nitrite (as N)	mg/kg	< 0.1	0.1	Pass	
Total Kjeldahl Nitrogen (as N)	mg/kg	< 10	10	Pass	
Method Blank					
Heavy Metals					
Arsenic	mg/kg	< 2	2	Pass	
Cadmium	mg/kg	< 0.4	0.4	Pass	
Chromium	mg/kg	< 5	5	Pass	
Copper	mg/kg	< 5	5	Pass	
Lead	mg/kg	< 5	5	Pass	
Mercury	mg/kg	< 0.05	0.05	Pass	
Nickel	mg/kg	< 5	5	Pass	
Zinc	mg/kg	< 5	5	Pass	
LCS - % Recovery					



Test			Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons	- 1999 NEPM Fract	ions				Lillits	Lillits	Oode
TRH C6-C9	1000 1121 111 1 1 1 1 1 1 1 1 1 1 1 1 1		%	86		70-130	Pass	
TRH C10-C14			%	76		70-130	Pass	
LCS - % Recovery			,,,			10.00		
BTEX								
Benzene			%	106		70-130	Pass	
Toluene			%	95		70-130	Pass	
Ethylbenzene			%	91		70-130	Pass	
m&p-Xylenes			%	90		70-130	Pass	
o-Xylene			%	91		70-130	Pass	
Xylenes - Total			%	91		70-130	Pass	
LCS - % Recovery								
Total Recoverable Hydrocarbons	- 2013 NEPM Fract	ions						
Naphthalene			%	87		70-130	Pass	
TRH C6-C10			%	96		70-130	Pass	
TRH >C10-C16			%	82		70-130	Pass	
LCS - % Recovery								
Petroleum Hydrocarbons Silica Cl	eanup (TPH)							
TRH C10-C14 after Silica Cleanup	(TPH)		%	73		70-130	Pass	
LCS - % Recovery								
TRH after Silica Cleanup (NEPM) *								
TRH >C10-C16 after Silica Cleanup	)		%	81		70-130	Pass	
LCS - % Recovery				T				
Chloride			%	108		70-130	Pass	
Nitrate (as N)			%	71		70-130	Pass	
Nitrite (as N)			%	97		70-130	Pass	
Sulphate (as S)			%	105		70-130	Pass	
Phosphorus			%	80		70-130	Pass	
Sulphur			%	87		70-130	Pass	
LCS - % Recovery				T	l I	I	Ι	
Total Nitrogen Set (as N)				_			_	
Nitrate & Nitrite (as N)			%	84		70-130	Pass	
Total Kjeldahl Nitrogen (as N)			%	110		70-130	Pass	
LCS - % Recovery				T	l I	T	Γ	
Heavy Metals			0,1					
Arsenic			%	85		70-130	Pass	
Cadmium			%	85		70-130	Pass	
Conner			%	90		70-130	Pass	-
Copper			%	93		70-130	Pass	-
Lead			%	95		70-130	Pass	
Mercury			%	103		70-130	Pass	
Nickel			% %	93		70-130	Pass	
Zinc		04		95		70-130	Pass Pass	Qualifyina
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Limits	Qualifying Code
Spike - % Recovery	4000 NETTE							-
Total Recoverable Hydrocarbons			21	Result 1		70.455	_	
TRH C6-C9	S13-No04351	NCP	%	87		70-130	Pass	
TRH C10-C14	S13-No05708	NCP	%	76		70-130	Pass	
Spike - % Recovery				Day 11.4				
BTEX	040 N-04054	NOD	0/	Result 1		70.400	D-:	
Benzene	S13-No04351	NCP	%	105		70-130	Pass	
Toluene	S13-No04351	NCP	%	94		70-130	Pass	
Ethylbenzene	S13-No04351	NCP	%	90		70-130	Pass	
m&p-Xylenes	S13-No04351	NCP	%	89		70-130	Pass	



	iii St						1		<u> </u>
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
o-Xylene	S13-No04351	NCP	%	89			70-130	Pass	
Xylenes - Total	S13-No04351	NCP	%	89			70-130	Pass	
Spike - % Recovery				,					
Total Recoverable Hydrocarbons	- 2013 NEPM Fract	tions		Result 1					
Naphthalene	S13-No04351	NCP	%	73			70-130	Pass	
TRH C6-C10	S13-No04351	NCP	%	95			70-130	Pass	
TRH >C10-C16	S13-No05708	NCP	%	82			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	S13-No05595	NCP	%	98			70-130	Pass	
Sulphate (as S)	S13-No05595	NCP	%	98			70-130	Pass	
Spike - % Recovery	<u>'</u>			•					
Heavy Metals				Result 1					
Arsenic	S13-No09122	NCP	%	84			70-130	Pass	
Cadmium	S13-No09122	NCP	%	84			70-130	Pass	
Chromium	S13-No09122	NCP	%	76			70-130	Pass	
Copper	S13-No09122	NCP	%	83			70-130	Pass	
Lead	S13-No09122 S13-No09122	NCP	%	69			70-130	Fail	
	S13-No09122 S13-No09122	NCP	%	93			70-130	Pass	
Mercury									
Nickel	S13-No09122	NCP	%	88			70-130	Pass	
Zinc	S13-No04182	NCP	%	106			70-130	Pass	0 116 1
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons	- 1999 NEPM Fract	tions		Result 1	Result 2	RPD			
TRH C6-C9	S13-No04351	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S13-No05708	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S13-No05708	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S13-No05708	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-No04351	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S13-No04351	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S13-No04351	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S13-No04351	NCP	mg/kg	< 0.2	< 0.2	<u></u>	30%	Pass	
o-Xylene	S13-No04351	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S13-No04351	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate	01011004001	1101	mg/kg	1 0.0	10.0	- 1	0070	1 455	
Total Recoverable Hydrocarbons	- 2013 NEPM Fract	tions		Result 1	Result 2	RPD	T		
Naphthalene	S13-No04351	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S13-No04351	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
				†	1 1		1		
TRH C6-C10 less BTEX (F1)	S13-No04351	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S13-No05708	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S13-No05708	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S13-No05708	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate				D. ".	D- "	DDD			
	046 11 6===	1.0-		Result 1	Result 2	RPD	222		
Chloride	S13-No05594	NCP	mg/kg	11	11	1.0	30%	Pass	
Sulphate (as S)	S13-No05594	NCP	mg/kg	13	13	<1	30%	Pass	
Phosphorus	S13-No05472	NCP	mg/kg	35	33	6.0	30%	Pass	
Sulphur	S13-No05472	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
									I
Duplicate				Г					
Heavy Metals				Result 1	Result 2	RPD			
•	S13-No04182	NCP	mg/kg	Result 1	Result 2 9.4	RPD 1.0	30%	Pass	



Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Chromium	S13-No04182	NCP	mg/kg	19	21	10	30%	Pass	
Copper	S13-No04182	NCP	mg/kg	33	32	2.0	30%	Pass	
Lead	S13-No04182	NCP	mg/kg	19	21	10	30%	Pass	
Mercury	S13-No02538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Nickel	S13-No04182	NCP	mg/kg	7.7	9.3	18	30%	Pass	
Zinc	S13-No04182	NCP	mg/kg	54	67	22	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Nitrate (as N)	S13-No04731	CP	mg/kg	1.9	1.9	<1	30%	Pass	
Nitrite (as N)	S13-No04731	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Nitrogen Set (as N)				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	S13-No04731	CP	mg/kg	2.0	2.0	<1	30%	Pass	



### Comments

## Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	No
Some samples have been subcontracted	No

### **Qualifier Codes/Comments**

Code	Description
M01	Microbiological Testing performed outside the recommended holding time
M10	NATA accreditation does not cover the performance of this service in soil matrices
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

## **Authorised By**

Jean Heng Client Services

Bob Symons Senior Analyst-Inorganic (NSW)
James Norford Senior Analyst-Metal (NSW)
Niloufer Lobo Senior Analyst-Microbiology (VIC)
Ryan Hamilton Senior Analyst-Organic (NSW)
Ryan Hamilton Senior Analyst-Volatile (NSW)



## Dr. Bob Symons Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Eurofins, Impd shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In on case shall Eurofins I mg/b to liable for consequential clamps including, but not limited to, lost profits, damages for relatince to meet decidines and lost production arising from this report. This document shall be reported everyein full and reflects only to the terms tested. Unless indicated otherwise, the tests were performed on the samples as received.

Sefton McGraw Eurofins Environment Testing Australia P/L PO Box 276 Oakleigh VIC 3166 ph 03 95647055 fax 03 95647190

## **Final Report – 13/11/13**

Two biosolid samples were received and analysed for Viruses as requested.

For virus detection  $\sim$ 20g of sample was dissolved in buffer and processed by PEG precipitation and analysed by cell culture.

All samples are processed according to methods WI 300, WI 429, WI 500-561 inclusive as appropriate.

All controls were valid. (<1 denotes viruses not detected.) The results are shown in the following table.

## VIRUSES DETECTED BY CELL CULTURE

Sample	Date	Laboratory	Viruses	Number of
Identification	Sampled	Number	isolated in	Viruses detected
			Cell Culture	Per 10 grams
No006027	Not provided	13-0519	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<1
No006028	Not provided	13-0520	Reovirus	<1
			Enterovirus	<1
			Adenovirus	<1

Dr. G. S. Grohmann Principal Consultant

Page 1 of 1

# 399026

From: Thomas Harding [mailto:THarding@jbsg.com.au]

Sent: Thursday, 7 November 2013 3:09 PM

To: Jean Heng

**Cc:** Michelle Delandro **Subject:** Urban Growth

Jean,

Can I include the following samples on analysis for the Urban Growth Ed Park project please:

Lab report: 398440

Samples:

TP17 0.4-0.5 – Metals, TPH/BTEX, TPH aliphatic/aromatic spilt, TPH Silca gel clean up, Biologicals, nutrients

TP18 0.4-0.5 - Metals, TPH/BTEX, TPH aliphatic/aromatic spilt, TPH Silca gel clean up, Biologicals, nutrients

Thank you

Tom



ABN - 50 005 085 521

e.mail : EnviroSales@eurofins.com.au

web: www.eurofins.com.au

Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

**Brisbane**1/21 Smallwood Place
Murarrie QLD 4172
Phone: +61 7 3902 4600
NATA # 1261 Site # 20794

# Sample Receipt Advice

Company name: JBS & G (NSW & WA) Pty Ltd

Contact name: Thomas Harding

Client job number: EXTERNAL : URBAN GROWTH 43008

COC number: Not provided Turn around time: 10 Day

Date/Time received: Nov 11, 2013 10:00 AM

Eurofins | mgt reference: 399249

# Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 9.5 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Organic samples had Teflon liners.
- ☑ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

### **Notes**

Parent report 399026 | Microbiological analysis outside of holding time | Microbiological analysis conducted at Environmental Pathogens Canberra

## Contact notes

NATA

ACCREDITATION

If you have any questions with respect to these samples please contact:

Jean Heng on Phone: (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Thomas Harding - tharding@jbsg.com.au.





NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: EXTERNAL: URBAN GROWTH 43008 Order No.:

Report #: 399249 Phone: 02 8245 0300

Fax:

Received: Due:

Nov 11, 2013 10:00 AM

Nov 25, 2013 Priority:

10 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

Sample Detail						
boratory whe	ere analysis is co	onducted				
elbourne Lab	oratory - NATA S	Site # 1254 & 14	271			
dney Labora	tory - NATA Site	# 18217				
<mark>isbane Labo</mark> i	ratory - NATA Si	te # 20794				
ternal Laboratory						
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
17 0.4-0.5	Nov 01, 2013		Soil	S13-No06027	Х	Х
18 0.4-0.5	Nov 01, 2013		Soil	S13-No06028	Х	Х





JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Thomas Harding

Report 399249-S

Client Reference EXTERNAL: URBAN GROWTH 43008

Received Date Nov 11, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP17 0.4-0.5 Soil S13-No06027 Nov 01, 2013	TP18 0.4-0.5 Soil S13-No06028 Nov 01, 2013
Test/Reference	LOR	Unit		
Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)			see attached	see attached
Helminth Ova			see attached	see attached



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

DescriptionTesting SiteExtractedHolding TimeHelminth OvaSydneyNov 11, 20130 Day

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: EXTERNAL: URBAN GROWTH 43008 Order No.:

Report #: 399249 Phone: 02 8245 0300

Fax:

Received: Due:

Nov 11, 2013 10:00 AM

Nov 25, 2013 Priority:

10 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

Sample Detail						
boratory whe	ere analysis is co	onducted				
elbourne Lab	oratory - NATA S	Site # 1254 & 14	271			
dney Labora	tory - NATA Site	# 18217				
<mark>isbane Labo</mark> i	ratory - NATA Si	te # 20794				
ternal Laboratory						
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
17 0.4-0.5	Nov 01, 2013		Soil	S13-No06027	Х	Х
18 0.4-0.5	Nov 01, 2013		Soil	S13-No06028	Х	Х





#### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
org/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate**A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance quidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

#### OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Report Number: 399249-S



### Comments

## Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	No
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	No
Some samples have been subcontracted	Yes

## **Authorised By**

Jean Heng Client Services

Jan 5

## Dr. Bob Symons Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Eurofins; Imgl shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In on case shall Eurofins; Imgl be liable for consequential claimages including, but not limited to, logic profits, damages for reflaire to mere declarations and lost production arising from this report. This document shall not be reproduced or related only to the terms tested. Unless indicated otherwises, the testis veree, performed on the samples as received.

Report Number: 399249-S

mdedondro (Q'jbsg.com.oud eluu @ jbsg.com.oud thou ding (2) jbsg.com.oud

SSBL C

SOOS LABORATORY BATCH NO:	Growth	SEND INVOICE TO: 900 (2) LOS. COM. COM. PHONE: SYD	QC LEVEL: REPM (2013)	PLACE FORMING INDINGKAL TO ENTRO WE ENTRY OF STATES OF S	A DO LANGER	TIME TYPE & PRESERVATIVE DH P 9 0 F 3 ZE PP 3	<b>*</b>	*	× >>	\frac{1}{2}						<b>→</b>	5 (830	(335	(345)	1380		<b>1 1 1 1 1 1 1 1 1 1</b>	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		METHOD OF SHIPMENT: RECEIVED 9Y:	COOLER SEAL - Yes	TRANSPORT CO.	fE: DATE:	TRANSPORT CO	Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle: N = Nitric Acid Prevd. C = Sodium Hydroxide Prevd. VC = Hydroxide Prevd. VC = Fundamental in a cid brevd visit in a cid b
PROJECT NO.: 43008	PROJECT NAME: CANAGIN Groun		DATE NEEDED BY: SACOCION	PLASE FORMING / TORAGE OR DISPOSAL		1PLE ID		MW02	MW03	MUSOF	SPOI	5Po 2	SPO 3	SPOY	0Pw-01	OPE.O!	0900S-01	OPWS-02	08ws.03	26ws-04	OPES-OI	OPES-02	01ES-03	OPES-O4	RELING	NAME: DATE:	OF: JBS&G	NAME: DATE:	OF:	Container & Preservative Codes: P = Plastic; J = Sorl J.

Biological - E-coli, salmonella sp, forecad coliforms, enteric viruses, helminth ava W.O. Parameters - pH, EC, redox, TPS/TSS, major anions/cations Nutrients - Phosphonous, Nitrate, Ammonia

DSSEL CARSE NOTES: FOR RECEIVING LAB USE ONLY: EMAIL: PHONE: SYDNEY 02 82450300 -- PERTH 08 9488 0100 NAME: June IIIII DATE: DATE: 05: IN-SE | 12.00 DY \* MO LABORATORY BATCH NO.: Har SOVZ Har Har Har Har RECEIVED BY: CHAIN OF CUSTODY 4 4 핑 Please formaro this is capit to Envirolate TYPE & PRESERVATIVE CONSIGNMENT NOTE NO. SEND INVOICE TO: TIME DATE motel Indro @ 1625; cern. w Usbin Growth DATE NEEDED BY: STANDL-O
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: MATRIX 333 SAMPLE ID PROJECT NAME: SEND REPORT TO: PROJECT NO.:

OF:

Container & Preservative Codes: P = Plastic; J = Soil Jar, B = Glass Bottle; N = Nitric Acid Prsvd; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; D = Other Difference Codes: P = Plastic; J = Soil Jar, B = Glass Bottle; N = Nitric Acid Prsvd; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; D = Other Codes Cod

NAME: OF:

CONSIGNMENT NOTE NO.

Intact ...... Broken .....

COOLER TEMP ...... deg C
COOLER SEAL – Yes..... No ......

COOLER SEAL - Yes ...... No ...... Intact ....... Broken



ABN - 50 005 085 521

e.mail : EnviroSales@eurofins.com.au

web: www.eurofins.com.au

Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794

# Sample Receipt Advice

Company name: JBS & G (NSW & WA) Pty Ltd

Contact name: Thomas Harding

Client job number: URBAN GROWTH 43008

COC number: Not provided

Turn around time: 5 Day

Date/Time received: Nov 11, 2013 5:00 PM

Eurofins | mgt reference: 399310

# Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 12 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Organic samples had Teflon liners.
- ☑ Sample containers for volatile analysis received with zero headspace.
- Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

### **Notes**

External analysis in report 399312 | Sample TRIPLICATE 1 sent to Envirolab as requested

# **Contact notes**

If you have any questions with respect to these samples please contact:

Jean Heng on Phone: (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Thomas Harding - tharding@jbsg.com.au.

# Eurofins | mgt Sample Receipt



Environmental Laboratory Air Analysis Water Analysis Soil Contamination Analysis NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



eurofins 💸

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.:

Report #: 399310

Phone: Fax:

02 8245 0300

Received: Due:

Nov 11, 2013 5:00 PM Nov 19, 2013

Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

			Sample Detail			% Moisture	Ammonia (as N)	Conductivity (at 25°C)	E.coli	Nitrate (as N)	PH	Redox Potential mV*	Salmonella	Salmonella Volume/Mass Tested	Suspended Solids	Thermotolerant Coliforms	Total Dissolved Solids	Total Phosphorous	TRH C6-C9	Metals M8	Metals M8 filtered	втех	Petroleum Hydrocarbons Silica Cleanup (TPH)	Aromatic & Aliphatic (TRH) - NP	Major Anions	Total Recoverable Hydrocarbons	Major Cations	Semivolatile Organic Compounds (SVOC)	TRH after Silica Cleanup (NEPM) *
		ere analysis is co														.,											$\vdash$	$\vdash$	_
-		oratory - NATA S		2/1			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	· ·	Х	\ \ \	\ \ \		Х	Х	· ·	Х	\ \ \			\ \ \		\ \	\ \	\ \ \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \ \		\ \ \	
		tory - NATA Site				Х	Х	Х		Х	Х	Х			Х		Х	Χ	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
_		ratory - NATA Site	e # 20794																								$\vdash$	$\vdash \vdash$	
	ternal Labora		Committee	Maduiss	LAB ID																						$\vdash$	$\vdash$	
mgt	Sample ID	Sample Date	Sampling Time	Matrix	LABID																						'	1	
<b>E</b> /	V01	Nov 11, 2013		Water	S13-No06469		Х			Х								Х			Х	Х	Х	Х					Х
	V02	Nov 11, 2013		Water	S13-No06470		Х			Х								Х			Χ	Χ	Х	Х					Χ
/	V03	Nov 11, 2013		Water	S13-No06471		Х			Х								Х			Χ	Χ	Х	Х					Χ
/	V04	Nov 11, 2013		Water	S13-No06472		Х			Х								Х			Χ	Χ	Х	Χ					Χ
2	01	Nov 11, 2013		Water	S13-No06473			Х			Х	Х			Х		Х				Х	Χ			Х	Х	Х	Х	
_	02	Nov 11, 2013		Water	S13-No06474			Х			Х	Χ			Х		Χ				Χ	Χ			Х	Х	Х	Х	
)	03	Nov 11, 2013		Water	S13-No06475			Х			Х	Χ			Х		Χ				Х	Χ			Х	Х	Х	Х	
)	04	Nov 11, 2013		Water	S13-No06476			Х			Х	Х			Х		Х				Χ	Χ			Х	Х	Х	Х	
-	W_01	Nov 11, 2013		Water	S13-No06477	<u> </u>		Х			Х	Х			Х		Х				Х	Χ			Х	Х	Х	Х	
-	E_01	Nov 11, 2013		Water	S13-No06478			Χ			Χ	Χ			Χ		Χ				Χ	Χ			Х	Χ	Χ	Х	



🔅 eurofins

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

399310

Phone: 02 8245 0300 Fax:

Received: Nov 11, 2013 5:00 PM Due: Nov 19, 2013

Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

		Sample Deta	ail		% Moisture	Ammonia (as N)	Conductivity (at 25°C)	E.coli	Nitrate (as N)	pH	Redox Potential mV*	Salmonella	Salmonella Volume/Mass Tested	Suspended Solids	Thermotolerant Coliforms	Total Dissolved Solids	Total Phosphorous	TRH C6-C9	Metals M8	Metals M8 filtered	втех	Petroleum Hydrocarbons Silica Cleanup (TPH)	Aromatic & Aliphatic (TRH) - NP	Major Anions	Total Recoverable Hydrocarbons	Major Cations	Semivolatile Organic Compounds (SVOC)	TRH after Silica Cleanup (NEPM) *
boratory wl	nere analysis is c	onducted																										
elbourne La	boratory - NATA	Site # 1254 &	14271					Х				Χ	Х		Х													
<mark>dney Labor</mark>	atory - NATA Site	e # 18217			Х	Х	Х		Х	Х	Χ			Х		Х	Х	Х	Х	Χ	Χ	Х	Х	Х	Х	Х	Χ	Χ
isbane Lab	oratory - NATA S	ite # 20794																										
ternal Labo	ratory																											
- 2WS_01	Nov 11, 2013	1:30PM	Soil	S13-No06479	Х			Х				Х	Х		Х				Х			Х	Х					Χ
<b>₩</b> >WS_02	Nov 11, 2013	1:35PM	Soil	S13-No06480	Х														Х			Х	Х					Χ
= <u>&gt;WS_03</u>	Nov 11, 2013	1:35PM	Soil	S13-No06481	Х			Х				Χ	Х		Х				Х			Х	Х					Χ
<u>PWS_04</u>	Nov 11, 2013	1:50PM	Soil	S13-No06482	Х														Х			Х	Х					Χ
PES_01	Nov 11, 2013	2:35PM	Soil	S13-No06483	Х			Х				Χ	Х		Х				Х			Х	Х					Χ
PES_02	Nov 11, 2013	2:40PM	Soil	S13-No06484	Х														Х			Х	Х					Х
PES_03	Nov 11, 2013	2:45PM	Soil	S13-No06485	Χ			Х				Χ	Х		Х				Χ			Χ	Х					Χ
PES_04	Nov 11, 2013	2:50PM	Soil	S13-No06486	Χ														Χ			Χ	Х					Х
JP1	Nov 11, 2013		Water	S13-No06487																Х	Χ	Χ	Х		Х			Χ
₹IPB	Nov 11, 2013		Water	S13-No06488														Х			Χ							
NSATE 1	Nov 11, 2013		Water	S13-No06489																Х			Χ				Х	





JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Thomas Harding

Report 399310-S

Client Reference URBAN GROWTH 43008

Received Date Nov 11, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID			OPWS_01	OPWS_02	OPWS_03	OPWS_04
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No06479	S13-No06480	S13-No06481	S13-No06482
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit				
Aromatic & Aliphatic (TRH) - NP						
TRH >C35 Aromatic	200	mg/kg	< 200	< 200	< 200	< 200
TRH >C35 Aliphatic	1000	mg/kg	< 1000	< 1000	< 1000	< 1000
TRH C10-C15 Aliphatic	500	mg/kg	< 500	< 500	< 500	< 500
TRH C10-C15 Aromatic	50	mg/kg	< 50	< 50	< 50	< 50
TRH C16-C35 Aliphatic	1000	mg/kg	< 1000	< 1000	< 1000	< 1000
TRH C16-C35 Aromatic	50	mg/kg	< 50	< 50	< 50	< 50
Petroleum Hydrocarbons Silica Cleanup (TPH)						
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	< 100	< 100	< 100	< 100
TRH after Silica Cleanup (NEPM) *						
TRH >C10-C16 after Silica Cleanup	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34 after Silica Cleanup	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40 after Silica Cleanup	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	12	6.3	12	5.8
Cadmium	0.4	mg/kg	2.7	1.6	1.7	0.8
Chromium	5	mg/kg	21	14	73	19
Copper	5	mg/kg	200	130	750	210
Lead	5	mg/kg	2900	18	69	21
Mercury	0.05	mg/kg	2.6	2.0	8.7	2.7
Nickel	5	mg/kg	23	10	22	10.0
Zinc	5	mg/kg	660	270	500	180
E.coli	1	MPN/g	580	-	<10	-
Salmonella			M10Not Detected	-	M10Not Detected	-
Salmonella Volume/Mass Tested		g	25	-	25	-
Thermotolerant Coliforms	-	MPN/g	M10730	-	M10<10	-
% Moisture	0.1	%	78	64	69	48



Client Sample ID			OPES_01	OPES_02	OPES_03	OPES_04
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			S13-No06483	S13-No06484	S13-No06485	S13-No06486
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit				
Aromatic & Aliphatic (TRH) - NP						
TRH >C35 Aromatic	200	mg/kg	< 200	< 200	< 200	< 200
TRH >C35 Aliphatic	1000	mg/kg	< 1000	< 1000	< 1000	< 1000
TRH C10-C15 Aliphatic	500	mg/kg	< 500	< 500	< 500	< 500
TRH C10-C15 Aromatic	50	mg/kg	< 50	< 50	< 50	< 50
TRH C16-C35 Aliphatic	1000	mg/kg	< 1000	< 1000	< 1000	< 1000
TRH C16-C35 Aromatic	50	mg/kg	< 50	< 50	< 50	< 50
Petroleum Hydrocarbons Silica Cleanup (TPH)						
TRH C10-C14 after Silica Cleanup (TPH)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28 after Silica Cleanup (TPH)	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36 after Silica Cleanup (TPH)	100	mg/kg	< 100	< 100	< 100	< 100
TRH after Silica Cleanup (NEPM) *						
TRH >C10-C16 after Silica Cleanup	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34 after Silica Cleanup	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40 after Silica Cleanup	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	12	6.7	4.6	7.3
Cadmium	0.4	mg/kg	0.5	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	20	11	9.3	14
Copper	5	mg/kg	36	29	34	44
Lead	5	mg/kg	28	9.9	9.8	21
Mercury	0.05	mg/kg	0.21	0.07	0.19	0.25
Nickel	5	mg/kg	7.0	5.8	5.9	9.7
Zinc	5	mg/kg	28	24	67	68
E.coli	1	MPN/g	<10	-	51	-
Salmonella			M10Not Detected	-	M10Not Detected	-
Salmonella Volume/Mass Tested		g	25	-	25	-
Thermotolerant Coliforms	-	MPN/g	<sup>M10</sup> 10	-	<sup>M10</sup> 52	-
% Moisture	0.1	%	34	31	71	68



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Aromatic & Aliphatic (TRH) - NP	Sydney	Nov 18, 2013	14 Day
- Method: E012 Aromatic & Aliphatic (TPH)			
TRH after Silica Cleanup (NEPM) *	Sydney	Nov 15, 2013	14 Day
- Method: LM-LTM-ORG2010			
Metals M8	Sydney	Nov 15, 2013	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
E.coli	Melbourne	Nov 13, 2013	72 Hour
- Method: 6621: E.coli in Soil by MPN			
Salmonella	Melbourne	Nov 13, 2013	72 Hour
Thermotolerant Coliforms	Melbourne	Nov 13, 2013	72 Hour
- Method: Inhouse: Thermotolerant Coliforms in Soil by MPN*			
% Moisture	Sydney	Nov 15, 2013	28 Day
- Method: E005 Moisture Content			
Petroleum Hydrocarbons Silica Cleanup (TPH)	Sydney	Nov 18, 2013	14 Day
- Method: E004 Petroleum Hydrocarbons Silica Cleanup (TPH)			

Report Number: 399310-S

eurofins 🕏

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

399310

02 8245 0300

Phone: Fax:

Received:

Nov 11, 2013 5:00 PM

Nov 19, 2013 Due: Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

			Sample Detail			% Moisture	Ammonia (as N)	Conductivity (at 25°C)	E.coli	Nitrate (as N)	PH	Redox Potential mV*	Salmonella	Salmonella Volume/Mass Tested	Suspended Solids	Thermotolerant Coliforms	Total Dissolved Solids	Total Phosphorous	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Petroleum Hydrocarbons Silica Cleanup (TPH)	Aromatic & Aliphatic (TRH) - NP	Major Anions	Total Recoverable Hydrocarbons	Major Cations	Semivolatile Organic Compounds (SVOC)	TRH after Silica Cleanup (NEPM) *
ı	boratory whe	ere analysis is co	nducted																										
9	lbourne Lab	oratory - NATA S	ite # 1254 & 14	1271					Х				Χ	Х		Х													
<u>,</u>	dney Labora	tory - NATA Site	# 18217			Х	Х	Х		Х	Х	Х			Х		Х	Х	Х	Х	Х	Χ	Х	Х	Х	Х	Х	Х	Х
į	isbane Labor	ratory - NATA Site	e # 20794																										
2	ternal Labora	atory																											
돲	Sample ID V01	Sample Date	Sampling Time	Matrix	LAB ID																								ı
E	V01	Nov 11, 2013		Water	S13-No06469		Х			Х								Х			Х	Х	Х	Х					Х
	V02	Nov 11, 2013		Water	S13-No06470		Х			Х								Х			Χ	Χ	Х	Χ					Х
/	V03	Nov 11, 2013		Water	S13-No06471		Х			Х								Х			Χ	Χ	Х	Χ					Х
/	V04	Nov 11, 2013		Water	S13-No06472		Х			Х								Х			Χ	Χ	Х	Χ					Χ
5	01	Nov 11, 2013		Water	S13-No06473			Х			Х	Х			Х		Χ				Χ	Χ			Х	Х	Х	Х	
)	02	Nov 11, 2013		Water	S13-No06474			Х			Х	Х			Х		Χ				Χ	Χ			Х	Х	Х	Х	
)	03	Nov 11, 2013		Water	S13-No06475			Х			Х	Χ			Х		Χ				Х	Χ			Χ	Χ	Х	Х	
2	04	Nov 11, 2013		Water	S13-No06476			Х			Х	Χ			Х		Χ				Χ	Χ			Χ	Χ	Х	Х	
=	PW_01	Nov 11, 2013		Water	S13-No06477			Х			Х	Х			Х		Х				Χ	Χ			Х	Х	Х	Х	
=	PE_01	Nov 11, 2013		Water	S13-No06478			Х			Х	Χ			Χ		Χ				Χ	Χ			Χ	Χ	Χ	Х	



🔅 eurofins

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

399310

Phone: 02 8245 0300 Fax:

Received: Nov 11, 2013 5:00 PM Due: Nov 19, 2013

Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

		Sample Deta	ail		% Moisture	Ammonia (as N)	Conductivity (at 25°C)	E.coli	Nitrate (as N)	pH	Redox Potential mV*	Salmonella	Salmonella Volume/Mass Tested	Suspended Solids	Thermotolerant Coliforms	Total Dissolved Solids	Total Phosphorous	TRH C6-C9	Metals M8	Metals M8 filtered	втех	Petroleum Hydrocarbons Silica Cleanup (TPH)	Aromatic & Aliphatic (TRH) - NP	Major Anions	Total Recoverable Hydrocarbons	Major Cations	Semivolatile Organic Compounds (SVOC)	TRH after Silica Cleanup (NEPM) *
boratory wl	nere analysis is c	onducted																									Ш	
elbourne La	boratory - NATA	Site # 1254 &	14271					Х				Х	Х		Х												Ш	
<mark>dney Labor</mark>	atory - NATA Site	e # 18217			Х	X	Х		Х	Х	Х			Х		Х	Х	Х	Х	Х	Χ	Х	Х	Х	Х	Х	Х	Χ
isbane Lab	oratory - NATA S	ite # 20794																									Ш	
ternal Labo	ratory																										Ш	
<u></u> 2WS_01	Nov 11, 2013	1:30PM	Soil	S13-No06479	Х			Х				Х	Х		Х				Х			Х	Х				Ш	Χ
₩S_02	Nov 11, 2013	1:35PM	Soil	S13-No06480	Х														Х			Х	Х				Ш	Χ
<u>= 2WS_03</u>	Nov 11, 2013	1:35PM	Soil	S13-No06481	Х			Х				Х	Х		Х				Х			Х	Х				Ш	Χ
<u>PWS_04</u>	Nov 11, 2013	1:50PM	Soil	S13-No06482	Х														Х			Х	Х				Ш	Χ
PES_01	Nov 11, 2013	2:35PM	Soil	S13-No06483	Х			Х				Х	Х		Х				Х			Х	Х				Ш	Χ
PES_02	Nov 11, 2013	2:40PM	Soil	S13-No06484	Х														Х			Х	Х				Ш	Χ
PES_03	Nov 11, 2013	2:45PM	Soil	S13-No06485	Х			Х				Х	Χ		Х				Х			Х	Χ				$\sqcup \sqcup$	Х
PES_04	Nov 11, 2013	2:50PM	Soil	S13-No06486	Х														Χ			Χ	Х				Ш	Χ
JP1	Nov 11, 2013		Water	S13-No06487																Х	Χ	Х	Χ		Х		$\sqcup \sqcup$	Х
RIPB	Nov 11, 2013		Water	S13-No06488														Χ			Χ						$\sqcup \sqcup$	
NSATE 1	Nov 11, 2013		Water	S13-No06489																Х			Χ				Х	





### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
org/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance quidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

### OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



Test			Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank					Lillits	Lillits	Code
Petroleum Hydrocarbons Silica CI	eanup (TPH)						
TRH C10-C14 after Silica Cleanup (			mg/kg	< 50	50	Pass	
TRH C15-C28 after Silica Cleanup (	(TPH)		mg/kg	< 100	100	Pass	
TRH C29-C36 after Silica Cleanup (	(TPH)		mg/kg	< 100	100	Pass	
Method Blank							
TRH after Silica Cleanup (NEPM) *							
TRH >C10-C16 after Silica Cleanup	)		mg/kg	< 50	50	Pass	
TRH >C16-C34 after Silica Cleanup	)		mg/kg	< 100	100	Pass	
TRH >C34-C40 after Silica Cleanup	)		mg/kg	< 100	100	Pass	
Method Blank							
Heavy Metals							
Arsenic			mg/kg	< 2	2	Pass	
Cadmium			mg/kg	< 0.4	0.4	Pass	
Chromium			mg/kg	< 5	5	Pass	
Copper			mg/kg	< 5	5	Pass	
Lead			mg/kg	< 5	5	Pass	
Mercury			mg/kg	< 0.05	0.05	Pass	
Nickel			mg/kg	< 5	5	Pass	
Zinc			mg/kg	< 5	5	Pass	
LCS - % Recovery							
Petroleum Hydrocarbons Silica Cl	eanup (TPH)						
TRH C10-C14 after Silica Cleanup (	(TPH)		%	76	70-130	Pass	
LCS - % Recovery							
TRH after Silica Cleanup (NEPM) *							
TRH >C10-C16 after Silica Cleanup	)		%	87	70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic			%	83	70-130	Pass	
Cadmium			%	91	70-130	Pass	
Chromium			%	89	70-130	Pass	
Copper			%	100	70-130	Pass	
Lead			%	89	70-130	Pass	
Mercury			%	98	70-130	Pass	
Nickel			%	92	70-130	Pass	
Zinc	1		%	99	70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery							
Petroleum Hydrocarbons Silica CI	eanup (TPH)			Result 1			
TRH C10-C14 after Silica Cleanup	040 N - 00447	NOD	0/	70	70,400	D	
(TPH)	S13-No09447	NCP	%	72	70-130	Pass	
Spike - % Recovery				Dogult 4			
TRH after Silica Cleanup (NEPM) * TRH >C10-C16 after Silica	1			Result 1			-
TRH >C10-C16 after Silica   Cleanup	S13-No09447	NCP	%	82	70-130	Pass	
Spike - % Recovery							
Heavy Metals				Result 1			
Arsenic	S13-No06536	NCP	%	74	70-130	Pass	
Cadmium	S13-No06536	NCP	%	83	70-130	Pass	
Chromium	S13-No06536	NCP	%	81	70-130	Pass	
	S13-No06536	NCP	%	91	70-130	Pass	
Copper	313-110000330	1,10.	,,,				
Copper	S13-No06536	NCP	%	81	70-130	Pass	
''						Pass Pass	



	0								
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc	S13-No06536	NCP	%	92			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Petroleum Hydrocarbons Silica Clo	eanup (TPH)			Result 1	Result 2	RPD			
TRH C10-C14 after Silica Cleanup (TPH)	S13-No09447	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C15-C28 after Silica Cleanup (TPH)	S13-No09447	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH C29-C36 after Silica Cleanup (TPH)	S13-No09447	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
TRH after Silica Cleanup (NEPM) *				Result 1	Result 2	RPD			
TRH >C10-C16 after Silica Cleanup	S13-No09447	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34 after Silica Cleanup	S13-No09447	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40 after Silica Cleanup	S13-No09447	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S13-No06536	NCP	mg/kg	4.2	4.3	2.0	30%	Pass	
Cadmium	S13-No06536	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S13-No06536	NCP	mg/kg	< 5	6.4	45	30%	Fail	Q15
Copper	S13-No06536	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	S13-No06536	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	S13-No07356	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Nickel	S13-No06536	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S13-No06536	NCP	mg/kg	8.9	14	44	30%	Fail	Q15



### Comments

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

## **Qualifier Codes/Comments**

Code Description

M10 NATA accreditation does not cover the performance of this service in soil matrices

Q15 The RPD reported passes Eurofins | mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

### **Authorised By**

Jean Heng Client Services

 James Norford
 Senior Analyst-Metal (NSW)

 Niloufer Lobo
 Senior Analyst-Microbiology (VIC)

 Ryan Hamilton
 Senior Analyst-Organic (NSW)

 Ryan Hamilton
 Senior Analyst-Volatile (NSW)



## Dr. Bob Symons Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Thomas Harding

Report 399310-W

Client Reference URBAN GROWTH 43008

Received Date Nov 11, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID			MW01	MW02	MW03	MW04
Sample Matrix			Water	Water	Water	Water
Eurofins   mgt Sample No.			S13-No06469	S13-No06470	S13-No06471	S13-No06472
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit	,		,	
BTEX		0				
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	85	83	85	81
Aromatic & Aliphatic (TRH) - NP						
TRH >C35 Aromatic	0.2	mg/L	< 1	< 1	< 1	< 1
TRH >C35 Aliphatic	1	mg/L	< 0.2	< 0.2	< 0.2	< 0.2
TRH C10-C15 Aliphatic	0.5	mg/L	< 0.5	< 0.5	< 0.5	< 0.5
TRH C10-C15 Aromatic	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C16-C35 Aliphatic	4	mg/L	< 5	< 5	< 5	< 5
TRH C16-C35 Aromatic	0.4	mg/L	< 0.4	< 0.4	< 0.4	< 0.4
Petroleum Hydrocarbons Silica Cleanup (TPH)						
TRH C10-C14 after Silica Cleanup (TPH)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 after Silica Cleanup (TPH)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 after Silica Cleanup (TPH)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH after Silica Cleanup (NEPM) *						
TRH >C10-C16 after Silica Cleanup	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 after Silica Cleanup	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 after Silica Cleanup	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	< 0.01	0.39	0.59	0.99
Nitrate (as N)	0.01	mg/L	0.04	0.04	0.04	0.09
Total Phosphorous	0.01	mg/L	< 0.01	0.01	0.05	0.03
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	0.001	0.011
Cadmium (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.035
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005	0.018



Client Sample ID			SP01	SP02	SP03	SP04
Sample Matrix			Water	Water	Water	Water
Eurofins   mgt Sample No.			S13-No06473	S13-No06474	S13-No06475	S13-No06476
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit	1107 11, 2010	1101 11, 2010	1.01 11, 2010	1101 11, 2010
Total Recoverable Hydrocarbons - 1999 NEPM F		Offic				
TRH C6-C9	0.02	ma/l	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.02	mg/L mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C15-C28	0.03	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX	0.1	ing/L	10.1	10.1	10.1	10.1
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
o-Xylene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	82	79	79	78
Total Recoverable Hydrocarbons - 2013 NEPM F		,,,	02	10	10	7.0
Naphthalene <sup>N02</sup>	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH > C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Semivolatile Organic Compounds (SVOC)		,g/ <u>_</u>	0	0	0	0
2-Chloronaphthalene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
2-Chlorophenol	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
2-Fluorobiphenyl (surr.)	1	%	91	73	99	89
2-Methylnaphthalene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
2-Methylphenol (o-Cresol)	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
2-Naphthylamine	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
2-Nitroaniline	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
2-Nitrophenol	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
3&4-Methylphenol (m&p-Cresol)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
3-Methylcholanthrene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4-Aminobiphenyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4-Bromophenyl phenyl ether	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4-Chloro-3-methylphenol	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4-Chlorophenyl phenyl ether	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4-Nitrophenol	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4.4'-DDD	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4.4'-DDE	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4.4'-DDT	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acetophenone	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Aldrin	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Aniline	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001



Client Sample ID			SP01	SP02	SP03	SP04
Sample Matrix			Water	Water	Water	Water
Eurofins   mgt Sample No.			S13-No06473	S13-No06474	S13-No06475	S13-No06476
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	,	, , , , , , , , , , , , , , , , , , , ,
Semivolatile Organic Compounds (SVOC)	LOIT	Offic				
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bis(2-chloroethoxy)methane	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Bis(2-ethylhexyl)phthalate	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Butyl benzyl phthalate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorpyrifos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Coumaphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
d-BHC	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Demeton-S	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Di-n-butyl phthalate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Di-n-octyl phthalate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenzofuran	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dieldrin	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diethyl phthalate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethyl phthalate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diphenylamine	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Endosulfan sulphate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Endrin	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Endrin aldehyde	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Endrin ketone	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
g-BHC (Lindane)	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Heptachlor	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Heptachlor epoxide	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Hexachlorobenzene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Hexachlorobutadiene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Hexachlorocyclopentadiene	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Hexachloroethane	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methoxychlor	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Methyl azinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Monocrotophos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
N-Nitrosodibutylamine	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
N-Nitrosodipropylamine	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
N-Nitrosopiperidine	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002



Client Sample ID			SP01	SP02	SP03	SP04
Sample Matrix			Water	Water	Water	Water
Eurofins   mgt Sample No.			S13-No06473	S13-No06474	S13-No06475	S13-No06476
, , ,			i			·
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit				
Semivolatile Organic Compounds (SVOC)		T				
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Nitrobenzene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Nitrobenzene-d5 (surr.)	1	%	100	92	98	99
p-Terphenyl-d14 (surr.)	1	%	122	101	122	123
Parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pentachlorobenzene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pentachloronitrobenzene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenol Phenol (2007)	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Phenol-d6 (surr.)	1 2 2 2 2 2	%	38	39	39	39
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Profenofos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Prothiofos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Stirophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ammonia (as N)	0.01	mg/L	0.03	< 0.01	< 0.01	0.03
Conductivity (at 25°C)	1	uS/cm	400	290	290	400
pH	0.1	units	7.2	7.3	7.5	7.2
Redox Potential mV*	1 -	mV	(+) 78	(+) 154	(+) 162	(+) 164
Suspended Solids	5	mg/L	46	< 5	< 5	< 5
Total Dissolved Solids	5	mg/L	220	160	150	230
Major Anions					_	
Bicarbonate Alkalinity (as CaCO3)	5	mg/L	110	91	94	120
Carbonate Alkalinity (as CaCO3)	5	mg/L	< 5	< 5	< 5	< 5
Chloride	1	mg/L	37	26	26	38
Nitrate (as N)	0.01	mg/L	0.06	< 0.01	0.01	0.05
Sulphate (as S)	2	mg/L	4.0	3.0	3.0	4.0
Alkali Metals		I				
Calcium	0.5	mg/L	36	31	30	36
Magnesium	0.5	mg/L	2.4	1.6	1.5	2.4
Potassium	0.5	mg/L	4.6	3.2	3.1	4.4
Sodium	0.5	mg/L	36	27	26	36
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0001	mg/L	0.0002	< 0.0001	0.0002	0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	0.001	0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	0.047	0.039	0.044	0.047



Client Sample ID			OPW_01	OPE_01	DUP1	TRIPB
Sample Matrix			Water	Water	Water	Water
Eurofins   mgt Sample No.			S13-No06477	S13-No06478	S13-No06487	S13-No06488
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fr	actions					
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	0.2	0.4	< 0.1	-
TRH C29-C36	0.1	mg/L	0.1	0.2	< 0.1	-
TRH C10-36 (Total)	0.1	mg/L	0.3	0.6	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	82	78	77	76
Aromatic & Aliphatic (TRH) - NP						
TRH >C35 Aromatic	0.2	mg/L	-	-	< 1	-
TRH >C35 Aliphatic	1	mg/L	-	-	< 0.2	-
FRH C10-C15 Aliphatic	0.5	mg/L	-	-	< 0.5	-
FRH C10-C15 Aromatic	0.05	mg/L	-	-	< 0.05	-
TRH C16-C35 Aliphatic	4	mg/L	-	-	< 4	-
TRH C16-C35 Aromatic	0.4	mg/L	-	-	< 0.4	-
Total Recoverable Hydrocarbons - 2013 NEPM Fr	actions					
Naphthalene <sup>N02</sup>	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1)N04	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)N01	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	0.3	0.6	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	0.3	< 0.1	-
Petroleum Hydrocarbons Silica Cleanup (TPH)						
TRH C10-C14 after Silica Cleanup (TPH)	0.05	mg/L	-	-	< 0.05	-
TRH C15-C28 after Silica Cleanup (TPH)	0.1	mg/L	-	-	< 0.1	-
TRH C29-C36 after Silica Cleanup (TPH)	0.1	mg/L	-	-	< 0.1	-
Semivolatile Organic Compounds (SVOC)	1					
2-Chloronaphthalene	0.002	mg/L	< 0.002	< 0.002	_	_
2-Chlorophenol	0.002	mg/L	< 0.002	< 0.002	_	_
2-Fluorobiphenyl (surr.)	1	%	96	85	_	_
2-Methylnaphthalene	0.002	mg/L	< 0.002	< 0.002	_	_
2-Methylphenol (o-Cresol)	0.002	mg/L	< 0.002	< 0.002	_	_
2-Naphthylamine	0.002	mg/L	< 0.002	< 0.002	_	_
2-Nitroaniline	0.004	mg/L	< 0.004	< 0.004	-	_
2-Nitrophenol	0.002	mg/L	< 0.002	< 0.002	_	_
3&4-Methylphenol (m&p-Cresol)	0.004	mg/L	< 0.004	< 0.004	_	_
3-Methylcholanthrene	0.002	mg/L	< 0.002	< 0.002	_	_
4-Aminobiphenyl	0.002	mg/L	< 0.002	< 0.002	_	_
4-Bromophenyl phenyl ether	0.002	mg/L	< 0.002	< 0.002	_	_
4-Chloro-3-methylphenol	0.002	mg/L	< 0.002	< 0.002	_	_
4-Chlorophenyl phenyl ether	0.002	mg/L	< 0.002	< 0.002	+	_



Client Sample ID			OPW_01	OPE_01	DUP1	TRIPB
Sample Matrix			Water	Water	Water	Water
Eurofins   mgt Sample No.			S13-No06477	S13-No06478	S13-No06487	S13-No06488
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit				
Semivolatile Organic Compounds (SVOC)						
4-Nitrophenol	0.002	mg/L	< 0.002	< 0.002	-	-
4.4'-DDD	0.002	mg/L	< 0.002	< 0.002	-	-
4.4'-DDE	0.002	mg/L	< 0.002	< 0.002	-	-
4.4'-DDT	0.004	mg/L	< 0.004	< 0.004	-	-
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	-	-
Acetophenone	0.002	mg/L	< 0.002	< 0.002	-	-
Aldrin	0.002	mg/L	< 0.002	< 0.002	-	-
Aniline	0.002	mg/L	< 0.002	< 0.002	-	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	-	-
Bis(2-chloroethoxy)methane	0.002	mg/L	< 0.002	< 0.002	-	-
Bis(2-ethylhexyl)phthalate	0.02	mg/L	< 0.02	< 0.02	-	-
Butyl benzyl phthalate	0.002	mg/L	< 0.002	< 0.002	-	-
Chlorpyrifos	0.002	mg/L	< 0.002	< 0.002	-	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	-	-
Coumaphos	0.002	mg/L	< 0.002	< 0.002	-	-
d-BHC	0.002	mg/L	< 0.002	< 0.002	-	-
Demeton-O	0.002	mg/L	< 0.002	< 0.002	-	-
Demeton-S	0.002	mg/L	< 0.002	< 0.002	-	-
Di-n-butyl phthalate	0.002	mg/L	< 0.002	< 0.002	-	-
Di-n-octyl phthalate	0.002	mg/L	< 0.002	< 0.002	-	-
Diazinon	0.002	mg/L	< 0.002	< 0.002	-	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Dibenzofuran	0.002	mg/L	< 0.002	< 0.002	-	-
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	-	-
Dieldrin	0.002	mg/L	< 0.002	< 0.002	-	-
Diethyl phthalate	0.002	mg/L	< 0.002	< 0.002	-	-
Dimethoate	0.002	mg/L	< 0.002	< 0.002	-	-
Dimethyl phthalate	0.002	mg/L	< 0.002	< 0.002	-	-
Diphenylamine	0.002	mg/L	< 0.002	< 0.002	-	-
Disulfoton	0.002	mg/L	< 0.002	< 0.002	-	-
Endosulfan sulphate	0.002	mg/L	< 0.002	< 0.002	-	-
Endrin	0.002	mg/L	< 0.002	< 0.002	-	-
Endrin aldehyde	0.002	mg/L	< 0.002	< 0.002	-	-
Endrin ketone	0.002	mg/L	< 0.002	< 0.002	-	-
Ethoprop	0.002	mg/L	< 0.002	< 0.002	-	-
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	-	-
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	-	-
Fenthion	0.002	mg/L	< 0.002	< 0.002	-	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	-	-
g-BHC (Lindane)	0.002	mg/L	< 0.002	< 0.002	-	-
Heptachlor	0.002	mg/L	< 0.002	< 0.002	-	-
Heptachlor epoxide	0.002	mg/L	< 0.002	< 0.002	-	-
Hexachlorobenzene	0.002	mg/L	< 0.002	< 0.002	-	-
Hexachlorobutadiene	0.002	mg/L	< 0.002	< 0.002	-	-



Client Sample ID Sample Matrix			OPW_01 Water	OPE_01 Water	DUP1 Water	TRIPB Water
Eurofins   mgt Sample No.			S13-No06477	S13-No06478	S13-No06487	S13-No06488
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit				
Semivolatile Organic Compounds (SVOC)		T				
Hexachlorocyclopentadiene	0.004	mg/L	< 0.004	< 0.004	-	-
Hexachloroethane	0.002	mg/L	< 0.002	< 0.002	-	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Malathion	0.002	mg/L	< 0.002	< 0.002	-	-
Methoxychlor	0.001	mg/L	< 0.001	< 0.001	-	-
Methyl azinphos	0.002	mg/L	< 0.002	< 0.002	-	-
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	-	-
Mevinphos	0.002	mg/L	< 0.002	< 0.002	-	-
Monocrotophos	0.02	mg/L	< 0.02	< 0.02	-	-
N-Nitrosodibutylamine	0.002	mg/L	< 0.002	< 0.002	-	-
N-Nitrosodipropylamine	0.002	mg/L	< 0.002	< 0.002	-	-
N-Nitrosopiperidine	0.002	mg/L	< 0.002	< 0.002	-	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	-	-
Nitrobenzene	0.002	mg/L	< 0.002	< 0.002	-	-
Nitrobenzene-d5 (surr.)	1	%	98	89	-	-
p-Terphenyl-d14 (surr.)	1	%	120	122	-	-
Parathion	0.002	mg/L	< 0.002	< 0.002	-	-
Pentachlorobenzene	0.002	mg/L	< 0.002	< 0.002	-	-
Pentachloronitrobenzene	0.002	mg/L	< 0.002	< 0.002	-	-
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	-	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	-	-
Phenol	0.002	mg/L	< 0.002	< 0.002	-	-
Phenol-d6 (surr.)	1	%	40	39	-	-
Phorate	0.002	mg/L	< 0.002	< 0.002	-	-
Profenofos	0.002	mg/L	< 0.002	< 0.002	-	-
Prothiofos	0.002	mg/L	< 0.002	< 0.002	-	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Ronnel	0.002	mg/L	< 0.002	< 0.002	-	-
Stirophos	0.002	mg/L	< 0.002	< 0.002	-	-
Trichloronate	0.002	mg/L	< 0.002	< 0.002	-	-
TRH after Silica Cleanup (NEPM) *						
TRH >C10-C16 after Silica Cleanup	0.05	mg/L	-	-	< 0.05	-
TRH >C16-C34 after Silica Cleanup	0.1	mg/L	-	-	< 0.1	-
TRH >C34-C40 after Silica Cleanup	0.1	mg/L	-	-	< 0.1	-
Ammonia (as N)	0.01	mg/L	3.8	< 0.01	-	-
Conductivity (at 25°C)	1	uS/cm	480	370	-	-
рН	0.1	units	7.1	6.8	-	-
Redox Potential mV*	1	mV	(+) 140	(+) 113	-	-
Suspended Solids	5	mg/L	90	230	-	-
Total Dissolved Solids	5	mg/L	350	240	-	-
Major Anions						
Bicarbonate Alkalinity (as CaCO3)	5	mg/L	110	97	-	-
Carbonate Alkalinity (as CaCO3)	5	mg/L	< 5	< 5	-	-
Chloride	1	mg/L	51	47	-	-
Nitrate (as N)	0.01	mg/L	< 0.01	< 0.01	-	-
Sulphate (as S)	2	mg/L	11	< 2	-	-



Client Sample ID Sample Matrix			OPW_01 Water	OPE_01 Water	DUP1 Water	TRIPB Water
Eurofins   mgt Sample No.			S13-No06477	S13-No06478	S13-No06487	S13-No06488
Date Sampled			Nov 11, 2013	Nov 11, 2013	Nov 11, 2013	Nov 11, 2013
Test/Reference	LOR	Unit				
Alkali Metals						
Calcium	0.5	mg/L	15	9.7	-	-
Magnesium	0.5	mg/L	9.9	8.5	-	-
Potassium	0.5	mg/L	5.6	8.2	-	-
Sodium	0.5	mg/L	56	44	-	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.004	< 0.001	< 0.001	-
Cadmium (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	-
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Copper (filtered)	0.001	mg/L	0.002	< 0.001	< 0.001	-
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	-
Nickel (filtered)	0.001	mg/L	0.004	< 0.001	< 0.001	-
Zinc (filtered)	0.005	mg/L	0.010	< 0.005	< 0.005	-

Client Sample ID Sample Matrix			RINSATE 1 Water
Eurofins   mgt Sample No.			S13-No06489
Date Sampled			Nov 11, 2013
Test/Reference	LOR	Unit	
Aromatic & Aliphatic (TRH) - NP	•		
TRH >C35 Aromatic	0.2	mg/L	< 1
TRH >C35 Aliphatic	1	mg/L	< 0.2
TRH C10-C15 Aliphatic	0.5	mg/L	< 0.5
TRH C10-C15 Aromatic	0.05	mg/L	< 0.05
TRH C16-C35 Aliphatic	4	mg/L	< 4
TRH C16-C35 Aromatic	0.4	mg/L	< 0.4
Semivolatile Organic Compounds (SVOC)			
2-Chloronaphthalene	0.002	mg/L	< 0.002
2-Chlorophenol	0.002	mg/L	< 0.002
2-Fluorobiphenyl (surr.)	1	%	95
2-Methylnaphthalene	0.002	mg/L	< 0.002
2-Methylphenol (o-Cresol)	0.002	mg/L	< 0.002
2-Naphthylamine	0.002	mg/L	< 0.002
2-Nitroaniline	0.004	mg/L	< 0.004
2-Nitrophenol	0.002	mg/L	< 0.002
3&4-Methylphenol (m&p-Cresol)	0.004	mg/L	< 0.004
3-Methylcholanthrene	0.002	mg/L	< 0.002
4-Aminobiphenyl	0.002	mg/L	< 0.002
4-Bromophenyl phenyl ether	0.002	mg/L	< 0.002
4-Chloro-3-methylphenol	0.002	mg/L	< 0.002
4-Chlorophenyl phenyl ether	0.002	mg/L	< 0.002
4-Nitrophenol	0.002	mg/L	< 0.002
4.4'-DDD	0.002	mg/L	< 0.002
4.4'-DDE	0.002	mg/L	< 0.002
4.4'-DDT	0.004	mg/L	< 0.004



Client Sample ID Sample Matrix			RINSATE 1 Water
Eurofins   mgt Sample No.			S13-No06489
Date Sampled			Nov 11, 2013
·	LOD	Linit	11, 2013
Test/Reference Semivolatile Organic Compounds (SVOC)	LOR	Unit	
	0.001	ma/l	z 0 001
Acceptable		mg/L	< 0.001 < 0.001
Acetaphanana	0.001	mg/L	< 0.001
Acetophenone Aldrin	0.002	mg/L	< 0.002
Aniline		mg/L	< 0.002
	0.002	mg/L	< 0.002
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene Benzo(g.h.i)perylene	0.001	mg/L	< 0.001
		mg/L	
Bis(2-chloroethoxy)methane	0.002	mg/L	< 0.002 < 0.02
Bis(2-ethylhexyl)phthalate  Butyl benzyl phthalate		mg/L	
	0.002	mg/L	< 0.002
Carbazole Chlorowrifos	0.002	mg/L	< 0.002 < 0.002
Chlorpyrifos Chrysene	0.002	mg/L mg/L	< 0.002
Coumaphos	0.001	mg/L	< 0.001
d-BHC	0.002	mg/L	< 0.002
Demeton-O	0.002	mg/L	< 0.002
Demeton-S	0.002	mg/L	< 0.002
Di-n-butyl phthalate	0.002	mg/L	< 0.002
Di-n-octyl phthalate	0.002	mg/L	< 0.002
Diazinon	0.002	mg/L	< 0.002
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001
Dibenzofuran	0.002	mg/L	< 0.002
Dichloryos	0.002	mg/L	< 0.002
Dieldrin	0.002	mg/L	< 0.002
Diethyl phthalate	0.002	mg/L	< 0.002
Dimethoate	0.002	mg/L	< 0.002
Dimethyl phthalate	0.002	mg/L	< 0.002
Diphenylamine	0.002	mg/L	< 0.002
Disulfoton	0.002	mg/L	< 0.002
Endosulfan sulphate	0.002	mg/L	< 0.002
Endrin	0.002	mg/L	< 0.002
Endrin aldehyde	0.002	mg/L	< 0.002
Endrin ketone	0.002	mg/L	< 0.002
Ethoprop	0.002	mg/L	< 0.002
Fenitrothion	0.002	mg/L	< 0.002
Fensulfothion	0.002	mg/L	< 0.002
Fenthion	0.002	mg/L	< 0.002
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001
g-BHC (Lindane)	0.002	mg/L	< 0.002
Heptachlor	0.002	mg/L	< 0.002
Heptachlor epoxide	0.002	mg/L	< 0.002
Hexachlorobenzene	0.002	mg/L	< 0.002
Hexachlorobutadiene	0.002	mg/L	< 0.002
Hexachlorocyclopentadiene	0.004	mg/L	< 0.004
Hexachloroethane	0.002	mg/L	< 0.002
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001



Client Sample ID Sample Matrix			RINSATE 1 Water
Eurofins   mgt Sample No.			S13-No06489
			Nov 11, 2013
Date Sampled			NOV 11, 2013
Test/Reference	LOR	Unit	
Semivolatile Organic Compounds (SVOC)			
Malathion	0.002	mg/L	< 0.002
Methoxychlor	0.001	mg/L	< 0.001
Methyl azinphos	0.002	mg/L	< 0.002
Methyl parathion	0.002	mg/L	< 0.002
Mevinphos	0.002	mg/L	< 0.002
Monocrotophos	0.02	mg/L	< 0.02
N-Nitrosodibutylamine	0.002	mg/L	< 0.002
N-Nitrosodipropylamine	0.002	mg/L	< 0.002
N-Nitrosopiperidine	0.002	mg/L	< 0.002
Naphthalene	0.001	mg/L	< 0.001
Nitrobenzene	0.002	mg/L	< 0.002
Nitrobenzene-d5 (surr.)	1	%	92
p-Terphenyl-d14 (surr.)	1	%	125
Parathion	0.002	mg/L	< 0.002
Pentachlorobenzene	0.002	mg/L	< 0.002
Pentachloronitrobenzene	0.002	mg/L	< 0.002
Pentachlorophenol	0.01	mg/L	< 0.01
Phenanthrene	0.001	mg/L	< 0.001
Phenol	0.002	mg/L	< 0.002
Phenol-d6 (surr.)	1	%	38
Phorate	0.002	mg/L	< 0.002
Profenofos	0.002	mg/L	< 0.002
Prothiofos	0.002	mg/L	< 0.002
Pyrene	0.001	mg/L	< 0.001
Ronnel	0.002	mg/L	< 0.002
Stirophos	0.002	mg/L	< 0.002
Trichloronate	0.002	mg/L	< 0.002
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0001	mg/L	< 0.0001
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005



Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Nov 14, 2013	7 Day
- Method: E004 Petroleum Hydrocarbons (TPH)	Cydricy	1407 14, 2013	1 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 14, 2013	7 Day
- Method: LM-LTM-ORG2010	Cydney	1407 14, 2010	, buy
BTEX	Sydney	Nov 11, 2013	14 Day
- Method: E029/E016 BTEX	Cydnoy	1107 11, 2010	Day
Aromatic & Aliphatic (TRH) - NP	Sydney	Nov 14, 2013	7 Day
- Method: E012 Aromatic & Aliphatic (TPH)	-,,	,	,
Semivolatile Organic Compounds (SVOC)	Sydney	Nov 14, 2013	14 Day
- Method: E017 Semivolatile Organic Compounds (SVOC)	- , ,	,	• •
TRH after Silica Cleanup (NEPM) *	Sydney	Nov 11, 2013	7 Day
- Method: LM-LTM-ORG2010	- , ,	,	- ,
Conductivity (at 25°C)	Sydney	Nov 13, 2013	28 Day
- Method: E032 Electrical conductivity (EC)		·	•
Nitrate (as N)	Sydney	Nov 14, 2013	28 Day
- Method: E037 /E051 Nitrate as N			•
pH	Sydney	Nov 13, 2013	1 Day
- Method: E018 pH ** Samples analysed outside holding time. Analysis should be performed in situ. Results	for reference only.		
Redox Potential mV*	Sydney	Nov 13, 2013	5 Day
- Method: APHA 2580B Redox Potential			
Suspended Solids	Sydney	Nov 13, 2013	7 Day
- Method: 4100 Total Suspended Solids dried at 103-105°C			
Total Dissolved Solids	Sydney	Nov 13, 2013	7 Day
- Method: 4110 Total Dissolved Solids dried at 180 $\pm~2^{\circ}\text{C}$			
Total Phosphorous	Sydney	Nov 11, 2013	28 Day
- Method: E038 /E052 Total Phosphorus (as P)			
Major Anions			
Bicarbonate Alkalinity (as CaCO3)	Sydney	Nov 14, 2013	14 Day
- Method: E035 Alkalinity (CO3, HCO3, OH)			
Carbonate Alkalinity (as CaCO3)	Sydney	Nov 14, 2013	14 Day
- Method: E035 Alkalinity (CO3, HCO3, OH)			
Chloride	Sydney	Nov 14, 2013	28 Day
- Method: E033 /E045 /E047 Chloride			
Nitrate (as N)	Sydney	Nov 14, 2013	28 Day
- Method: E037 /E051 Nitrate as N	Occades acc	N44 0040	00 D
Sulphate (as S)	Sydney	Nov 14, 2013	28 Day
- Method: E045 Sulphate	Cudnou	Nov. 11, 2012	20 Day
Metals M8 filtered	Sydney	Nov 11, 2013	28 Day
- Method: E020/E030 Filtered Metals in Water & E026 Mercury	Cudnou	Nov. 14, 2012	7 Day
Petroleum Hydrocarbons Silica Cleanup (TPH)	Sydney	Nov 14, 2013	7 Day
- Method: E004 Petroleum Hydrocarbons Silica Cleanup (TPH)			
Major Cations Ammonia (as N)	Sydney	Nov 11, 2013	28 Day
- Method: E036/E050 Ammonia as N	Gyuney	1404 11, 2013	20 Day
- Method: E036/E050 Ammonia as N Alkali Metals	Sydney	Nov 11, 2013	180 Day
- Method: E022/E030 Unfiltered Cations in Water	Cydiley	1404 11, 2013	100 Day
- motinod. E022/E030 Offiniteled Cations III widtel			

eurofins 💸

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.:

Report #: 399310

Phone: Fax:

02 8245 0300

Received: Due:

Nov 11, 2013 5:00 PM Nov 19, 2013

Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

			Sample Detail			% Moisture	Ammonia (as N)	Conductivity (at 25°C)	E.coli	Nitrate (as N)	PH	Redox Potential mV*	Salmonella	Salmonella Volume/Mass Tested	Suspended Solids	Thermotolerant Coliforms	Total Dissolved Solids	Total Phosphorous	TRH C6-C9	Metals M8	Metals M8 filtered	втех	Petroleum Hydrocarbons Silica Cleanup (TPH)	Aromatic & Aliphatic (TRH) - NP	Major Anions	Total Recoverable Hydrocarbons	Major Cations	Semivolatile Organic Compounds (SVOC)	TRH after Silica Cleanup (NEPM) *
		ere analysis is co														.,											$\vdash$	$\vdash$	_
-		oratory - NATA S		2/1			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	· ·	Х	\ \ \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Х	Х	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Х	\ \ \			\ \ \		\ \		· ·	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \ \		\ \ \	
		tory - NATA Site				Х	Х	Х		Х	Х	Х			Х		Х	Χ	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
_		ratory - NATA Site	e # 20794																								┌─┤	$\vdash \vdash$	-
	ternal Labora		Committee	Maduiss	LAB ID																						$\vdash$	$\vdash$	
mgt	Sample ID	Sample Date	Sampling Time	Matrix	LABID																						'	1	
<b>E</b> /	V01	Nov 11, 2013		Water	S13-No06469		Х			Х								Х			Х	Х	Х	Х					Х
	V02	Nov 11, 2013		Water	S13-No06470		Х			Х								Х			Χ	Χ	Х	Х					Χ
/	V03	Nov 11, 2013		Water	S13-No06471		Х			Х								Х			Χ	Χ	Х	Х					Χ
/	V04	Nov 11, 2013		Water	S13-No06472		Х			Х								Х			Χ	Χ	Х	Χ					Χ
2	01	Nov 11, 2013		Water	S13-No06473			Х			Х	Х			Х		Х				Х	Χ			Х	Х	Х	Х	
_	02	Nov 11, 2013		Water	S13-No06474			Х			Х	Χ			Х		Χ				Χ	Χ			Х	Х	Х	Х	
)	03	Nov 11, 2013		Water	S13-No06475			Х			Х	Χ			Х		Χ				Х	Χ			Х	Х	Х	Х	
)	04	Nov 11, 2013		Water	S13-No06476			Х			Х	Х			Х		Х				Χ	Χ			Х	Х	Х	Х	
-	W_01	Nov 11, 2013		Water	S13-No06477	<u> </u>		Х			Х	Х			Х		Х				Х	Χ			Х	Х	Х	Х	
-	E_01	Nov 11, 2013		Water	S13-No06478			Χ			Χ	Χ			Χ		Χ				Χ	Χ			Х	Χ	Χ	Х	



🔅 eurofins

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: **URBAN GROWTH 43008**  Order No.: Report #:

399310

Phone: 02 8245 0300 Fax:

Received: Nov 11, 2013 5:00 PM Due: Nov 19, 2013

Priority:

5 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

		Sample Deta	ail		% Moisture	Ammonia (as N)	Conductivity (at 25°C)	E.coli	Nitrate (as N)	pH	Redox Potential mV*	Salmonella	Salmonella Volume/Mass Tested	Suspended Solids	Thermotolerant Coliforms	Total Dissolved Solids	Total Phosphorous	TRH C6-C9	Metals M8	Metals M8 filtered	втех	Petroleum Hydrocarbons Silica Cleanup (TPH)	Aromatic & Aliphatic (TRH) - NP	Major Anions	Total Recoverable Hydrocarbons	Major Cations	Semivolatile Organic Compounds (SVOC)	TRH after Silica Cleanup (NEPM) *
boratory wl	nere analysis is c	onducted																									Ш	
elbourne La	boratory - NATA	Site # 1254 &	14271					Х				Х	Х		Х												Ш	
<mark>dney Labor</mark>	atory - NATA Site	e # 18217			Х	X	Х		Х	Х	Х			Х		Х	Х	Х	Х	Х	Χ	Х	Х	Х	Х	Х	Х	Χ
isbane Lab	oratory - NATA S	ite # 20794																									Ш	
ternal Labo	ratory																										Ш	
<u>-</u> 2WS_01	Nov 11, 2013	1:30PM	Soil	S13-No06479	Х			Х				Х	Х		Х				Х			Х	Х				Ш	Χ
₩S_02	Nov 11, 2013	1:35PM	Soil	S13-No06480	Х														Х			Х	Х				Ш	Χ
<u>= 2WS_03</u>	Nov 11, 2013	1:35PM	Soil	S13-No06481	Х			Х				Х	Х		Х				Х			Х	Х				Ш	Χ
<u>PWS_04</u>	Nov 11, 2013	1:50PM	Soil	S13-No06482	Х														Х			Х	Х				Ш	Χ
PES_01	Nov 11, 2013	2:35PM	Soil	S13-No06483	Х			Х				Х	Х		Х				Х			Х	Х				Ш	Χ
PES_02	Nov 11, 2013	2:40PM	Soil	S13-No06484	Х														Х			Х	Х				Ш	Χ
PES_03	Nov 11, 2013	2:45PM	Soil	S13-No06485	Х			Х				Х	Χ		Х				Х			Χ	Χ				$\sqcup \sqcup$	Х
PES_04	Nov 11, 2013	2:50PM	Soil	S13-No06486	Х														Χ			Χ	Х				Ш	Χ
JP1	Nov 11, 2013		Water	S13-No06487																Х	Χ	Х	Χ		Х		$\sqcup \sqcup$	Х
RIPB	Nov 11, 2013		Water	S13-No06488														Х			Χ						$\sqcup \sqcup$	
NSATE 1	Nov 11, 2013		Water	S13-No06489																Х			Χ				Х	





### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
org/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance quidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

### OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank					
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	mg/L	< 0.02	0.02	Pass	
TRH C10-C14	mg/L	< 0.05	0.05	Pass	
TRH C15-C28	mg/L	< 0.1	0.1	Pass	
TRH C29-C36	mg/L	< 0.1	0.1	Pass	
Method Blank					
втех					
Benzene	mg/L	< 0.001	0.001	Pass	
Toluene	mg/L	< 0.001	0.001	Pass	
Ethylbenzene	mg/L	< 0.001	0.001	Pass	
m&p-Xylenes	mg/L	< 0.002	0.002	Pass	
o-Xylene	mg/L	< 0.001	0.001	Pass	
Xylenes - Total	mg/L	< 0.003	0.003	Pass	
Method Blank				•	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene	mg/L	< 0.02	0.02	Pass	
TRH C6-C10	mg/L	< 0.02	0.02	Pass	
TRH C6-C10 less BTEX (F1)	mg/L	< 0.02	0.02	Pass	
TRH >C10-C16	mg/L	< 0.05	0.05	Pass	
TRH >C16-C34	mg/L	< 0.1	0.1	Pass	
TRH >C34-C40	mg/L	< 0.1	0.1	Pass	
Method Blank	Ilig/L	10.1	0.1	1 400	
Semivolatile Organic Compounds (SVOC)					
2-Chloronaphthalene	mg/L	< 0.002	0.002	Pass	
2-Chlorophenol	mg/L	< 0.002	0.002	Pass	
2-Methylnaphthalene	mg/L	< 0.002	0.002	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.002	0.002	Pass	
2-Naphthylamine	mg/L	< 0.002	0.002	Pass	
2-Nitroaniline	mg/L	< 0.004	0.002	Pass	
2-Nitrophenol	mg/L	< 0.002	0.002	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.002	0.002	Pass	
3-Methylcholanthrene	mg/L	< 0.002	0.002	Pass	
4-Aminobiphenyl	mg/L	< 0.002	0.002	Pass	
4-Bromophenyl phenyl ether	mg/L	< 0.002	0.002	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.002	0.002	Pass	
4-Chlorophenyl phenyl ether	mg/L	< 0.002	0.002	Pass	
4-Nitrophenol	mg/L	< 0.002	0.002	Pass	
4.4'-DDD	mg/L	< 0.002	0.002	Pass	
4.4'-DDE	mg/L	< 0.002	0.002	Pass	
				<u> </u>	
4.4'-DDT	mg/L	< 0.004 < 0.001	0.004	Pass Pass	
Acenaphthylene	mg/L	< 0.001	0.001	Pass	
Acetaphanana	mg/L			<u> </u>	
Acetophenone	mg/L	< 0.002	0.002	Pass	
Apiline	mg/L	< 0.002	0.002	Pass	
Anthropono	mg/L	< 0.002	0.002	Pass	
Anthracene Paga (a) anthracene	mg/L	< 0.001	0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001	0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001	0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001	0.001	Pass	
Bis(2-chloroethoxy)methane	mg/L	< 0.002	0.002	Pass	
Bis(2-ethylhexyl)phthalate	mg/L	< 0.02	0.02	Pass	
Butyl benzyl phthalate	mg/L	< 0.002	0.002	Pass	
Chrysene	mg/L	< 0.001	0.001	Pass	



Care   Care		1	
Dirn-butyl phthalate	ceptance Limits	ce Pass Limit	
Di-n-octyl phthalate	0.002	Pass	
Dibenz(a h)anthracene	0.002	Pass	
Dibenzofuran	0.002	Pass	
Diethyliphthalate	0.001	Pass	
Diethyl phthalate	0.002	Pass	
Dimethyl phthalate	0.002	Pass	
Diphenylamine	0.002	Pass	
Endosulfan sulphate	0.002	Pass	
Endrin aldehyde	0.002	Pass	
Endrin aldehyde	0.002	Pass	
Endrin ketone	0.002	Pass	
Filioranthene	0.002	Pass	
Fluorene	0.002	Pass	
g-BHC (Lindane)         mg/L         < 0.002         0.0           Heptachlor         mg/L         < 0.002	0.001	Pass	
g-BHC (Lindane)         mg/L         < 0.002         0.00           Heptachlor         mg/L         < 0.002	0.001	Pass	
Heptachlor	0.002	Pass	
Heptachlor epoxide	0.002	Pass	
Hexachlorobenzene	0.002	Pass	
Hexachlorobutadiene	0.002	Pass	
Hexachlorocyclopentadiene	0.002	Pass	
Hexachloroethane	0.004	Pass	
Indeno(1.2.3-cd)pyrene	0.002	Pass	
Methoxychlor         mg/L         < 0.001         0.00           N-Nitrosodibutylamine         mg/L         < 0.002	0.002	Pass	
N-Nitrosodipropylamine	0.001	Pass	
N-Nitrosodipropylamine		Pass	
N-Nitrosopiperidine		Pass	
Naphthalene		Pass	
Nitrobenzene		Pass	
Pentachlorobenzene         mg/L         < 0.002		_	
Pentachloronitrobenzene		Pass	
Pentachlorophenol		Pass	
Phenanthrene         mg/L         < 0.001		Pass	
Phenol         mg/L         < 0.002		Pass	
Pyrene         mg/L         < 0.001         0.00           Method Blank         mg/L         < 0.01         0.00           Nitrate (as N)         mg/L         < 0.01         0.00           Suspended Solids         mg/L         < 5         5           Total Dissolved Solids         mg/L         < 5         5           Total Phosphorous         mg/L         < 0.01         0.00           Method Blank         Major Anions         mg/L         < 5         5           Bicarbonate Alkalinity (as CaCO3)         mg/L         < 5         5           Carbonate Alkalinity (as CaCO3)         mg/L         < 5         5           Chloride         mg/L         < 1         1           Sulphate (as S)         mg/L         < 2         2           Method Blank         Magnesium         mg/L         < 0.5         0.0           Magnesium         mg/L         < 0.5         0.0           Method Blank         Method Blank         0.0         0.0	0.001	Pass	
Method Blank         mg/L         < 0.01	0.002	Pass	
Ammonia (as N)         mg/L         < 0.01         0.0           Nitrate (as N)         mg/L         < 0.01	0.001	Pass	
Nitrate (as N)         mg/L         < 0.01         0.0           Suspended Solids         mg/L         < 5	ı	<u> </u>	
Suspended Solids         mg/L         < 5         5           Total Dissolved Solids         mg/L         < 5	0.01	Pass	
Total Dissolved Solids         mg/L         < 5         5           Total Phosphorous         mg/L         < 0.01         0.0           Method Blank         Method Blank           Major Anions         Bicarbonate Alkalinity (as CaCO3)         mg/L         < 5         5           Carbonate Alkalinity (as CaCO3)         mg/L         < 5	0.01	Pass	
Total Phosphorous         mg/L         < 0.01         0.0           Method Blank         Major Anions         Image: Company of the property of	5	Pass	
Method Blank           Major Anions         mg/L         < 5	5	Pass	
Major Anions         mg/L         < 5         5           Bicarbonate Alkalinity (as CaCO3)         mg/L         < 5	0.01	Pass	
Bicarbonate Alkalinity (as CaCO3)         mg/L         < 5         5           Carbonate Alkalinity (as CaCO3)         mg/L         < 5			
Carbonate Alkalinity (as CaCO3)         mg/L         < 5         5           Chloride         mg/L         < 1			
Chloride         mg/L         < 1         1           Sulphate (as S)         mg/L         < 2	5	Pass	
Sulphate (as S)         mg/L         < 2         2           Method Blank         Alkali Metals           Calcium         mg/L         < 0.5	5	Pass	
Method Blank           Alkali Metals         mg/L         < 0.5         0.4           Calcium         mg/L         < 0.5	1	Pass	
Alkali Metals         mg/L         < 0.5         0.5           Calcium         mg/L         < 0.5	2	Pass	
Calcium         mg/L         < 0.5         0.4           Magnesium         mg/L         < 0.5			
Magnesium         mg/L         < 0.5         0.4           Potassium         mg/L         < 0.5			
Magnesium         mg/L         < 0.5         0.4           Potassium         mg/L         < 0.5	0.5	Pass	
Potassium         mg/L         < 0.5         0.8           Method Blank	0.5	Pass	
Method Blank	0.5	Pass	
			1
	0.001	Pass	



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Cadmium (filtered)	mg/L	< 0.0001	0.0001	Pass	
Chromium (filtered)	mg/L	< 0.001	0.001	Pass	
Copper (filtered)	mg/L	< 0.001	0.001	Pass	
Lead (filtered)	mg/L	< 0.001	0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001	0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001	0.001	Pass	
Zinc (filtered)	mg/L	< 0.005	0.005	Pass	
LCS - % Recovery					
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	%	97	70-130	Pass	
TRH C10-C14	%	89	70-130	Pass	
LCS - % Recovery					
BTEX					
Benzene	%	101	70-130	Pass	
Toluene	%	103	70-130	Pass	
Ethylbenzene	%	96	70-130	Pass	
m&p-Xylenes	%	104	70-130	Pass	
o-Xylene	%	103	70-130	Pass	
Xylenes - Total	%	104	70-130	Pass	
LCS - % Recovery	/0	104	70-130	_ Fass	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
	%	94	70-130	Pass	
Naphthalene	+				
TRH C6-C10	%	98	70-130	Pass	
TRH >C10-C16	%	102	70-130	Pass	
LCS - % Recovery				Ι	
Semivolatile Organic Compounds (SVOC)	1 0/		00.400		
2-Chlorophenol	%	91	30-130	Pass	
4-Chloro-3-methylphenol	%	77	30-130	Pass	
4-Nitrophenol	%	41	30-130	Pass	
Acenaphthene	%	86	70-130	Pass	
N-Nitrosodipropylamine	%	98	70-130	Pass	
Pentachlorophenol	%	96	30-130	Pass	
Pyrene	%	95	70-130	Pass	
LCS - % Recovery	1			Г	
Ammonia (as N)	%	86	70-130	Pass	
Nitrate (as N)	%	118	70-130	Pass	
Suspended Solids	%	102	70-130	Pass	
Total Phosphorous	%	102	70-130	Pass	
LCS - % Recovery					
Major Anions	1				
Bicarbonate Alkalinity (as CaCO3)	%	104	70-130	Pass	
Chloride	%	107	70-130	Pass	
Sulphate (as S)	%	103	70-130	Pass	
LCS - % Recovery					
Alkali Metals					
Calcium	%	87	70-130	Pass	
Magnesium	%	102	70-130	Pass	
Potassium	%	74	70-130	Pass	
Sodium	%	109	70-130	Pass	
LCS - % Recovery					
Heavy Metals					
Arsenic (filtered)	%	102	70-130	Pass	
Cadmium (filtered)	%	98	70-130	Pass	
· · · · ·			70-130	Pass	
Chromium (filtered)	%	103	/ U-130	l Lass	1



	ing.							
Test			Units	Result 1		eptance imits	Pass Limits	Qualifying Code
Lead (filtered)			%	107	70	0-130	Pass	
Mercury (filtered)			%	80	70	0-130	Pass	
Nickel (filtered)			%	103	70	0-130	Pass	
Zinc (filtered)			%	102	70	0-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1	Acce Li	eptance imits	Pass Limits	Qualifying Code
Spike - % Recovery								
				Result 1				
Ammonia (as N)	S13-No06469	CP	%	87	70	0-130	Pass	
Nitrate (as N)	S13-No08441	NCP	%	93	70	0-130	Pass	
Total Phosphorous	S13-No06247	NCP	%	103	70	0-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons	- 1999 NEPM Fract	ions		Result 1				
TRH C6-C9	S13-No06470	СР	%	83	70	0-130	Pass	
Spike - % Recovery	<b>'</b>			•	•			
BTEX				Result 1				
Benzene	S13-No06470	CP	%	100	70	0-130	Pass	
Toluene	S13-No06470	CP	%	99		0-130	Pass	
Ethylbenzene	S13-No06470	CP	%	89		0-130	Pass	
m&p-Xylenes	S13-No06470	CP	%	97		0-130	Pass	
o-Xylene	S13-No06470	CP	%	98		0-130	Pass	
Xylenes - Total	S13-No06470	CP	%	97		0-130	Pass	
Spike - % Recovery	01011000170	<u> </u>	,,	0.		3 100	1 000	
Total Recoverable Hydrocarbons	2013 NEPM Fract	ione		Result 1				
Naphthalene	S13-No06470	CP	%	89	7(	0-130	Pass	
TRH C6-C10	S13-No06470	CP	%	74		0-130	Pass	
Spike - % Recovery	01014000470	Oi	70	7-7		0 100	1 000	
Major Anions				Result 1				
Bicarbonate Alkalinity (as CaCO3)	S13-No06473	СР	%	92	70	0-130	Pass	
Sulphate (as S)	S13-No05424	NCP	%	101		0-130	Pass	
Spike - % Recovery	01014000424	1101	70	101		0 100	1 000	
Heavy Metals				Result 1				
Arsenic (filtered)	S13-No06473	СР	%	108	70	0-130	Pass	
Cadmium (filtered)	S13-No06473	CP	%	107		0-130	Pass	
Chromium (filtered)	S13-No06473	CP	%	107		0-130	Pass	
Copper (filtered)	S13-No06473	CP	%	102		0-130	Pass	
Lead (filtered)	S13-No06473	CP	%	107		0-130	Pass	
Mercury (filtered)	S13-No06473	CP	%	86		0-130	Pass	
Nickel (filtered)	S13-No06473	CP	%	103		0-130	Pass	
Zinc (filtered)	S13-No06473	CP	%	109		0-130	Pass	
Spike - % Recovery	313-11000473	UF UF	/0	109		<u>0-130  </u>	газэ	
•				Booult 1		Т		
Major Anions Chloride	S13-No06474	СР	%	Result 1	7/	0-130	Pass	
Spike - % Recovery	313-11000474	I CP	70	110	/	0-130	г d55	
Alkali Metals				Result 1				
	C12 No06477	СР	0/		7/	0 120	Door	
Calcium	S13-No06477	CP	%	104		0-130	Pass	
Magnesium	S13-No06477		%	120		0-130	Pass	
Potassium	S13-No06477	CP	%	90		0-130	Pass	
Sodium	S13-No06477	CP	%	98	/(	0-130	Pass	
Spike - % Recovery	4000 NEDM F	lana		Dog::!t 4				
Total Recoverable Hydrocarbons			0/	Result 1		0 100	Desi	
TRH C6-C9	S13-No06488	CP	%	95	/(	0-130	Pass	
Spike - % Recovery				Dec 11.4		T		
BTEX	040 11 00 105	05	0/	Result 1		0.400		
Benzene	S13-No06488	CP	%	102	/(	0-130	Pass	



Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toluene	S13-No06488	СР	%	103			70-130	Pass	
Ethylbenzene	S13-No06488	CP	%	96			70-130	Pass	
m&p-Xylenes	S13-No06488	СР	%	105			70-130	Pass	
o-Xylene	S13-No06488	СР	%	104			70-130	Pass	
Xylenes - Total	S13-No06488	CP	%	105			70-130	Pass	
Spike - % Recovery	7 0.0 . 1000 . 00	<u>.</u>	,,,				10 100	. 400	
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1					
Naphthalene	S13-No06488	СР	%	90			70-130	Pass	
TRH C6-C10	S13-No06488	CP	%	87			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C6-C9	S13-No06469	СР	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-No06469	СР	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S13-No06469	CP	mg/L	< 0.001	< 0.001	<u></u>	30%	Pass	
Ethylbenzene	S13-No06469	CP	mg/L	< 0.001	< 0.001	<u></u>	30%	Pass	
m&p-Xylenes	S13-No06469	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S13-No06469	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S13-No06469	CP	mg/L	< 0.003	< 0.003	<u></u>	30%	Pass	
Duplicate		<u>.</u>	9. =	0.000	0.000		0070	. 400	
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
Naphthalene	S13-No06469	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	S13-No06469	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-No06469	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate	01011000100	<u> </u>	mg/ E	0.02	0.02		3070	1 400	
Dapinoato				Result 1	Result 2	RPD			
Ammonia (as N)	S13-No06469	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Nitrate (as N)	S13-No08441	NCP	mg/L	0.79	0.79	<1	30%	Pass	
Total Phosphorous	S13-No06247	NCP	mg/L	0.020	0.022	32	30%	Fail	Q15
Duplicate	01011000247	1401	mg/L	0.020	0.022	02	0070	ı alı	Q 10
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S13-No06472	СР	mg/L	0.011	0.012	<1	30%	Pass	
Cadmium (filtered)	S13-No06472	CP	mg/L	< 0.0011	< 0.0001	<1	30%	Pass	
Chromium (filtered)	S13-No06472	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Copper (filtered)	S13-No06472	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	S13-No06472	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	S13-No06472	CP	mg/L	< 0.001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S13-No06472	CP	mg/L	0.035	0.035	<1	30%	Pass	
Zinc (filtered)	S13-No06472	CP		0.035	0.035	2.0	30%		
Duplicate	313-NUU04/2	LCP	mg/L	0.010	0.010	2.0	3070	Pass	
Duplicate				Posult 1	Result 2	RPD			
Conductivity (at 25°C)	\$13, No08472	СР	uS/cm	Result 1 400	410	1.0	30%	Pass	
	S13-No06473 S13-No06473								
Suspended Solids Total Dissolved Solids		CP	mg/L	46 8200	55 8500	17	30%	Pass	
Total Dissolved Solids	S13-No06001	NCP	mg/L	8200	8500	3.0	30%	Pass	
Duplicate Major Anjone				Dog::lt 4	Dog::It 0	DDD	T		
Major Anions  Piperhapata Alkalinity (as CaCO2)	C12 No00470	CD	ma/l	Result 1	Result 2	RPD	200/	Doca	
Bicarbonate Alkalinity (as CaCO3)	S13-No06473	CP	mg/L	110	120	<1	30%	Pass	
Carbonate Alkalinity (as CaCO3)	S13-No06473	CP	mg/L	< 5	< 5	<1	30%	Pass	
Chloride	S13-No06473	CP	mg/L	37	36	3.0	30%	Pass	
Sulphate (as S)	S13-No06473	CP	mg/L	4.0	3.0	<1	30%	Pass	



Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	S13-No06476	CP	mg/L	36	36	<1	30%	Pass	
Magnesium	S13-No06476	CP	mg/L	2.4	2.4	1.0	30%	Pass	
Potassium	S13-No06476	CP	mg/L	4.4	4.4	1.0	30%	Pass	
Sodium	S13-No06476	CP	mg/L	36	36	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C6-C9	S13-No06487	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-No06487	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S13-No06487	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S13-No06487	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S13-No06487	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S13-No06487	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S13-No06487	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
Naphthalene	S13-No06487	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	S13-No06487	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-No06487	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	



### Comments

### Sample Integrity

N/A
Yes
Yes
Yes
Yes
Yes
No

### **Qualifier Codes/Comments**

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins   mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

### **Authorised By**

Jean Heng Client Services

 Bob Symons
 Senior Analyst-Inorganic (NSW)

 James Norford
 Senior Analyst-Metal (NSW)

 Ryan Hamilton
 Senior Analyst-Organic (NSW)

 Ryan Hamilton
 Senior Analyst-Volatile (NSW)



## Dr. Bob Symons Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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Sefton McGraw Eurofins Environment Testing Australia P/L PO Box 276 Oakleigh VIC 3166 ph 03 95647055 fax 03 95647190

### **Final Report - 29/11/13**

Four biosolid samples were received on November 14 and analysed for Viruses and Helminths as requested.

For viral analysis, each sample was dissolved in buffer and processed by PEG precipitation, to give a final volume of <30ml, and analysed by cell culture.

For Helminth detection, the sample was dissolved in buffer and a flotation method was used to recover helminth ova. For the detection of helminth ova/eggs (including Taenia sp., & Ascaris sp.) the results are expressed in ova/cysts per volume of sample tested.

All samples are processed according to methods WI 300, WI 429, WI 500-561 inclusive as appropriate. All controls were valid. (<1 denotes viruses or helminths not detected.)

The results are shown in the following tables.

## **RESULTS**

### **Viruses Detected by Cell Culture**

Sample Identific-	Volume Tested	Date Sampled	Laboratory Number	Reo- viruses	Adeno- viruses	Entero- viruses
ation	10000	Sumpreu	1 (61110 61	11000	11000	, 11 dis 05
No06490	20g	12/11/13	13-0549	<1 per 20g	<1 per 20g	<1 per 20g
No06491	20g	12/11/13	13-0550	<1 per 20g	<1 per 20g	<1 per 20g
No06492	20g	12/11/13	13-0551	<1 per 20g	<1 per 20g	<1 per 20g
No06493	20g	12/11/13	13-0552	<1 per 20g	<1 per 20g	<1 per 20g

## **Helminths Detected**

Sample Identification	Volume Tested	Date Sampled	Laboratory Number	ova (eggs)	detected
				Taenia ova	Ascaris ova
No06490	20g	12/11/13	13-0553	<1 per 20g	<1 per 20g
No06491	20g	12/11/13	13-0554	<1 per 20g	<1 per 20g
No06492	20g	12/11/13	13-0555	<1 per 20g	<1 per 20g
No06493	20g	12/11/13	13-0556	<1 per 20g	<1 per 20g

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CHAIN OF CUSTODY

# 2003/10

DYSAL TEGER

OF:

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Val; VS = Sulfuric Acid Prsvd Val; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; D = Other NOTES: FOR RECEIVING LAB USE ONLY EMAIL: COOLER SEAL - Yes..... No ...... COOLER SEAL - Yes ..... No COOLER TEMP ..... deg C PHONE: SYDNEY 02 82450300 - PERTH 08 9488 0100 DATE: TO 12 SAMPLERS: EL& ND 1 12 7 LABORATORY BATCH NO .: QC LEVEL: REPM (2013) NAME: Per !! [11 RECEIVED BY: > NAME: OF: 표 SEND INVOICE TO: gng @ w. o.u. TYPE & PRESERVATIVE Please Forward 'triplicake, to Envirolists METHOD OF SHIPMENT CONSIGNMENT NOTE NO. CONSIGNMENT NOTE NO. 345 1335 330 330 TRANSPORT CO. TIME 11/11/13 DATE PROJECT NAME: CANSON GROWTH COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: MATRIX DATE NEEDED BY: Standard PROJECT NO.: 43008 RELINQUISHED BY: DATE: 08 ms 03 OPWS-02 06ms-04 OPES-02 SAMPLE ID OPES-01 OPES-O4 08005-01 0PES-03 OPE OI 0Pw-01 mwo 3 203W M COUM ) COM 5PO 3 士odS SPOI SP02 OF: JBS&G NAME NAME

Biological - E-coli, salmonella sp, forecad coliforms, enteric viruses, helminth ana Web Parameters - pH, EC, redox, TDS/TSS, major anims/cations Nutrients - Phosphorous, Nitrate, Ammonia

DSSEL OGGERA NOTES: EMAIL: PHONE: SYDNEY 02 82450300 - PERTH 08 9488 0100 EL & MO LABORATORY BATCH NO.: Har SOVZ Har Har Har RECEIVED BY: CHAIN OF CUSTODY 4 4 ౼ Please formaro thip is capil to Envirolate TYPE & PRESERVATIVE SEND INVOICE TO: TIME DATE motel Indro @ 1625; com. wy Usban Growth DATE NEEDED BY: STRINGLOO COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL MATRIX 333 SAMPLE ID PROJECT NAME: SEND REPORT TO: PROJECT NO.:

OF:

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Pravd; C = Sodium Hydroxide Pravd; VC = Hydrochloric Acid Pravd Vial; VS = Sulfuric Acid Pravd Vial; S = Sulfuric Acid Pravd; E = EDTA Pravd; ST = Sterile Bottle; O = Other IMSO Forms013 - Chain of Custody - Generic

CONSIGNMENT NOTE NO.

NAME: CILE

CONSIGNMENT NOTE NO.

FOR RECEIVING LAB USE ONLY

COOLER SEAL - Yes..... No

COOLER SEAL - Yes ..... No.

NAME: OF:



ABN - 50 005 085 521

e.mail : EnviroSales@eurofins.com.au

web: www.eurofins.com.au

Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

**Brisbane**1/21 Smallwood Place
Murarrie QLD 4172
Phone: +61 7 3902 4600
NATA # 1261 Site # 20794

# Sample Receipt Advice

Company name: JBS & G (NSW & WA) Pty Ltd

Contact name: Thomas Harding

Client job number: EXTERNAL: URBAN GROWTH 43008

COC number: Not provided Turn around time: 10 Day

Date/Time received: Nov 11, 2013 5:00 PM

Eurofins | mgt reference: 399312

# Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 12 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Organic samples had Teflon liners.
- ☑ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

### **Notes**

Parent report 399310 | Microbiological analysis conducted at Environmental Pathogens Canberra

## **Contact notes**

If you have any questions with respect to these samples please contact:

Jean Heng on Phone: (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Thomas Harding - tharding@jbsg.com.au.

# Eurofins | mgt Sample Receipt



Environmental Laboratory Air Analysis Water Analysis Soil Contamination Analysis NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: EXTERNAL: URBAN GROWTH 43008 Order No.: Report #:

399312

Phone: 02 8245 0300

Fax:

Received:

Nov 11, 2013 5:00 PM Nov 26, 2013

Due: Priority:

10 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

	Sample Detail								
		ere analysis is c							
	elbourne Lab	oratory - NATA	Site # 1254 & 14	271					
	dney Labora	tory - NATA Site	# 18217						
	isbane Labor	ratory - NATA Si	te # 20794						
	ternal Labor	atory	•			Х	Х		
ţ	Sample ID Sample Date Sampling Matrix LAB ID								
2	PWS_01	Nov 11, 2013	1:30PM	Soil	S13-No06490	Х	Χ		
	PWS_03	Nov 11, 2013	1:45PM	Soil	S13-No06491	Х	Χ		
	PES_01	Nov 11, 2013	2:35PM	Soil	S13-No06492	Х	Х		

Soil

S13-No06493



PES\_03

Nov 11, 2013

2:45PM



# Certificate of Analysis

JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Thomas Harding

Report 399312-S

Client Reference EXTERNAL: URBAN GROWTH 43008

Received Date Nov 11, 2013

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled Test/Reference	LOR	Unit	OPWS_01 Soil S13-No06490 Nov 11, 2013	OPWS_03 Soil S13-No06491 Nov 11, 2013	OPES_01 Soil S13-No06492 Nov 11, 2013	OPES_03 Soil S13-No06493 Nov 11, 2013
Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)			see attached	see attached	see attached	see attached
Helminth Ova			see attached	see attached	see attached	see attached



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

DescriptionTesting SiteExtractedHolding TimeHelminth OvaSydneyNov 11, 20130 Day

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: EXTERNAL: URBAN GROWTH 43008 Order No.: Report #:

399312

Phone: 02 8245 0300

Fax:

Received:

Nov 11, 2013 5:00 PM Nov 26, 2013

Due: Priority:

10 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

	Sample Detail								
		ere analysis is c							
	elbourne Lab	oratory - NATA	Site # 1254 & 14	271					
	dney Labora	tory - NATA Site	# 18217						
	isbane Labor	ratory - NATA Si	te # 20794						
	ternal Labor	atory	•			Х	Х		
ţ	Sample ID Sample Date Sampling Matrix LAB ID								
2	PWS_01	Nov 11, 2013	1:30PM	Soil	S13-No06490	Х	Χ		
	PWS_03	Nov 11, 2013	1:45PM	Soil	S13-No06491	Х	Χ		
	PES_01	Nov 11, 2013	2:35PM	Soil	S13-No06492	Х	Х		

Soil

S13-No06493



PES\_03

Nov 11, 2013

2:45PM



### **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate**A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

### OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



# Comments

Helminth ova/Enteric Viruses analysed by Environmental Pathogens, report 291113

# Sample Integrity

Custody Seals Intact (if used)	N/A
	Yes
Attempt to Chill was evident	
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

# **Authorised By**

Jean Heng Client Services

# Dr. Bob Symons Laboratory Manager

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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Report Number: 399312-S

# 400236 QL 19/11/13.

From: Thomas Harding < THarding@jbsg.com.au > Date: 19 November 2013 11:17:32 AM AEDT To: Jean Heng < JeanHeng@eurofins.com.au > Subject: Lab Batch 398243 Urban Growth

Hi Jean,

Can I place the following samples on for analysis please? 4day turnaround please

Lab batch 398243

TP12 0.1-0.2 - TCLP Metals and PAHs TP12 0.7-0.8 - PAHs and metals

Thank you

Tom



Contaminated Land | Groundwater Remediation | Auditing and Compliance | Assessments and Approvals | Occupational Hygiene and Monitoring

If you would like to send through large electronic files (>25MB), please use JBS&G's secure internet-based file delivery system located at <a href="http://dropbox.yousendit.com/JBSG">http://dropbox.yousendit.com/JBSG</a>. Place 'Tom Harding - Sydney' in the subject. This email message is intended only for the addressee(s) and contains information that may be confidential and/or copyright. If you are not the intended recipient please delete this email immediately. Use, disclosure or reproduction of this email by anyone other than the intended recipient(s) is strictly prohibited. No representation is made that this email or any attachments are free of viruses and the recipient is responsible for undertaking appropriate virus scanning. Any advice provided in or attached to this email is subject to <a href="limitations">limitations</a>.



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web: www.eurofins.com.au

Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F6, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

**Brisbane**1/21 Smallwood Place
Murarrie QLD 4172
Phone: +61 7 3902 4600
NATA # 1261 Site # 20794

# Sample Receipt Advice

Company name: JBS & G (NSW & WA) Pty Ltd

Contact name: Thomas Harding

Client job number: ADDITIONAL: URBAN GROWTH 43008

COC number: Not provided

Turn around time: 4 Day

Date/Time received: Nov 19, 2013 11:17 AM

Eurofins | mgt reference: 400236

# Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 14 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Organic samples had Teflon liners.
- Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

# **Notes**

Additional from report 398243 | TCLP and PAH outside of holding time

# **Contact notes**

If you have any questions with respect to these samples please contact:

Jean Heng on Phone: (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to Thomas Harding - tharding@jbsg.com.au.

# Eurofins | mgt Sample Receipt



Environmental Laboratory Air Analysis Water Analysis Soil Contamination Analysis NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: ADDITIONAL: URBAN GROWTH 43008 Order No.:

Report #: 400236 02 8245 0300

Phone: Fax:

Received: Due:

Nov 19, 2013 11:17 AM

Nov 25, 2013 Priority:

4 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

			Sample Detail			% Moisture	Polycyclic Aromatic Hydrocarbons	Toxicity Characteristic Leaching Procedure (TCLP)	Metals M8
							S		
	boratory who	ere analysis is co	onducted						
		oratory - NATA S		271					
		tory - NATA Site				Х	Х	Х	Х
	isbane Labo	ratory - NATA Sit	te # 20794						
	ternal Labor	atory							
50	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
	12 0.1-0.2	Oct 31, 2013		TCLP	S13-No12941	Х	Χ	Х	Х
	12 0.7-0.8	Oct 31, 2013		Soil	S13-No12942	Х	Χ		Х





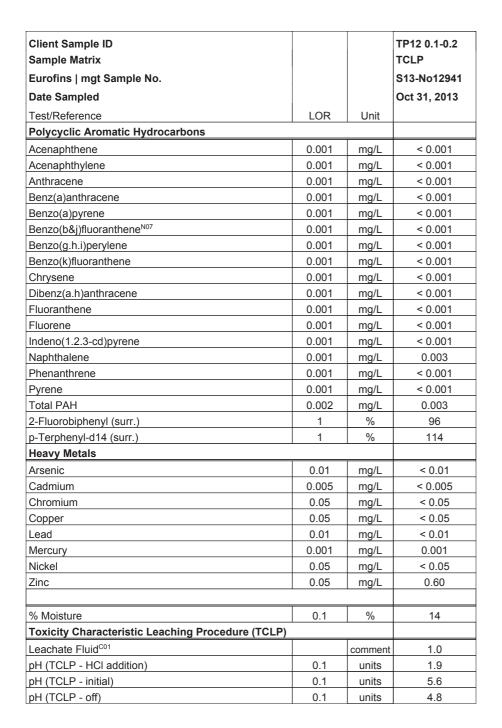
JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Thomas Harding

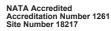
Report 400236-L

Client Reference ADDITIONAL: URBAN GROWTH 43008

Received Date Nov 19, 2013



# Certificate of Analysis









# **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	<b>Holding Time</b>
Polycyclic Aromatic Hydrocarbons	Sydney	Nov 21, 2013	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8	Sydney	Nov 19, 2013	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
% Moisture	Sydney	Nov 19, 2013	0 Day
- Method: E005 Moisture Content			
Toxicity Characteristic Leaching Procedure (TCLP)	Sydney	Nov 19, 2013	0 Day

<sup>-</sup> Method: E019 TCLP Preparation

Report Number: 400236-L

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: ADDITIONAL: URBAN GROWTH 43008 Order No.:

Report #: 400236 02 8245 0300

Phone: Fax:

Received: Due:

Nov 19, 2013 11:17 AM

Nov 25, 2013 Priority:

4 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

			Sample Detail			% Moisture	Polycyclic Aromatic Hydrocarbons	Toxicity Characteristic Leaching Procedure (TCLP)	Metals M8
							S		
	boratory who	ere analysis is co	onducted						
		oratory - NATA S		271					
		tory - NATA Site				Х	Х	Х	Х
	isbane Labo	ratory - NATA Sit	te # 20794						
	ternal Labor	atory							
50	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
	12 0.1-0.2	Oct 31, 2013		TCLP	S13-No12941	Х	Χ	Х	Х
	12 0.7-0.8	Oct 31, 2013		Soil	S13-No12942	Х	Χ		Х





## **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate**A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

# **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

## OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Report Number: 400236-L



Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Polycyclic Aromatic Hydrocarbons	3								
Acenaphthene			mg/L	< 0.001			0.001	Pass	
Acenaphthylene			mg/L	< 0.001			0.001	Pass	
Anthracene			mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene			mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene			mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene			mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene			mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene			mg/L	< 0.001			0.001	Pass	
Chrysene			mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene			mg/L	< 0.001			0.001	Pass	
Fluoranthene			mg/L	< 0.001			0.001	Pass	
Fluorene			mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene			mg/L	< 0.001			0.001	Pass	
Naphthalene			mg/L	< 0.001			0.001	Pass	
Phenanthrene			mg/L	< 0.001			0.001	Pass	
Pyrene			mg/L	< 0.001			0.001	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S13-No12494	NCP	%	107			70-130	Pass	
Cadmium	S13-No12494	NCP	%	108			70-130	Pass	
Chromium	S13-No12494	NCP	%	96			70-130	Pass	
Copper	S13-No12494	NCP	%	94			70-130	Pass	
Lead	S13-No12494	NCP	%	100			70-130	Pass	
Mercury	S13-No12494	NCP	%	79			70-130	Pass	
Nickel	S13-No12494	NCP	%	94			70-130	Pass	
Zinc	S13-No12494	NCP	%	102			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S13-No08842	NCP	mg/L	0.030	0.040	3.0	30%	Pass	
Cadmium	S13-No08842	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chromium	S13-No08842	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Copper	S13-No08842	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Lead	S13-No08842	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Mercury	S13-No08842	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Nickel	S13-No08842	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Zinc	S13-No08842	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
						_			



# Comments

# Sample Integrity

Custody Seals Intact (if used) N/A Attempt to Chill was evident Yes Sample correctly preserved Yes Organic samples had Teflon liners Yes Sample containers for volatile analysis received with minimal headspace Yes Samples received within HoldingTime No Some samples have been subcontracted No

# **Qualifier Codes/Comments**

#### Code Description

C01  $Leachate\ Fluid\ Key:\ 1-pH\ 5.0,\ 2-pH\ 2.9,\ 3-pH\ 9.2,\ 4-Reagent\ (DI)\ water,\ 5-Client\ sample,\ 6-other$ 

Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs N07

# **Authorised By**

Jean Heng Client Services

James Norford Senior Analyst-Metal (NSW) Ryan Hamilton Senior Analyst-Organic (NSW)

Dr. Bob Symons

# **Laboratory Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential clamages including, but not limited to, lost profits, damages for relative to meet declarations and lost production arising from this report. This document shall be reported evereign froil and are relates only to the tiens tested. Unlies indicated otherwise, the tests were, better sindicated otherwise, the tests were.

Report Number: 400236-L



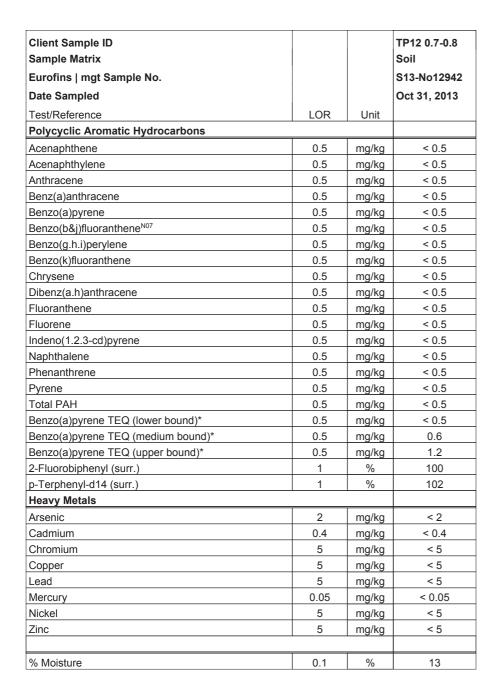
JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Thomas Harding

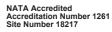
Report 400236-S

Client Reference ADDITIONAL: URBAN GROWTH 43008

Received Date Nov 19, 2013



# Certificate of Analysis









Description	Testing Site	Extracted	<b>Holding Time</b>
Polycyclic Aromatic Hydrocarbons	Sydney	Nov 19, 2013	14 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8	Sydney	Nov 19, 2013	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
% Moisture	Sydney	Nov 19, 2013	28 Day

- Method: E005 Moisture Content

Company Name: JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

Sydney NSW 2000

Client Job No.: ADDITIONAL: URBAN GROWTH 43008 Order No.:

Report #: 400236 02 8245 0300

Phone: Fax:

Received: Due:

Nov 19, 2013 11:17 AM

Nov 25, 2013 Priority:

4 Day Thomas Harding Contact Name:

Eurofins | mgt Client Manager: Jean Heng

			Sample Detail			% Moisture	Polycyclic Aromatic Hydrocarbons	Toxicity Characteristic Leaching Procedure (TCLP)	Metals M8
							S		
	boratory who	ere analysis is co	onducted						
		oratory - NATA S		271					
		tory - NATA Site				Х	Х	Х	Х
	isbane Labo	ratory - NATA Sit	te # 20794						
	ternal Labor	atory							
50	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
	12 0.1-0.2	Oct 31, 2013		TCLP	S13-No12941	Х	Χ	Х	Х
	12 0.7-0.8	Oct 31, 2013		Soil	S13-No12942	Х	Χ		Х





## **Eurofins | mgt Internal Quality Control Review and Glossary**

#### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
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- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

#### **Holding Times**

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Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
org/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)

TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

# **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

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Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

## OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



# mgt

Test			Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Method Blank								
Polycyclic Aromatic Hydrocarbons	3							
Acenaphthene			mg/kg	< 0.5		0.5	Pass	
Acenaphthylene			mg/kg	< 0.5		0.5	Pass	
Anthracene			mg/kg	< 0.5		0.5	Pass	
Benz(a)anthracene			mg/kg	< 0.5		0.5	Pass	
Benzo(a)pyrene			mg/kg	< 0.5		0.5	Pass	
Benzo(b&j)fluoranthene			mg/kg	< 0.5		0.5	Pass	
Benzo(g.h.i)perylene			mg/kg	< 0.5		0.5	Pass	
Benzo(k)fluoranthene			mg/kg	< 0.5		0.5	Pass	
Chrysene			mg/kg	< 0.5		0.5	Pass	
Dibenz(a.h)anthracene			mg/kg	< 0.5		0.5	Pass	
Fluoranthene			mg/kg	< 0.5		0.5	Pass	
Fluorene			mg/kg	< 0.5		0.5	Pass	
Indeno(1.2.3-cd)pyrene			mg/kg	< 0.5		0.5	Pass	
Naphthalene			mg/kg	< 0.5		0.5	Pass	
Phenanthrene			mg/kg	< 0.5		0.5	Pass	
Pyrene			mg/kg	< 0.5		0.5	Pass	
LCS - % Recovery								
Polycyclic Aromatic Hydrocarbons	1							
Acenaphthene			%	111		70-130	Pass	
Acenaphthylene			%	104		70-130	Pass	
Anthracene			%	115		70-130	Pass	
Benz(a)anthracene			%	116		70-130	Pass	
Benzo(a)pyrene			%	92		70-130	Pass	
Benzo(b&j)fluoranthene			%	83		70-130	Pass	
Benzo(g.h.i)perylene			%	86		70-130	Pass	
Benzo(k)fluoranthene			%	107		70-130	Pass	
Chrysene			%	108		70-130	Pass	
Dibenz(a.h)anthracene			%	91		70-130	Pass	
Fluoranthene			%	122		70-130	Pass	
Fluorene			%	111		70-130	Pass	
Indeno(1.2.3-cd)pyrene			%	90		70-130	Pass	
Naphthalene			%	108		70-130	Pass	
Phenanthrene			%	122		70-130	Pass	
Pyrene			%	121		70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery				T	, , , , , , , , , , , , , , , , , , ,			
Polycyclic Aromatic Hydrocarbons				Result 1				
Acenaphthene	S13-No16502	NCP	%	115		70-130	Pass	
Acenaphthylene	S13-No16502	NCP	%	115		70-130	Pass	
Anthracene	S13-No16502	NCP	%	112		70-130	Pass	
Benz(a)anthracene	S13-No16502	NCP	%	110		70-130	Pass	
Benzo(a)pyrene	S13-No16502	NCP	%	110		70-130	Pass	
Benzo(b&j)fluoranthene	S13-No16502	NCP	%	86		70-130	Pass	
Benzo(g.h.i)perylene	S13-No16502	NCP	%	105		70-130	Pass	
Benzo(k)fluoranthene	S13-No16502	NCP	%	122		70-130	Pass	
Chrysene	S13-No16502	NCP	%	121		70-130	Pass	
Dibenz(a.h)anthracene	S13-No16502	NCP	%	102		70-130	Pass	
Fluoranthene	S13-No16502	NCP	%	123		70-130	Pass	
Fluorene	S13-No16502	NCP	%	116		70-130	Pass	
Indeno(1.2.3-cd)pyrene	S13-No16502	NCP	%	109		70-130	Pass	
Naphthalene	S13-No16502	NCP	%	123		70-130	Pass	



# mgt

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	S13-No16502	NCP	%	120			70-130	Pass	
Pyrene	S13-No16502	NCP	%	126			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Polycyclic Aromatic Hydrocai	rbons			Result 1	Result 2	RPD			
Acenaphthene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S13-No16502	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	



# Comments

# Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	No
Some samples have been subcontracted	No

# **Qualifier Codes/Comments**

# Code Description

Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

# **Authorised By**

Jean Heng Client Services

 James Norford
 Senior Analyst-Metal (NSW)

 Ryan Hamilton
 Senior Analyst-Organic (NSW)

Dr. Bob Symons

# **Laboratory Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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# CHAIN OF CUSTODY

PROJECT NO.: 4-5,000   PROJECT NO.: 4-5,000   PROJECT NAME: & CA RAVIC   SEND INVO   SEND INVO   SEND INVO   SEND INVO   SEND INVO   SEND INVO   SEND INVO   SEND INVO   SEND INVO   SAMPLE ID   MATRIX   DATE   TIME   TABLE OF 1-0.2   SOLC   S/11/13   SAMPLE ID   MATRIX   DATE   TIME   TABLE OF 1-0.2   SOLC   S/11/13   SAMPLE ID   MATRIX   DATE   TIME   TABLE OF 1-0.2   SOLC   S/11/13   SAMPLE ID   MATRIX   DATE   TIME   TABLE OF 1-0.2   SOLC   S/11/13   SAMPLE ID   MATRIX   DATE   TIME   TABLE OF 1-0.2   SOLC   SOLC   SOLC   SOLC   SAMPLE ID   SAMPLE	SEND INVOICE TO:C3. USG. SAMPLERS.  SAL:  SAMPLERS  SAL:  SA	100 EMAIL:	NOTES NOTES
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OF: JBSRG DATE: CONSIGNMENT NOTE NO.		DATE:	COOLER SEAL - Yes, No Intact Broken
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ph 02 9910 6200 fax 02 9910 6201 enquiries@envirolabservices.com.au www.envirolabservices.com.au

**CERTIFICATE OF ANALYSIS** 99986

Client:

JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St

Sydney NSW 2000

Attention: Tom Harding, Ellen Luu

Sample log in details:

Your Reference: 43008, Urban Growth

No. of samples: 8 soils

01/11/13 Date samples received / completed instructions received 01/11/13

**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: / Issue Date: 12/11/13 12/11/13

Date of Preliminary Report: Not issued

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**Results Approved By:** 

Jacinta Hurst Laboratory Manager



vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	99986-5	99986-7
Your Reference		QS001A	QS002A
Depth		-	-
Date Sampled		30/10/2013	30/10/2013
Type of sample		Soil	Soil
Date extracted	-	06/11/2013	06/11/2013
Date analysed	-	09/11/2013	09/11/2013
TRHC6 - C9	mg/kg	<25	<25
TRHC6 - C10	mg/kg	<25	<25
vTPHC6 - C10 less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	97	95

svTRH (C10-C40) in Soil			
Our Reference:	UNITS	99986-5	99986-7
Your Reference		QS001A	QS002A
Depth		-	-
Date Sampled		30/10/2013	30/10/2013
Type of sample		Soil	Soil
Date extracted	-	06/11/2013	06/11/2013
Date analysed	-	07/11/2013	07/11/2013
TRHC10 - C14	mg/kg	<50	<50
TRHC 15 - C28	mg/kg	<100	<100
TRHC29 - C36	mg/kg	<100	<100
TRH>C10-C16	mg/kg	<50	<50
TRH>C10 - C16 less Naphthalene (F2)	mg/kg	<50	<50
TRH>C16-C34	mg/kg	<100	<100
TRH>C34-C40	mg/kg	<100	<100
Surrogate o-Terphenyl	%	87	86

PAHs in Soil			
Our Reference:	UNITS	99986-5	99986-7
Your Reference		QS001A	QS002A
Depth		-	-
Date Sampled		30/10/2013	30/10/2013
Type of sample		Soil	Soil
Date extracted	-	06/11/2013	06/11/2013
Date analysed	-	07/11/2013	07/11/2013
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
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5	<0.5
Total +ve PAH's	mg/kg	NIL(+)VE	NIL(+)VE
Surrogate p-Terphenyl-d14	%	96	97

Organochlorine Pesticides in soil			
Our Reference:	UNITS	99986-5	99986-7
Your Reference		QS001A	QS002A
Depth		-	-
Date Sampled		30/10/2013	30/10/2013
Type of sample		Soil	Soil
Date extracted	-	06/11/2013	06/11/2013
Date analysed	-	06/11/2013	06/11/2013
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 TCMX	%	81	81

PCBs in Soil			
Our Reference:	UNITS	99986-5	99986-7
Your Reference		QS001A	QS002A
Depth		-	-
Date Sampled		30/10/2013	30/10/2013
Type of sample		Soil	Soil
Date extracted	-	06/11/2013	06/11/2013
Date analysed	-	06/11/2013	06/11/2013
Arochlor 1016	mg/kg	<0.1	<0.1
Arochlor 1221	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	%	81	81

	I		
Acid Extractable metals in soil			
Our Reference:	UNITS	99986-5	99986-7
Your Reference		QS001A	QS002A
Depth		-	-
Date Sampled		30/10/2013	30/10/2013
Type of sample		Soil	Soil
Date digested	-	06/11/2013	06/11/2013
Date analysed	-	06/11/2013	06/11/2013
Arsenic	mg/kg	5	12
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	11	15
Copper	mg/kg	18	28
Lead	mg/kg	14	26
Mercury	mg/kg	0.2	<0.1
Nickel	mg/kg	5	16
Zinc	mg/kg	25	65

Moisture			
Our Reference:	UNITS	99986-5	99986-7
Your Reference		QS001A	QS002A
Depth		-	-
Date Sampled		30/10/2013	30/10/2013
Type of sample		Soil	Soil
Date prepared	-	06/11/2013	06/11/2013
Date analysed	-	07/11/2013	07/11/2013
Moisture	%	9.6	13

Asbestos ID - soils WA					
Our Reference:	UNITS	99986-1	99986-2	99986-3	99986-8
Your Reference		TP02	TP05	TP05	TP10
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled Type of sample		30/10/2013 Soil	30/10/2013 Soil	30/10/2013 Soil	30/10/2013 Soil
Date analysed	-	11/11/2013	11/11/2013	11/11/2013	11/11/2013
Sample mass tested	g	271.06g	376.12g	461.53g	506.98g
Sample Description	-	Brown fine- grained clayey soil & rocks	Brown fine- grained clayey soil & rocks	Brown fine- grained clayey soil & rocks	Brown fine- grained clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected

Asbestos ID - soils				
Our Reference:	UNITS	99986-4	99986-5	99986-6
Your Reference		QS001	QS001A	TP08
Depth		-	-	0.1-0.2
Date Sampled		30/10/2013	30/10/2013	30/10/2013
Type of sample		Soil	Soil	Soil
Date analysed	-	11/11/2013	11/11/2013	11/11/2013
Sample mass tested	g	Approx 40g	Approx 40g	Approx 40g
Sample Description	-	Brown	Brown	Brown fine-
		coarse-	coarse-	grained soil
		grained soil	grained soil	
Asbestos ID in soil	-	No asbestos	No asbestos	No asbestos
		detected at	detected at	detected at
		reporting limit	reporting limit	reporting limit
		of 0.1g/kg	of 0.1g/kg	of 0.1g/kg
Trace Analysis	-	No respirable	No respirable	No respirable
		fibres	fibres	fibres
		detected	detected	detected

Method ID	Methodology Summary
Org-016	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. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
	F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals-020 ICP- AES	Determination of various metals by ICP-AES.
Metals-021 CV- AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-003	Asbestos ID - Minimum 500mL soil sample was analysed as recommended by "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg as per AS4964-2004.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

**Client Reference:** 43008, Urban Growth PQL QUALITY CONTROL **UNITS** METHOD Blank Duplicate **Duplicate results** Spike Sm# Spike % Sm# Recovery vTRH(C6-C10)/BTEXN in Base II Duplicate II %RPD Soil Date extracted 06/11/2 [NT] [NT] LCS-4 06/11/2013 013 Date analysed 09/11/2 LCS-4 09/11/2013 [NT] [NT] 013

Org-016 94% TRHC6 - C9 mg/kg 25 <25 [NT] [NT] LCS-4 TRHC6 - C10 Org-016 94% mg/kg 25 <25 [NT] [NT] LCS-4 105% Benzene 0.2 Org-016 <0.2 LCS-4 mg/kg [NT] [NT] Org-016 96% Toluene mg/kg 0.5 < 0.5 [NT] [NT] LCS-4 Org-016 90% Ethylbenzene mg/kg 1 <1 [NT] [NT] LCS-4 2 Org-016 <2 LCS-4 91% m+p-xylene mg/kg [NT] [NT] Org-016 o-Xylene mg/kg 1 <1 [NT] [NT] LCS-4 90% naphthalene mg/kg 1 Org-014 <1 [NT] [NT] [NR] [NR] % Org-016 108 LCS-4 101% [NT] Surrogate aaa-[NT] Trifluorotoluene Spike % QUALITY CONTROL **UNITS** PQL METHOD Blank **Duplicate Duplicate results** Spike Sm# Sm# Recovery svTRH(C10-C40)in Soil Base II Duplicate II %RPD 06/11/2 [NT] [NT] LCS-4 06/11/2013 Date extracted 013 07/11/2 07/11/2013 Date analysed LCS-4 [NT] [NT] 013 Org-003 TRHC10 - C14 mg/kg 50 <50 [NT] [NT] LCS-4 110% Org-003 TRHC15 - C28 mg/kg 100 <100 [NT] [NT] LCS-4 115% 100 Org-003 <100 LCS-4 134% TRHC29 - C36 mg/kg [NT] [NT] Org-003 TRH>C10-C16 mg/kg 50 <50 [NT] [NT] LCS-4 110% TRH>C16-C34 mg/kg 100 Org-003 <100 [NT] [NT] LCS-4 115% 100 Org-003 <100 LCS-4 134% TRH>C34-C40 mg/kg [NT] [NT] Org-003 Surrogate o-Terphenyl % 96 [NT] [NT] LCS-4 116% QUALITY CONTROL UNITS PQL METHOD Blank Duplicate Duplicate results Spike Sm# Spike % Sm# Recovery PAHs in Soil Base II Duplicate II %RPD 06/11/2 Date extracted [NT] [NT] LCS-4 06/11/2013 013 07/11/2 LCS-4 07/11/2013 Date analysed [NT] [NT] 013 Org-012 103% Naphthalene 0.1 < 0.1 [NT] [NT] LCS-4 mg/kg subset Org-012 Acenaphthylene <0.1 [NR] mg/kg 0.1 [NT] [NT] [NR] subset Org-012 Acenaphthene mg/kg 0.1 < 0.1 [NT] [NT] [NR] [NR] subset Fluorene Org-012 < 0.1 LCS-4 101% mg/kg 0.1 [NT] [NT] subset Phenanthrene 0.1 Org-012 < 0.1 LCS-4 99% mg/kg [NT] [NT] subset Org-012 Anthracene mg/kg 0.1 < 0.1 [NT] [NT] [NR] [NR] subset Fluoranthene mg/kg 0.1 Org-012 <0.1 [NT] [NT] LCS-4 100% subset

		Clie	nt Referenc	e: 43	8008, Urban (	Growth		
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	101%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	90%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-4	94%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl- d14	%		Org-012 subset	96	[NT]	[NT]	LCS-4	96%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil					311#	Base II Duplicate II %RPD		Recovery
Date extracted	-			06/11/2	[NT]	[NT]	LCS-4	06/11/2013
Date analysed	-			013	[NT]	[NT]	LCS-4	06/11/2013
HCB	mg/kg	0.1	Org-005	013 <0.1	NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	84%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	92%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	86%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	87%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	89%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	99%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	90%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	82%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	107%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde			Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
	mg/kg	0.1	Oig-005	1				
Endosulfan Sulphate	mg/kg mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	90%
Endosulfan Sulphate Methoxychlor			_				1	

Client Reference: 43008, Urban Growth								
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			06/11/2 013	[NT]	[NT]	LCS-4	06/11/2013
Date analysed	-			06/11/2 013	[NT]	[NT]	LCS-4	06/11/2013
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-4	101%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	106	[NT]	[NT]	LCS-4	74%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			06/11/2 013	[NT]	[NT]	LCS-8	06/11/2013
Date analysed	-			06/11/2 013	[NT]	[NT]	LCS-8	06/11/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-8	98%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-8	106%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-8	101%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-8	99%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-8	99%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-8	97%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-8	101%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-8	106%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank
Moisture				
Date prepared	-			[NT]
Date analysed	-			[NT]
Moisture	%	0.1	Inorg-008	[NT]
QUALITYCONTROL	UNITS	PQL	METHOD	Blank
Asbestos ID - soils WA				
Date analysed	-			[NT]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank
Asbestos ID - soils				
Date analysed	-			[NT]

Envirolab Reference: 99986
Revision No: R 00

Page 15 of 16

# **Report Comments:**

This report is consistent with the analytical procedures and reporting recommendations in the Western Australian Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009.

Note: All samples analysed as received. However, samples are below the minimum 500mL sample volume as per Western Australia's DOH guidelines.

Asbestos ID was analysed by Approved Identifier: Paul Ching
Asbestos ID was authorised by Approved Signatory: Matt Mansfield

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested

NA: Test not required RPD: Relative Percent Difference NA: Test not required

# **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 batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable. Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Envirolab Reference: 99986 Page 16 of 16

Revision No: R 00



PO Box 1422 Lane Cove 1595
Rear - 244 Burns Bay Road
Lane Cove NSW Australia
Phone: (02) 9418 9151

Fax:

(02) 9418 9151 (02) 9418 9150

7 November 2013

JBS&G Pty Ltd Level 1 50 Margaret Street SYDNEY NSW 2000

# **CERTIFICATE OF ANALYSIS - ASBESTOS IDENTIFICATION**

YOUR REFERENCE/JOB No: 43008

TYPE OF SAMPLES: Bulk s

Bulk samples - as received from Envirolab Services

SITE LOCATION:

**Urban Growth** 

DATE SAMPLED:

not specified DA

DATE RECEIVED:

5 November 2013

**OUR REFERENCE:** 

76899-ID

**TEST METHOD:** Soil samples examined by Stereomicroscopy and Polarized Light Microscopy (with Dispersion Staining) in accordance with AS 4964-2004: - 'Method for the qualitative identification of asbestos in bulk samples' as outlined in Laboratory Method ID/1. The Reporting Limit for the results in this Certificate is numerically equal to the lowest detection limit of 0.1 g/kg. Trace asbestos analysis has been conducted, which is generally designed to detect 'respirable' asbestos fibres (i.e. less than 3 micrometres in width) distributed throughout the sample.

Sample No	Lab No	Sample Information	Analysis Result	Description
QS004A	76899	Soil sample as received	i e	The sample was a brown clumpy soil with plant matter of total approximate weight 113 g, in which organic fibres were detected. No asbestos fibres were detected or found at the Reporting Limit of 0.1g/kg in the sample.

All sampling and site work has been undertaken by the client - the analytical procedures and results reported on this Certificate have been conducted by Pickford & Rhyder Consulting.

Sampling is not covered by the scope of accreditation.

Analysed and reported by:

Galy Conaty,

Approved Identifier and Signatory.



Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced except in full.

Accreditation number 2515

(ab No 76899

Hastding @ jesg.com. andelswide @ con. so. CHAIN OF CUSTODY



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10 15

IMSO FormsO13 - Chain of Custody



# SAMPLE RECEIPT ADVICE

Client:

JBS & G (NSW & WA) Pty Ltd ph: 02 8245 0300 Level 1, 50 Margaret St Fax: 02 8245 0399

Sydney NSW 2000

Attention: Tom Harding, Ellen Luu

# Sample log in details:

Your reference: 43008, Urban Growth

Envirolab Reference: 100099

Date received: 04/11/2013

Date results expected to be reported: 11/11/13

Samples received in appropriate condition for analysis:

No. of samples provided

Turnaround time requested:

Temperature on receipt (°C)

Cooling Method:

Sampling Date Provided:

YES

YES

### **Comments:**

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

### **Contact details:**

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201



# **SAMPLE RECEIPT ADVICE**

Client:

JBS & G (NSW & WA) Pty Ltd ph: 02 8245 0300 Level 1, 50 Margaret St Fax: 02 8245 0399

Sydney NSW 2000

Attention: T Harding

Sample log in details:

Your reference: 43008, Urban Growth

Envirolab Reference: 100279

Date received: 05/11/2013

Date results expected to be reported: 12/11/13

Samples received in appropriate condition for analysis:

No. of samples provided

Turnaround time requested:

Temperature on receipt (°C)

Cooling Method:

Sampling Date Provided:

YES

YES

### **Comments:**

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

### **Contact details:**

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201



# SAMPLE RECEIPT ADVICE

Client:

JBS & G (NSW & WA) Pty Ltd ph: 02 8245 0300 Level 1, 50 Margaret St Fax: 02 8245 0399

Sydney NSW 2000

Attention: Tom Harding, Ellen Luu

# Sample log in details:

Your reference: 43008, Urban Growth

Envirolab Reference: 99986

Date received: 01/11/13

Date results expected to be reported: 12/11/13

Samples received in appropriate condition for analysis:

No. of samples provided

Turnaround time requested:

Temperature on receipt (°C)

Cooling Method:

Sampling Date Provided:

YES

YES

### **Comments:**

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

### **Contact details:**

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201



# **SAMPLE RECEIPT ADVICE**

Client:

JBS & G (NSW & WA) Pty Ltd ph: 02 8245 0300 Level 1, 50 Margaret St Fax: 02 8245 0399

Sydney NSW 2000

Attention: T Harding, T Creese

Sample log in details:

Your reference: 43109, Waterloo

Envirolab Reference: 99993

Date received: 01/11/13

Date results expected to be reported: 8/11/13

Samples received in appropriate condition for analysis:

No. of samples provided

Turnaround time requested:

Temperature on receipt (°C)

Cooling Method:

Sampling Date Provided:

YES

YES

### **Comments:**

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

### **Contact details:**

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201



JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Michelle Battam

Report 398367-S

Client Reference EXTERNAL: URBAN GROWTH 43008

Received Date Oct 31, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TP01 1.9-2.0 Soil S13-No00922 Oct 30, 2013	TP04 3.6-3.7 Soil S13-No00923 Oct 30, 2013	TP09 0.1-0.2 Soil S13-No00924 Oct 30, 2013
resureience	LOR	Ullit			
Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)			see attached	see attached	see attached
Helminth Ova			see attached	see attached	see attached



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

DescriptionTesting SiteExtractedHolding TimeHelminth OvaSydneyNov 01, 20130 Day



Melbourne

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone: +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F6, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone: +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794

ABN - 50 005 085 521 e.mail : EnviroSales@eurofins.com.au

web : www.eurofins.com.au

JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

**Company Name:** 

Sydney

NSW 2000

Client Job No.: EXTERNAL: URBAN GROWTH 43008 Order No.:

Report #:

398367 02 8245 0300

Phone: Fax:

Received: Oct 31, 2013 11:20 PM

Due: Nov 8, 2013 Priority: 5 Day

**Contact Name:** Thomas Harding

**Eurofins | mgt Client Manager: Jean Heng** 

		Sample Detail			Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)	Helminth Ova	
Laboratory who	ere analysis is c	onducted					
Melbourne Lab	oratory - NATA	Site # 1254 & 14	271				
Sydney Labora	tory - NATA Site	# 18217					
Brisbane Labor	ratory - NATA Si	te # 20794					
External Labor	atory				Х	Х	
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
TP01 1.9-2.0	Oct 30, 2013		Soil	S13-No00922	Х	Х	
TP04 3.6-3.7	Oct 30, 2013		Soil	S13-No00923	Х	Х	
TP09 0.1-0.2	Oct 30, 2013		Soil	S13-No00924	Х	Х	

Eurofins | mgt Unit F6, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Facsimile: +61 2 9420 2977

Page 3 of 5



### **Eurofins | mgt Internal Quality Control Review and Glossary**

### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

In the case of water samples these are performed on de-ionised water.

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate**A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

### **QC - ACCEPTANCE CRITERIA**

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance quidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%  $\,$ 

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150% - Phenols 20-130%.

### OC DATA GENERAL COMMENTS

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



### Comments

Viruses analysed by Environmental Pathogens

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	No
Some samples have been subcontracted	No

# **Authorised By**

Jean Heng Client Services

Dr. Bob Symons

### **Laboratory Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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EXTERNAL, 398367

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tharding@jbsg.con.ev ellu@gbsg.con.dy.con.ev mdeldydno@jpsg.con.ev

CHAIN OF CUSTODY

#398113 **MABSEG** 

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EXTLEMP. # 398367

From: Thomas Harding [mailto:THarding@jbsg.com.au]

Sent: Friday, 1 November 2013 8:17 AM

**To:** Jean Heng **Subject:** Ed Park

Jean,

The auditor works these works would like to include the following analysis for all the biological works:

· enteric viruses and helminth ova

Apologies, we were only told this morning.

Thank you

Tom

MS # 398367



Tom Harding | Hydrogeologist | JBS&G Sydney | Melbourne | Adelaide | Perth | Brisbane Level 1, 50 Margaret Street Sydney NSW 2000

T: 02 8245 0300 | M: 0418 560 381 | www.jbsg.com.au

Contaminated Land | Groundwater Remediation | Auditing and Compliance | Assessments and Approvals | Occupational Hygiene and Monitoring

If you would like to send through large electronic files (>25MB), please use JBS&G's secure internet-based file delivery system located at <a href="http://dropbox.yousendit.com/JBSG">http://dropbox.yousendit.com/JBSG</a>. Place "Tom Harding - Sydney' in the subject.

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Sefton McGraw Eurofins Environment Testing Australia P/L PO Box 276 Oakleigh VIC 3166 ph 03 95647055 fax 03 95647190

### **Final Report – 05/12/13**

Three biosolid samples were received on November 14 and analysed for Helminths as requested.

For Helminth detection, the sample was dissolved in buffer and a flotation method was used to recover helminth ova. For the detection of helminth ova/eggs (including Taenia sp., & Ascaris sp.) the results are expressed in ova/cysts per volume of sample tested.

All samples are processed according to methods WI 300, WI 429, WI 500-561 inclusive as appropriate. All controls were valid. (<1 denotes viruses or helminths not detected.)

The results are shown in the following tables.

### **RESULTS**

### **Helminths Detected**

Sample Identification	Volume Tested	Date Sampled	Laboratory Number	ova (eggs)	detected
				Taenia ova	Ascaris ova
No00922	20g	04/11/13	13-0568	<1 per 20g	<1 per 20g
No00923	20g	04/11/13	13-0569	<1 per 20g	<1 per 20g
No00924	20g	04/11/13	13-0570	<1 per 20g	<1 per 20g

Dr. G. S. Grohmann Principal Consultant

Page 1 of 1



JBS & G (NSW & WA) Pty Ltd Level 1, 50 Margaret St Sydney NSW 2000

Attention: Michelle Delandro

Report 398304-S

Client Reference EXTERNAL: URBAN GROWTH 43008

Received Date Nov 01, 2013



# Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TP16 2.7-2.8 Soil S13-No00568 Oct 31, 2013	TP26 0.9-1.0 Soil S13-No00569 Oct 31, 2013	TP18 1.0-1.1 Soil S13-No00570 Oct 31, 2013	TP18 1.8-1.9 Soil S13-No00571 Oct 31, 2013
Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)						
Helminth Ova						

Client Sample ID Sample Matrix Eurofins   mgt Sample No.			TP19 1.9-2.0 Soil S13-No00572	TP17 0.9-1.0 Soil S13-No00573	TP17 1.8-1.9 Soil S13-No00574
Date Sampled Test/Reference	LOR	Unit	Oct 31, 2013	Oct 31, 2013	Oct 31, 2013
Enteric Viruses Presence/Absence (Adenovirus Enterovirus and Reovirus)					
Helminth Ova					



### **Sample History**

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

DescriptionTesting SiteExtractedHolding TimeHelminth OvaSydneyNov 01, 20130 Day



Melbourne

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone: +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F6, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone: +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794

ABN - 50 005 085 521 e.mail : EnviroSales@eurofins.com.au

web : www.eurofins.com.au

398304

02 8245 0300

Report #:

Phone:

Fax:

**₽**□ #

JBS & G (NSW & WA) Pty Ltd

Address: Level 1, 50 Margaret St

**Company Name:** 

Date Reported:Nov 14, 2013

Sydney

NSW 2000

Client Job No.: **EXTERNAL: URBAN GROWTH 43008**  Order No.: Received: Nov 1, 2013 9:52 AM

> Due: Nov 15, 2013 Priority: 10 Day

**Contact Name:** Thomas Harding

**Eurofins | mgt Client Manager: Jean Heng** 

		Sample Detail			nteric Viruses Presence/Absence	elminth Ova
Laboratory wh	ere analysis is co	onducted				
Melbourne Lal	ooratory - NATA S	Site # 1254 & 14	1271			
Sydney Labor	atory - NATA Site	# 18217				
Brisbane Labo	oratory - NATA Sit	e # 20794				
External Labo	ratory				X	Х
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TP26 0.9-1.0	Oct 31, 2013		Soil	S13-No00569	Х	Х
TP18 1.0-1.1	Oct 31, 2013		Soil	S13-No00570	Х	Х
TP18 1.8-1.9	Oct 31, 2013		Soil	S13-No00571	X	Х
TP19 1.9-2.0	Oct 31, 2013		Soil	S13-No00572	X	Х
TP17 0.9-1.0	Oct 31, 2013		Soil	S13-No00573	X	Х
TP17 1.8-1.9	Oct 31, 2013		Soil	S13-No00574	X	Х

Eurofins | mgt Unit F6, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Facsimile: +61 2 9420 2977

Page 3 of 5



### **Eurofins | mgt Internal Quality Control Review and Glossary**

### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences
- 4. Results are uncorrected for matrix spikes or surrogate recoveries
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

### **Holding Times**

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

### UNITS

mg/kg: milligrams per Kilogram mg/l: milligrams per litre
ug/l: micrograms per litre ppm: Parts per million
ppb: Parts per billion %: Percentage
ora/100ml: Organisms per 100 millilitres NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

### **TERMS**

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands

**Surr - Surrogate** The addition of a like compound to the analyte target and reported as percentage recovery.

**Duplicate** A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch Duplicate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Association

ASLP Australian Standard Leaching Procedure (AS4439.3)
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

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- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
  in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

  Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte
- 8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



### Comments

Helminth ova and Enteric viruses analysed by Environmental Pathogens

### Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

# **Authorised By**

Jean Heng Client Services

Dr. Bob Symons

### **Laboratory Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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Lopet #398304

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CHAIN OF CUSTODY

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Sefton McGraw Eurofins Environment Testing Australia P/L PO Box 276 Oakleigh VIC 3166 ph 03 95647055 fax 03 95647190

### **Final Report – 04/12/13**

Four biosolid samples were received on November 14 and analysed for Viruses and Helminths as requested.

For Helminth detection, the sample was dissolved in buffer and a flotation method was used to recover helminth ova. For the detection of helminth ova/eggs (including Taenia sp., & Ascaris sp.) the results are expressed in ova/cysts per volume of sample tested.

All samples are processed according to methods WI 300, WI 429, WI 500-561 inclusive as appropriate. All controls were valid. (<1 denotes viruses or helminths not detected.)

The results are shown in the following tables.

### RESULTS

### **Helminths Detected**

Sample Identification	Volume Tested	Date Sampled	Laboratory Number	ova (eggs)	detected
				Taenia ova	Ascaris ova
No00568	20g	01/11/13	13-0557	<1 per 20g	<1 per 20g
No00569	20g	01/11/13	13-0558	<1 per 20g	<1 per 20g
No00570	20g	01/11/13	13-0559	<1 per 20g	<1 per 20g
No00571	20g	01/11/13	13-0560	<1 per 20g	<1 per 20g
No00572	20g	01/11/13	13-0561	<1 per 20g	<1 per 20g
No00573	20g	01/11/13	13-0562	<1 per 20g	<1 per 20g
No00574	20g	01/11/13	13-0563	<1 per 20g	<1 per 20g

Dr. G. S. Grohmann Principal Consultant

Ref:c:\pathogens\mgt\041213.rep

Page 1 of 1



# Appendix E – Geotechnical Investigation



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