

[illegible]

Certificate of Analysis

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000



NATA Accredited
Accreditation Number 1261
Site Number 1254

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.

Attention: Nathan Cussen

Report 482410-L-V2

Project name ATP

Project ID 50720

Received Date Dec 07, 2015

Client Sample ID			BH01 0.0-1.0 ASLP - Reagent Water S15-De06706 Dec 06, 2015	BH01 1.0-2.0 ASLP - Reagent Water S15-De06707 Dec 06, 2015	BH02 0.0-1.0 ASLP - Reagent Water S15-De06708 Dec 06, 2015	BH03 0.0-1.0 ASLP - Reagent Water S15-De06709 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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
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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
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
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	0.001	< 0.001	0.002	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	0.001	0.001	0.002	< 0.001
2-Fluorobiphenyl (surr.)	1	%	69	83	84	83
p-Terphenyl-d14 (surr.)	1	%	112	118	120	134
Heavy Metals						
Arsenic	0.001	mg/L	0.003	0.006	0.002	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001	0.001	0.002
Copper	0.001	mg/L	0.004	0.004	0.005	0.002
Lead	0.001	mg/L	0.002	0.001	< 0.001	0.002
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	0.0001	0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	0.002	< 0.001	< 0.001	0.003
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	7.7	8.2	8.2	9.1
pH (off)	0.1	pH Units	7.9	8.9	10	8.0

Client Sample ID			BH03 1.0-2.0 ASLP - Reagent Water S15-De06710 Dec 06, 2015	BH04 0.0-1.0 ASLP - Reagent Water S15-De06711 Dec 06, 2015	BH04 1.0-2.0 ASLP - Reagent Water S15-De06712 Dec 06, 2015	BH05 0.0-0.1 ASLP - Reagent Water S15-De06713 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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
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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
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
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	< 0.001	< 0.001	0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	74	80	80	84
p-Terphenyl-d14 (surr.)	1	%	109	116	109	135
Heavy Metals						
Arsenic	0.001	mg/L	0.004	0.002	0.004	0.003
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001	0.008	< 0.001
Copper	0.001	mg/L	0.005	0.002	0.002	0.004
Lead	0.001	mg/L	< 0.001	0.029	0.006	0.002
Mercury	0.0001	mg/L	0.0001	< 0.0001	0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	0.001	< 0.001
Zinc	0.001	mg/L	0.002	0.002	0.004	< 0.001
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	9.8	9.4	8.4	9.7
pH (off)	0.1	pH Units	9.7	9.5	6.7	9.5

Client Sample ID			BH05 1.0-2.0 ASLP - Reagent Water S15-De06714 Dec 06, 2015	BH06 0.0-0.5 ASLP - Reagent Water S15-De06715 Dec 06, 2015	BH07 0.0-1.0 ASLP - Reagent Water S15-De06716 Dec 06, 2015	BH08 0.0-1.0 ASLP - Reagent Water S15-De06717 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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
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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			BH05 1.0-2.0 ASLP - Reagent Water S15-De06714 Dec 06, 2015	BH06 0.0-0.5 ASLP - Reagent Water S15-De06715 Dec 06, 2015	BH07 0.0-1.0 ASLP - Reagent Water S15-De06716 Dec 06, 2015	BH08 0.0-1.0 ASLP - Reagent Water S15-De06717 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
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
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	80	76	82	75
p-Terphenyl-d14 (surr.)	1	%	112	107	123	125
Heavy Metals						
Arsenic	0.001	mg/L	0.002	0.098	0.002	0.006
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001	0.001	< 0.001
Copper	0.001	mg/L	0.003	0.005	0.005	0.038
Lead	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.025
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.016
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	8.5	10	10	9.5
pH (off)	0.1	pH Units	9.3	11	11	9.2

Client Sample ID			BH08 1.0-2.0 ASLP - Reagent Water S15-De06718 Dec 06, 2015	BH09 0.0-1.0 ASLP - Reagent Water S15-De06719 Dec 06, 2015	BH09 1.0-2.0 ASLP - Reagent Water S15-De06720 Dec 06, 2015	BH09 2.0-3.0 ASLP - Reagent Water S15-De06721 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
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
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			BH08 1.0-2.0 ASLP - Reagent Water S15-De06718 Dec 06, 2015	BH09 0.0-1.0 ASLP - Reagent Water S15-De06719 Dec 06, 2015	BH09 1.0-2.0 ASLP - Reagent Water S15-De06720 Dec 06, 2015	BH09 2.0-3.0 ASLP - Reagent Water S15-De06721 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Phenanthrene	0.001	mg/L	0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	0.002	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	81	81	65	98
p-Terphenyl-d14 (surr.)	1	%	132	121	102	100
Heavy Metals						
Arsenic	0.001	mg/L	0.004	0.002	0.002	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	0.024	0.008	0.008	0.005
Lead	0.001	mg/L	0.013	0.012	0.024	0.011
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	0.006	< 0.001	0.001	0.003
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	8.8	9.7	8.6	8.3
pH (off)	0.1	pH Units	9.6	8.9	9.0	7.2

Client Sample ID			BH10 0.0-1.0 ASLP - Reagent Water S15-De06722 Dec 06, 2015	BH12 0.0-1.0 ASLP - Reagent Water S15-De06723 Dec 06, 2015	BH12 1.0-2.0 ASLP - Reagent Water S15-De06724 Dec 06, 2015	BH12 2.0-3.0 ASLP - Reagent Water S15-De06725 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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
Anthracene	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Benzo(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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	0.002	< 0.001	0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	0.007	< 0.001	0.006
Phenanthrene	0.001	mg/L	< 0.001	0.004	< 0.001	0.003
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	< 0.001	0.016	< 0.001	0.011
2-Fluorobiphenyl (surr.)	1	%	82	83	82	87
p-Terphenyl-d14 (surr.)	1	%	130	117	126	124

Client Sample ID			BH10 0.0-1.0 ASLP - Reagent Water S15-De06722 Dec 06, 2015	BH12 0.0-1.0 ASLP - Reagent Water S15-De06723 Dec 06, 2015	BH12 1.0-2.0 ASLP - Reagent Water S15-De06724 Dec 06, 2015	BH12 2.0-3.0 ASLP - Reagent Water S15-De06725 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	0.001	mg/L	0.001	< 0.001	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	0.003	0.018	0.003	0.017
Lead	0.001	mg/L	0.002	0.017	0.004	0.008
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	< 0.001	0.002	0.001	0.025
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	9.1	8.7	8.2	7.7
pH (off)	0.1	pH Units	9.2	7.6	5.6	6.4

Client Sample ID			BH12 3.0-4.0 ASLP - Reagent Water S15-De06726 Dec 06, 2015	BH12 4.0-5.0 ASLP - Reagent Water S15-De06727 Dec 06, 2015	BH13 0.0-1.0 ASLP - Reagent Water S15-De06728 Dec 06, 2015	BH13 1.0-2.0 ASLP - Reagent Water S15-De06729 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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
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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
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
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	0.003	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	0.003	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	0.007	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	74	83	89	91
p-Terphenyl-d14 (surr.)	1	%	109	125	106	95
Heavy Metals						
Arsenic	0.001	mg/L	< 0.001	0.001	0.005	0.013
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	0.006	< 0.001	< 0.001
Copper	0.001	mg/L	0.015	0.005	0.059	0.007
Lead	0.001	mg/L	0.006	0.010	0.050	0.003
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	0.012	0.003	0.018	0.002

Client Sample ID			BH12 3.0-4.0	BH12 4.0-5.0	BH13 0.0-1.0	BH13 1.0-2.0
Sample Matrix			ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water
Eurofins mgt Sample No.			S15-De06726	S15-De06727	S15-De06728	S15-De06729
Date Sampled			Dec 06, 2015	Dec 06, 2015	Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit				
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	7.6	7.7	7.2	7.8
pH (off)	0.1	pH Units	6.1	6.6	8.5	8.9

Client Sample ID			BH15 0.0-1.0	BH15 1.0-2.0	BH15 2.0-3.0	BH16 0.0-1.0
Sample Matrix			ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water
Eurofins mgt Sample No.			S15-De06730	S15-De06731	S15-De06732	S15-De06733
Date Sampled			Dec 06, 2015	Dec 06, 2015	Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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
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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
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
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	108	90	75	75
p-Terphenyl-d14 (surr.)	1	%	118	103	100	97
Heavy Metals						
Arsenic	0.001	mg/L	0.002	0.002	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	0.002	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	0.009	0.012	< 0.001	< 0.001
Lead	0.001	mg/L	0.006	0.003	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	0.003	< 0.001	< 0.001	< 0.001
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	8.2	8.2	7.3	7.1
pH (off)	0.1	pH Units	9.2	9.3	5.9	8.9

Client Sample ID			BH16 1.0-2.0 ASLP - Reagent Water S15-De06734 Dec 06, 2015	BH16 2.0-3.0 ASLP - Reagent Water S15-De06735 Dec 06, 2015	BH17 0.0-1.0 ASLP - Reagent Water S15-De06736 Dec 06, 2015	BH17 1.0-2.0 ASLP - Reagent Water S15-De06737 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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
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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
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
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	79	104	74	83
p-Terphenyl-d14 (surr.)	1	%	91	126	87	100
Heavy Metals						
Arsenic	0.001	mg/L	< 0.001	< 0.001	0.005	0.002
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	0.002	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	< 0.001	< 0.001	0.005	0.001
Lead	0.001	mg/L	0.005	< 0.001	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	6.7	6.7	6.5	6.4
pH (off)	0.1	pH Units	8.5	6.2	8.8	8.6

Client Sample ID			BH17 2.0-3.0 ASLP - Reagent Water S15-De06738 Dec 06, 2015	BH18 0.0-1.0 ASLP - Reagent Water S15-De06739 Dec 06, 2015	BH18 1.0-2.0 ASLP - Reagent Water S15-De06740 Dec 06, 2015	BH18 2.0-3.0 ASLP - Reagent Water S15-De06741 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.004
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.004
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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			BH17 2.0-3.0 ASLP - Reagent Water S15-De06738 Dec 06, 2015	BH18 0.0-1.0 ASLP - Reagent Water S15-De06739 Dec 06, 2015	BH18 1.0-2.0 ASLP - Reagent Water S15-De06740 Dec 06, 2015	BH18 2.0-3.0 ASLP - Reagent Water S15-De06741 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.003
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	0.002	0.005	0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.004
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	0.002	0.005	0.001	0.015
2-Fluorobiphenyl (surr.)	1	%	69	80	73	73
p-Terphenyl-d14 (surr.)	1	%	105	130	118	118
Heavy Metals						
Arsenic	0.001	mg/L	0.002	< 0.001	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	0.005	< 0.001	< 0.001	< 0.001
Lead	0.001	mg/L	0.006	< 0.001	0.002	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	0.003	< 0.001	0.002	< 0.001
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	8.1	7.3	5.8	6.1
pH (off)	0.1	pH Units	9.1	7.2	5.0	5.3

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
Polycyclic Aromatic Hydrocarbons	Sydney	Dec 14, 2015	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8	Sydney	Dec 11, 2015	28 Day
- Method: LTM-MET-3040_R0 TOTAL AND DISSOLVED METALS AND MERCURY IN WATERS BY ICP-MS			
AUS Leaching Procedure	Sydney	Dec 11, 2015	7 Day
- Method: LTM-GEN-7010			

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
BH01 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06706	X	X	X
BH01 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06707	X	X	X
BH02 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06708	X	X	X
BH03 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06709	X	X	X
BH03 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06710	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH04 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06711	X	X	X
BH04 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06712	X	X	X
BH05 0.0-0.1	Dec 06, 2015		ASLP - Reagent Water	S15-De06713	X	X	X
BH05 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06714	X	X	X
BH06 0.0-0.5	Dec 06, 2015		ASLP - Reagent Water	S15-De06715	X	X	X
BH07 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06716	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH08 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06717	X	X	X
BH08 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06718	X	X	X
BH09 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06719	X	X	X
BH09 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06720	X	X	X
BH09 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06721	X	X	X
BH10 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06722	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH12 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06723	X	X	X
BH12 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06724	X	X	X
BH12 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06725	X	X	X
BH12 3.0-4.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06726	X	X	X
BH12 4.0-5.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06727	X	X	X
BH13 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06728	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH13 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06729	X	X	X
BH15 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06730	X	X	X
BH15 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06731	X	X	X
BH15 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06732	X	X	X
BH16 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06733	X	X	X
BH16 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06734	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH16 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06735	X	X	X
BH17 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06736	X	X	X
BH17 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06737	X	X	X
BH17 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06738	X	X	X
BH18 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06739	X	X	X
BH18 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06740	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH18 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06741	X	X	X

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 LORs are matrix dependant. Quoted LORs 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 Advice.

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

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

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

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

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%.

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.

Quality Control Results

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank										
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				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	
Method Blank										
Heavy Metals										
Arsenic				mg/L	< 0.001			0.001	Pass	
Cadmium				mg/L	< 0.0002			0.0002	Pass	
Chromium				mg/L	< 0.001			0.001	Pass	
Copper				mg/L	< 0.001			0.001	Pass	
Lead				mg/L	< 0.001			0.001	Pass	
Mercury				mg/L	< 0.0001			0.0001	Pass	
Nickel				mg/L	< 0.001			0.001	Pass	
Zinc				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	S15-De06707	CP	%		103			70-130	Pass	
Cadmium	S15-De06707	CP	%		103			70-130	Pass	
Chromium	S15-De06707	CP	%		88			70-130	Pass	
Copper	S15-De06707	CP	%		86			70-130	Pass	
Lead	S15-De06707	CP	%		97			70-130	Pass	
Mercury	S15-De06707	CP	%		89			70-130	Pass	
Nickel	S15-De06707	CP	%		93			70-130	Pass	
Zinc	S15-De06707	CP	%		101			70-130	Pass	
Spike - % Recovery										
Polycyclic Aromatic Hydrocarbons					Result 1					
Acenaphthene	S15-De06711	CP	%		75			70-130	Pass	
Acenaphthylene	S15-De06711	CP	%		76			70-130	Pass	
Anthracene	S15-De06711	CP	%		97			70-130	Pass	
Benz(a)anthracene	S15-De06711	CP	%		104			70-130	Pass	
Benzo(a)pyrene	S15-De06711	CP	%		111			70-130	Pass	
Benzo(b&j)fluoranthene	S15-De06711	CP	%		110			70-130	Pass	
Benzo(g,h,i)perylene	S15-De06711	CP	%		87			70-130	Pass	
Benzo(k)fluoranthene	S15-De06711	CP	%		109			70-130	Pass	
Chrysene	S15-De06711	CP	%		96			70-130	Pass	
Dibenz(a,h)anthracene	S15-De06711	CP	%		85			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluoranthene	S15-De06711	CP	%	98			70-130	Pass	
Fluorene	S15-De06711	CP	%	82			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S15-De06711	CP	%	89			70-130	Pass	
Naphthalene	S15-De06711	CP	%	75			70-130	Pass	
Phenanthrene	S15-De06711	CP	%	96			70-130	Pass	
Pyrene	S15-De06711	CP	%	99			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S15-De06717	CP	%	100			70-130	Pass	
Cadmium	S15-De06717	CP	%	101			70-130	Pass	
Chromium	S15-De06717	CP	%	85			70-130	Pass	
Copper	S15-De06717	CP	%	83			70-130	Pass	
Lead	S15-De06717	CP	%	88			70-130	Pass	
Mercury	S15-De06717	CP	%	89			70-130	Pass	
Nickel	S15-De06717	CP	%	93			70-130	Pass	
Zinc	S15-De06717	CP	%	96			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S15-De06725	CP	%	96			70-130	Pass	
Cadmium	S15-De06725	CP	%	96			70-130	Pass	
Chromium	S15-De06725	CP	%	92			70-130	Pass	
Copper	S15-De06725	CP	%	98			70-130	Pass	
Lead	S15-De06725	CP	%	99			70-130	Pass	
Mercury	S15-De06725	CP	%	86			70-130	Pass	
Nickel	S15-De06725	CP	%	95			70-130	Pass	
Zinc	S15-De06725	CP	%	102			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Cadmium	S15-De06736	CP	%	98			70-130	Pass	
Chromium	S15-De06736	CP	%	93			70-130	Pass	
Copper	S15-De06736	CP	%	98			70-130	Pass	
Lead	S15-De06736	CP	%	97			70-130	Pass	
Mercury	S15-De06736	CP	%	86			70-130	Pass	
Nickel	S15-De06736	CP	%	97			70-130	Pass	
Zinc	S15-De06736	CP	%	104			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	S15-De06706	CP	mg/L	0.003	0.003	5.0	30%	Pass	
Cadmium	S15-De06706	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S15-De06706	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	S15-De06706	CP	mg/L	0.004	0.004	15	30%	Pass	
Lead	S15-De06706	CP	mg/L	0.002	0.002	<1	30%	Pass	
Mercury	S15-De06706	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S15-De06706	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	S15-De06706	CP	mg/L	0.002	0.002	10	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b,j)fluoranthene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Benzo(g,h,i)perylene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(k)fluoranthene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chrysene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibenz(a,h)anthracene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	S15-De06710	CP	mg/L	< 0.001	0.001	10	30%	Pass
Pyrene	S15-De06710	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S15-De06716	CP	mg/L	0.002	0.002	11	30%	Pass
Cadmium	S15-De06716	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium	S15-De06716	CP	mg/L	0.001	0.001	3.0	30%	Pass
Copper	S15-De06716	CP	mg/L	0.005	0.005	<1	30%	Pass
Lead	S15-De06716	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury	S15-De06716	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	S15-De06716	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc	S15-De06716	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S15-De06724	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Cadmium	S15-De06724	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium	S15-De06724	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper	S15-De06724	CP	mg/L	0.003	0.002	13	30%	Pass
Lead	S15-De06724	CP	mg/L	0.004	0.003	22	30%	Pass
Mercury	S15-De06724	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	S15-De06724	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc	S15-De06724	CP	mg/L	0.001	< 0.001	19	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S15-De06733	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Cadmium	S15-De06733	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium	S15-De06733	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper	S15-De06733	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Lead	S15-De06733	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury	S15-De06733	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	S15-De06733	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc	S15-De06733	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass

Comments

Report revised to reflect amendment to LORs reported.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	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
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
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

Charl Du Preez	Analytical Services Manager
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)



Glenn Jackson

National Operations 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.

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
BH01 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06706	X	X	X
BH01 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06707	X	X	X
BH02 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06708	X	X	X
BH03 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06709	X	X	X
BH03 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06710	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH04 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06711	X	X	X
BH04 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06712	X	X	X
BH05 0.0-0.1	Dec 06, 2015		ASLP - Reagent Water	S15-De06713	X	X	X
BH05 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06714	X	X	X
BH06 0.0-0.5	Dec 06, 2015		ASLP - Reagent Water	S15-De06715	X	X	X
BH07 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06716	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH08 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06717	X	X	X
BH08 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06718	X	X	X
BH09 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06719	X	X	X
BH09 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06720	X	X	X
BH09 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06721	X	X	X
BH10 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06722	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH12 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06723	X	X	X
BH12 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06724	X	X	X
BH12 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06725	X	X	X
BH12 3.0-4.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06726	X	X	X
BH12 4.0-5.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06727	X	X	X
BH13 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06728	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH13 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06729	X	X	X
BH15 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06730	X	X	X
BH15 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06731	X	X	X
BH15 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06732	X	X	X
BH16 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06733	X	X	X
BH16 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06734	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH16 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06735	X	X	X
BH17 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06736	X	X	X
BH17 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06737	X	X	X
BH17 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06738	X	X	X
BH18 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06739	X	X	X
BH18 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06740	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482410
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 4:42 PM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: -ALL INVOICES

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
BH18 2.0-3.0	Dec 06, 2015		ASLP - Reagent Water	S15-De06741	X	X	X

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**

Contact name: **Nathan Cussen**

Project name: **ATP**

Project ID: **50720**

COC number: **Not provided**

Turn around time: **5 Day**

Date/Time received: **Dec 7, 2015 4:42 PM**

Eurofins | mgt reference: **482410**

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 : 1.6 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.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

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

Charl Du Preez on Phone : +61 (2) 9900 8400 or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Nathan Cussen - ncussen@jbsg.com.au.



PROJECT NO.: 50720						LABORATORY BATCH NO.:																	
PROJECT NAME: MTP						SAMPLERS: 2H / 00																	
DATE NEEDED BY: STD						QC LEVEL: NEPM (2013)																	
PHONE: Sydney: 02 8245 0300 Perth: 08 9488 0100 Brisbane: 07 3112 2688																							
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2)@jbsg.com.au; (3)@jbsg.com.au																							
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:						ASAP Mtd ASAP PM														TYPE OF ASBESTOS ANALYSIS		NOTES:	
																				IDENTIFICATION	NEPM/WA		
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH																		
BH01 0-1.0	Soil	6.12.15	F	Seal + Ice		X	X																
BH01 1.0-2.0						X	X																
BH02 0-1.0						X	X																
BH03 0-1.0						X	X																
BH03 1.0-2.0						X	X																
BH04 0-1.0						X	X																
BH04 1.0-2.0						X	X																
BH04 2.0-4.0																							
BH04 5.0-8.5																							
BH04 8.5-6.0																							
BH05 0-0.1						X	X																
BH05 1.0-2.0						X	X																
BH05 2.0-3.0																							
BH06 0-0.5						X	X																
BH07 0-1.0						X	X																
BH07 1.0-1.5																							
BH07 2.0-3.0																							
BH08 0-1.0						X	X																
BH08 1.0-2.0						X	X																
RELINQUISHED BY:						METHOD OF SHIPMENT:						RECEIVED BY:						FOR RECEIVING LAB USE ONLY:					
NAME: Nathan		DATE: 6.12.15				CONSIGNMENT NOTE NO.						NAME: SignaK						COOLER SEAL - Yes..... No..... Intact..... Broken.....					
OF: JBS&G						TRANSPORT CO.						DATE: 07/12/15						COOLER TEMP..... deg C					
NAME:		DATE:				CONSIGNMENT NOTE NO.						OF: E. FAGY						COOLER SEAL - Yes..... No..... Intact..... Broken.....					
OF:						TRANSPORT CO						DATE:						COOLER TEMP..... deg C					
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; O = Other																							

PROJECT NO.: 50720					LABORATORY BATCH NO.:																	
PROJECT NAME: MP					SAMPLERS: RM / DO																	
DATE NEEDED BY: 31/10					QC LEVEL: NEPM (2013)																	
PHONE: Sydney: 02 8245 0300 Perth: 08 9488 0100 Brisbane: 07 3112 2688																						
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2)@jbsg.com.au; (3)@jbsg.com.au																						
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:					ASLP 8 Media ASLP PPM															TYPE OF ASBESTOS ANALYSIS		NOTES:
																				IDENTIFICATION	NEPM/WA	
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH																	
BH08 2.5-3.0	Soil	6-12-15	N	Bag + Jar																		
BH09 0-1.0			P																			
BH09 1.0-2.0			P																			
BH09 2.0-3.0			P	Bag + Jar																		
BH09 3.0-4.0			N	Bag + Jar																		
BH09 6.0-6.5			N	Bag + Jar																		
BH09 8.0			N	Bag + Jar																		
BH10 0-1.0			P	Jar																		
BH12 0-1.0			P	Jar																		
BH12 1.0-2.0			P	Jar + Bag																		
BH12 2.0-3.0			P																			
BH12 3.0-4.0			P																			
BH12 4.0-5.0			P																			
BH12 5.0-6.0			N																			
BH13 0-1.0			P	Jar																		
BH13 1.0-2.0			P	Jar																		
BH13 3.0-3.5			N	Jar + Bag																		
BH14 0.3-1.0			N	Jar																		
BH15 0-1.0			P	Jar																		
RELINQUISHED BY:					METHOD OF SHIPMENT:					RECEIVED BY:					FOR RECEIVING LAB USE ONLY							
NAME: Nathan DATE: 12-15					CONSIGNMENT NOTE NO.					NAME: SS [Signature] DATE:					COOLER SEAL - Yes..... No..... Intact..... Broken.....							
OF: JBS&G					TRANSPORT CO.					OF:					COOLER TEMP deg C							
NAME:					CONSIGNMENT NOTE NO.					NAME: DATE:					COOLER SEAL - Yes..... No..... Intact..... Broken.....							
OF:					TRANSPORT CO.					OF:					COOLER TEMP deg C							
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; O = Other																						

CHAIN OF CUSTODY

Page 3 of 4

[illegible]

Certificate of Analysis

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000



NATA Accredited
Accreditation Number 1261
Site Number 1254

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.

Attention: **Nathan Cussen**

Report **483477-S**
Project name ADDITIONAL: ATP
Project ID 50720
Received Date Dec 15, 2015

Client Sample ID			BH01 1.0-2.0	BH03 1.0-2.0	BH09 0.0-1.0	BH10 0.0-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			S15-De15624	S15-De15625	S15-De15626	S15-De15627
Date Sampled			Dec 06, 2015	Dec 06, 2015	Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit				
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	50	mg/kg	< 50	450	< 50	< 50
TRH >C16-C34 (after silica gel clean-up)	100	mg/kg	< 100	2900	< 100	< 100
TRH >C34-C40 (after silica gel clean-up)	100	mg/kg	< 100	160	110	< 100
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	100	mg/kg	< 100	3500	< 100	< 100
TRH C10-C14 (after silica gel clean-up)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28 (after silica gel clean-up)	100	mg/kg	< 100	2600	< 100	< 100
TRH C29-C36 (after silica gel clean-up)	100	mg/kg	< 100	900	< 100	< 100
% Moisture	0.1	%	13	5.4	8.2	5.5

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
TRH - 2013 NEPM Fractions (after silica gel clean-up) - Method: LM-LTM-ORG2010	Sydney	Dec 17, 2015	14 Day
TRH - 1999 NEPM Fractions (after silica gel clean-up) - Method: LM-LTM-ORG2010	Sydney	Dec 17, 2015	14 Day
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Dec 15, 2015	14 Day

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 483477
Phone: 02 8245 0300
Fax:

Received: Dec 15, 2015 2:34 PM
Due: Dec 22, 2015
Priority: 5 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Total Recoverable Hydrocarbons - 1999 NEPM Fractions	AUS Leaching Procedure	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	TRH (after Silica Gel cleanup)	Moisture Set
Laboratory where analysis is conducted									
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
External Laboratory									
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
BH01 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15620	X	X	X		
BH03 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15621	X	X	X		
BH09 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15622	X	X	X		
BH10 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15623	X	X	X		
BH01 1.0-2.0	Dec 06, 2015		Soil	S15-De15624				X	X
BH03 1.0-2.0	Dec 06, 2015		Soil	S15-De15625				X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 483477
Phone: 02 8245 0300
Fax:

Received: Dec 15, 2015 2:34 PM
Due: Dec 22, 2015
Priority: 5 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Total Recoverable Hydrocarbons - 1999 NEPM Fractions	AUS Leaching Procedure	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	TRH (after Silica Gel cleanup)	Moisture Set
Laboratory where analysis is conducted									
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
External Laboratory									
BH09 0.0-1.0	Dec 06, 2015		Soil	S15-De15626				X	X
BH10 0.0-1.0	Dec 06, 2015		Soil	S15-De15627				X	X

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 LORs are matrix dependant. Quoted LORs 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 Advice.

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

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

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

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

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%.

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.

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
TRH - 2013 NEPM Fractions (after silica gel clean-up)									
TRH >C10-C16 (after silica gel clean-up)			mg/kg	< 50			50	Pass	
TRH >C16-C34 (after silica gel clean-up)			mg/kg	< 100			100	Pass	
TRH >C34-C40 (after silica gel clean-up)			mg/kg	< 100			100	Pass	
Method Blank									
TRH - 1999 NEPM Fractions (after silica gel clean-up)									
TRH C10-C36 (Total) (after silica gel clean-up)			mg/kg	< 100			100	Pass	
TRH C10-C14 (after silica gel clean-up)			mg/kg	< 50			50	Pass	
TRH C15-C28 (after silica gel clean-up)			mg/kg	< 100			100	Pass	
TRH C29-C36 (after silica gel clean-up)			mg/kg	< 100			100	Pass	
LCS - % Recovery									
TRH - 2013 NEPM Fractions (after silica gel clean-up)									
TRH >C10-C16 (after silica gel clean-up)			%	84			70-130	Pass	
LCS - % Recovery									
TRH - 1999 NEPM Fractions (after silica gel clean-up)									
TRH C10-C14 (after silica gel clean-up)			%	82			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S15-De08064	NCP	%	7.0	6.2	12	30%	Pass	

Comments

Sample Integrity

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

Authorised By

Charl Du Preez	Analytical Services Manager
Bob Symons	Senior Analyst-Inorganic (NSW)
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)



Glenn Jackson

National Operations 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.

Certificate of Analysis

JBS & G Australia (NSW & WA) P/L
 Level 1, 50 Margaret St
 Sydney
 NSW 2000



NATA Accredited
 Accreditation Number 1261
 Site Number 1254

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.

Attention: **Nathan Cussen**

Report **483477-L**
 Project name ADDITIONAL: ATP
 Project ID 50720
 Received Date Dec 15, 2015

Client Sample ID			BH01 1.0-2.0 ASLP - Reagent Water S15-De15620 Dec 06, 2015	BH03 1.0-2.0 ASLP - Reagent Water S15-De15621 Dec 06, 2015	BH09 0.0-1.0 ASLP - Reagent Water S15-De15622 Dec 06, 2015	BH10 0.0-1.0 ASLP - Reagent Water S15-De15623 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	0.9	< 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	0.90	< 0.1	< 0.1
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	0.9	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	7.0	9.5	9.4	9.3
pH (off)	0.1	pH Units	7.5	9.2	9.1	9.3

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 - Method: TRH C6-C36 - LTM-ORG-2010	Sydney	Dec 18, 2015	7 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Dec 18, 2015	7 Day
AUS Leaching Procedure - Method: LTM-GEN-7010	Sydney	Dec 17, 2015	7 Day

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 483477
Phone: 02 8245 0300
Fax:

Received: Dec 15, 2015 2:34 PM
Due: Dec 22, 2015
Priority: 5 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Total Recoverable Hydrocarbons - 1999 NEPM Fractions	AUS Leaching Procedure	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	TRH (after Silica Gel cleanup)	Moisture Set
Laboratory where analysis is conducted									
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
External Laboratory									
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
BH01 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15620	X	X	X		
BH03 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15621	X	X	X		
BH09 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15622	X	X	X		
BH10 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15623	X	X	X		
BH01 1.0-2.0	Dec 06, 2015		Soil	S15-De15624				X	X
BH03 1.0-2.0	Dec 06, 2015		Soil	S15-De15625				X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 483477
Phone: 02 8245 0300
Fax:

Received: Dec 15, 2015 2:34 PM
Due: Dec 22, 2015
Priority: 5 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Total Recoverable Hydrocarbons - 1999 NEPM Fractions	AUS Leaching Procedure	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	TRH (after Silica Gel cleanup)	Moisture Set
Laboratory where analysis is conducted									
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
External Laboratory									
BH09 0.0-1.0	Dec 06, 2015		Soil	S15-De15626				X	X
BH10 0.0-1.0	Dec 06, 2015		Soil	S15-De15627				X	X

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 LORs are matrix dependant. Quoted LORs 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 Advice.

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

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

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

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

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%.

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.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
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							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
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	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	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
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

Authorised By

Charl Du Preez	Analytical Services Manager
Ryan Hamilton	Senior Analyst-Organic (NSW)



Glenn Jackson

National Operations 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.

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 483477
Phone: 02 8245 0300
Fax:

Received: Dec 15, 2015 2:34 PM
Due: Dec 22, 2015
Priority: 5 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Total Recoverable Hydrocarbons - 1999 NEPM Fractions	AUS Leaching Procedure	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	TRH (after Silica Gel cleanup)	Moisture Set
Laboratory where analysis is conducted									
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
External Laboratory									
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
BH01 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15620	X	X	X		
BH03 1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15621	X	X	X		
BH09 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15622	X	X	X		
BH10 0.0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De15623	X	X	X		
BH01 1.0-2.0	Dec 06, 2015		Soil	S15-De15624				X	X
BH03 1.0-2.0	Dec 06, 2015		Soil	S15-De15625				X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 483477
Phone: 02 8245 0300
Fax:

Received: Dec 15, 2015 2:34 PM
Due: Dec 22, 2015
Priority: 5 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Total Recoverable Hydrocarbons - 1999 NEPM Fractions	AUS Leaching Procedure	Total Recoverable Hydrocarbons - 2013 NEPM Fractions	TRH (after Silica Gel cleanup)	Moisture Set
Laboratory where analysis is conducted									
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
External Laboratory									
BH09 0.0-1.0	Dec 06, 2015		Soil	S15-De15626				X	X
BH10 0.0-1.0	Dec 06, 2015		Soil	S15-De15627				X	X

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**
Contact name: **Nathan Cussen**
Project name: **ADDITIONAL: ATP**
Project ID: **50720**
COC number: **Not provided**
Turn around time: **5 Day**
Date/Time received: **Dec 15, 2015 2:34 PM**
Eurofins | mgt reference: **483477**

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 : 1.6 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.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Additional from 482392| Very limited sample

Contact notes

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

Charl Du Preez on Phone : +61 (2) 9900 8400 or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Nathan Cussen - ncussen@jbsg.com.au.

493477

Ser 15/12 2:34

Sample Receipt 1 Syd

From: Nibha Vaidya
Sent: Tuesday, 15 December 2015 2:34 PM
To: EnviroSampleNSW
Subject: FW: Lab Batch 482392

Follow Up Flag: Follow up
Flag Status: Flagged

Additional please

Nibha Vaidya
Phone : +61 2 9900 8415
Email : NibhaVaidya@eurofins.com.au

From: Nathan Cussen [<mailto:NCussen@jbsg.com.au>]
Sent: Tuesday, 15 December 2015 2:33 PM
To: Nibha Vaidya
Subject: Lab Batch 482392

Hi Nibha,

Can I please schedule TRH ASLP and silca gel clean up analysis for the samples below from lab batch 482392 on a STD TAT.

- BH01 1.0-2.0;
- BH03 1.0-2.0;
- BH09 0.0-1.0; and
- BH10 0.0-1.0.

Cheers,
Nathan



Nathan Cussen | Senior Environmental Consultant | JBS&G
Sydney | Melbourne | Adelaide | Perth | Brisbane
Level 1, 50 Margaret Street Sydney NSW 2000
T: 02 8245 0300 | M: 0431 401 022 | www.jbsg.com.au

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

The JBS&G Sydney office will be closed for the Christmas break from 25th December until 4th January, inclusive.

Thank you for all your support during 2015 and we look forward to working with you in 2016

Merry Christmas and Happy New Year

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 limitations.

Sample Receipt 1 Syd

Subject: FW: 483477

From: Nibha Vaidya

Sent: Thursday, 17 December 2015 6:07 PM

To: Sample Receipt 1 Syd

Subject: RE: 483477

Thanks Ellen,

Please go ahead with TRH after silica gel clean up and semi-vol TRH ASLP.

Nibha Vaidya

Phone : +61 2 9900 8415

Email : NibhaVaidya@eurofins.com.au

For the Christmas and New Year period, please click [here](#) to view laboratory shutdown dates

Eurofins | mgt add Illicit Drug analysis to our Brisbane Laboratory to assist the clean-up of clandestine drug labs in Australia & New Zealand.

Additionally PFBA added to PFASs analysis - for more information click [here](#)

CHK # 483477

Certificate of Analysis

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000



NATA Accredited
Accreditation Number 1261
Site Number 1254

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.

Attention: **Nathan Cussen**

Report **482927-L**
Project name ATP
Project ID 50720
Received Date Dec 07, 2015

Client Sample ID			M11 BULK 1_0-1.0 ASLP - Reagent Water S15-De10570 Dec 06, 2015	M11 BULK 1_1.0-2.0 ASLP - Reagent Water S15-De10571 Dec 06, 2015	M11 BULK 2_0-1.0 ASLP - Reagent Water S15-De10572 Dec 06, 2015	M11 BULK 2_1.0-2.0 ASLP - Reagent Water S15-De10573 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	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
Polycyclic Aromatic Hydrocarbons						
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
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
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
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
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.002	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	86	50	51	73
p-Terphenyl-d14 (surr.)	1	%	125	56	58	108
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	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
Conductivity (at 25°C)	1	uS/cm	520	540	810	180
pH	0.1	pH Units	8.0	6.9	9.1	6.9
Total Dissolved Solids	5	mg/L	450	360	600	140

Client Sample ID			M11 BULK 1_0-1.0 ASLP - Reagent Water S15-De10570 Dec 06, 2015	M11 BULK 1_1.0-2.0 ASLP - Reagent Water S15-De10571 Dec 06, 2015	M11 BULK 2_0-1.0 ASLP - Reagent Water S15-De10572 Dec 06, 2015	M11 BULK 2_1.0-2.0 ASLP - Reagent Water S15-De10573 Dec 06, 2015
Sample Matrix						
Eurofins mgt Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.002	0.001	0.003	0.003
Cadmium (filtered)	0.0001	mg/L	0.0002	< 0.0001	< 0.0001	< 0.0001
Chromium (filtered)	0.001	mg/L	0.002	< 0.001	0.002	< 0.001
Copper (filtered)	0.001	mg/L	0.007	0.012	0.013	0.010
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.002
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.001	< 0.001	0.001
Zinc (filtered)	0.005	mg/L	0.093	0.006	< 0.005	0.011

Client Sample ID			M11 BULK 3_0-1.0 ASLP - Reagent Water S15-De10574 Dec 06, 2015	M11 BULK 3_1.0-2.0 ASLP - Reagent Water S15-De10575 Dec 06, 2015
Sample Matrix				
Eurofins mgt Sample No.				
Date Sampled				
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	0.2	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-36 (Total)	0.1	mg/L	0.2	< 0.1
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	0.001	mg/L	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001
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(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001
Total PAH*	0.002	mg/L	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	78	74
p-Terphenyl-d14 (surr.)	1	%	121	112
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	0.2	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1

Client Sample ID			^{M11} BULK 3_0-1.0	^{M11} BULK 3_1.0-2.0
Sample Matrix			ASLP - Reagent Water	ASLP - Reagent Water
Eurofins mgt Sample No.			S15-De10574	S15-De10575
Date Sampled			Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit		
Conductivity (at 25°C)	1	uS/cm	270	364
pH	0.1	pH Units	9.7	7.6
Total Dissolved Solids	5	mg/L	380	495
Heavy Metals				
Arsenic (filtered)	0.001	mg/L	0.005	< 0.001
Cadmium (filtered)	0.0001	mg/L	< 0.0001	< 0.0001
Chromium (filtered)	0.001	mg/L	0.002	< 0.001
Copper (filtered)	0.001	mg/L	0.012	0.006
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	0.005
Zinc (filtered)	0.005	mg/L	< 0.005	0.022

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 - Method: TRH C6-C36 - LTM-ORG-2010	Sydney	Dec 14, 2015	7 Day
Polycyclic Aromatic Hydrocarbons - Method: E007 Polyaromatic Hydrocarbons (PAH)	Sydney	Dec 14, 2015	7 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Dec 14, 2015	7 Day
Conductivity (at 25°C)	Sydney	Dec 14, 2015	28 Day
pH - Method: LTM-GEN-7090 pH in water by ISE	Sydney	Dec 14, 2015	1 Day
Total Dissolved Solids - Method: 4110 Total Dissolved Solids dried at 180 ± 2°C	Sydney	Dec 15, 2015	7 Day
Metals M8 filtered	Sydney	Dec 11, 2015	28 Day

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482927
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 2:50 PM
Due: Dec 21, 2015
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Conductivity (at 25°C)	pH	Total Dissolved Solids	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8 filtered	NEPM Fractions	Total Recoverable Hydrocarbons - 2013
Laboratory where analysis is conducted													
Melbourne Laboratory - NATA Site # 1254 & 14271													
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794													
External Laboratory													
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
BULK 1_0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10570	X	X	X	X	X	X	X	X	X
BULK 1_1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10571	X	X	X	X	X	X	X	X	X
BULK 2_0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10572	X	X	X	X	X	X	X	X	X
BULK 2_1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10573	X	X	X	X	X	X	X	X	X
BULK 3_0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10574	X	X	X	X	X	X	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482927
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 2:50 PM
Due: Dec 21, 2015
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Conductivity (at 25°C)	pH	Total Dissolved Solids	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions
Laboratory where analysis is conducted												
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
External Laboratory												
BULK 3_1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10575	X	X	X	X	X	X	X	X

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 LORs are matrix dependant. Quoted LORs 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 Advice.

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

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

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

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

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%.

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.

Quality Control Results

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank										
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				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	
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	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Heavy Metals					Result 1					
Arsenic (filtered)	S15-De10572	CP	%	96				70-130	Pass	
Cadmium (filtered)	S15-De10572	CP	%	96				70-130	Pass	
Chromium (filtered)	S15-De10572	CP	%	89				70-130	Pass	
Copper (filtered)	S15-De10572	CP	%	86				70-130	Pass	
Lead (filtered)	S15-De10572	CP	%	88				70-130	Pass	
Mercury (filtered)	S15-De10572	CP	%	80				70-130	Pass	
Nickel (filtered)	S15-De10572	CP	%	89				70-130	Pass	
Zinc (filtered)	S15-De10572	CP	%	95				70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Duplicate										
					Result 1	Result 2	RPD			
Conductivity (at 25°C)	S15-De10570	CP	uS/cm	520	510	<1	30%	Pass		
Duplicate										
					Result 1	Result 2	RPD			
Conductivity (at 25°C)	S15-De10571	CP	uS/cm	540	550	<1	30%	Pass		

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic (filtered)	S15-De10571	CP	mg/L	0.001	0.001	4.0	30%	Pass
Cadmium (filtered)	S15-De10571	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Chromium (filtered)	S15-De10571	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper (filtered)	S15-De10571	CP	mg/L	0.012	0.012	2.0	30%	Pass
Lead (filtered)	S15-De10571	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury (filtered)	S15-De10571	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel (filtered)	S15-De10571	CP	mg/L	0.001	0.001	5.0	30%	Pass
Zinc (filtered)	S15-De10571	CP	mg/L	0.006	0.006	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic (filtered)	S15-De10575	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Cadmium (filtered)	S15-De10575	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Chromium (filtered)	S15-De10575	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper (filtered)	S15-De10575	CP	mg/L	0.006	0.006	2.0	30%	Pass
Lead (filtered)	S15-De10575	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury (filtered)	S15-De10575	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel (filtered)	S15-De10575	CP	mg/L	0.005	0.006	<1	30%	Pass
Zinc (filtered)	S15-De10575	CP	mg/L	0.022	0.022	<1	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	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
M11	NATA accreditation does not cover the performance of this service.
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

Charl Du Preez	Analytical Services Manager
Bob Symons	Senior Analyst-Inorganic (NSW)
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)



Glenn Jackson

National Operations 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.

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482927
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 2:50 PM
Due: Dec 21, 2015
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Conductivity (at 25°C)	pH	Total Dissolved Solids	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions
Laboratory where analysis is conducted												
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
External Laboratory												
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
BULK 1_0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10570	X	X	X	X	X	X	X	X
BULK 1_1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10571	X	X	X	X	X	X	X	X
BULK 2_0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10572	X	X	X	X	X	X	X	X
BULK 2_1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10573	X	X	X	X	X	X	X	X
BULK 3_0-1.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10574	X	X	X	X	X	X	X	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ATP
Project ID: 50720

Order No.:
Report #: 482927
Phone: 02 8245 0300
Fax:

Received: Dec 7, 2015 2:50 PM
Due: Dec 21, 2015
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Conductivity (at 25°C)	pH	Total Dissolved Solids	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	Metals M8 filtered	Total Recoverable Hydrocarbons - 2013 NEPM Fractions
Laboratory where analysis is conducted												
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
External Laboratory												
BULK 3_1.0-2.0	Dec 06, 2015		ASLP - Reagent Water	S15-De10575	X	X	X	X	X	X	X	X

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**

Contact name: **Nathan Cussen**

Project name: **ATP**

Project ID: **50720**

COC number: **09011**

Turn around time: **7 Day**

Date/Time received: **Dec 7, 2015 2:50 PM**

Eurofins | mgt reference: **482927**

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 : 1.6 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.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

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

Charl Du Preez on Phone : +61 (2) 9900 8400 or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Nathan Cussen - ncussen@jbsg.com.au.

ASTM - Column Leach Test

IMSO FormsO13 - Chain of Custody - Generic

48292

485259

Sean

1/1

11:28

From: Richard Corner [mailto:RichardCorner@eurofins.com]

Sent: Monday, 11 January 2016 11:29 AM

To: EnviroSampleNSW

Cc: Charl DuPreez

Subject: FWD: Lab Batch 482927 - Reanalysis request

Hi Shaun,

We've had a request from JBS to perform some additional leachate analysis on samples from report 482927.

A little bit different to usual as we need to split each sample into 4 separate parts for analysis.

Eg. BULK 1_0-1.0

Will get split into:

BULK 1_0-1.0 – VoidVol 1

BULK 1_0-1.0 – VoidVol 2

BULK 1_0-1.0 – VoidVol 4

BULK 1_0-1.0 – VoidVol 8

Do this for all 6 samples in the old report so we'll get 24 samples total in the new report.

Analysis for: M8 metals only

Thanks,

Certificate of Analysis

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000



NATA Accredited
Accreditation Number 1261
Site Number 1254

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.

Attention: **Nathan Cussen**

Report **485259-L-V2**
Project name **ADDITIONAL: ATP**
Project ID **50720**
Received Date **Jan 11, 2016**

Client Sample ID			BULK 1 0-1.0 VOIDVOL 1	BULK 1 0-1.0 VOIDVOL 2	BULK 1 0-1.0 VOIDVOL 4	BULK 1 0-1.0 VOIDVOL 8
Sample Matrix			ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water
Eurofins mgt Sample No.			S16-Ja03336	S16-Ja03337	S16-Ja03338	S16-Ja03339
Date Sampled			Dec 06, 2015	Dec 06, 2015	Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit				
Heavy Metals						
Comments			M11	M11	M11	M11
Arsenic	0.001	mg/L	0.004	0.006	0.007	0.008
Cadmium	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium	0.001	mg/L	0.003	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	0.005	0.005	0.005	0.004
Lead	0.001	mg/L	< 0.001	0.005	0.006	0.005
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	0.002	0.002	0.002	0.002

Client Sample ID			BULK 1 1.0- 2.0 VOIDVOL 1	BULK 1 1.0- 2.0 VOIDVOL 2	BULK 1 1.0- 2.0 VOIDVOL 4	BULK 1 1.0- 2.0 VOIDVOL 8
Sample Matrix			ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water
Eurofins mgt Sample No.			S16-Ja03340	S16-Ja03341	S16-Ja03342	S16-Ja03343
Date Sampled			Dec 06, 2015	Dec 06, 2015	Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit				
Heavy Metals						
Comments			M11	M11	M11	M11
Arsenic	0.001	mg/L	< 0.001	< 0.001	0.001	0.001
Cadmium	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	0.0001
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	0.007	0.005	0.005	0.005
Lead	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.001
Zinc	0.001	mg/L	< 0.001	< 0.001	0.007	0.005

Client Sample ID			BULK 2 0-1.0 VOIDVOL 1	BULK 2 0-1.0 VOIDVOL 2	BULK 2 0-1.0 VOIDVOL 4	BULK 2 0-1.0 VOIDVOL 8
Sample Matrix			ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water
Eurofins mgt Sample No.			S16-Ja03344	S16-Ja03345	S16-Ja03346	S16-Ja03347
Date Sampled			Dec 06, 2015	Dec 06, 2015	Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit				
Heavy Metals						
Comments			M11	M11	M11	M11
Arsenic	0.001	mg/L	0.004	0.005	0.006	0.007
Cadmium	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium	0.001	mg/L	0.004	0.002	0.001	< 0.001
Copper	0.001	mg/L	0.020	0.016	0.015	0.015
Lead	0.001	mg/L	< 0.001	< 0.001	0.004	0.006
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	< 0.001	< 0.001	0.001	0.002

Client Sample ID			BULK 2 1.0-2.0 VOIDVOL 1	BULK 2 1.0-2.0 VOIDVOL 2	BULK 2 1.0-2.0 VOIDVOL 4	BULK 2 1.0-2.0 VOIDVOL 8
Sample Matrix			ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water
Eurofins mgt Sample No.			S16-Ja03348	S16-Ja03349	S16-Ja03350	S16-Ja03351
Date Sampled			Dec 06, 2015	Dec 06, 2015	Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit				
Heavy Metals						
Comments			M11	M11	M11	M11
Arsenic	0.001	mg/L	0.002	0.001	0.001	0.001
Cadmium	0.0001	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	0.016	0.015	0.012	0.011
Lead	0.001	mg/L	0.022	0.017	0.012	0.011
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	0.007	0.004	0.001	0.001

Client Sample ID			BULK 3 0-1.0 VOIDVOL 1	BULK 3 0-1.0 VOIDVOL 2	BULK 3 0-1.0 VOIDVOL 4	BULK 3 0-1.0 VOIDVOL 8
Sample Matrix			ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water
Eurofins mgt Sample No.			S16-Ja03352	S16-Ja03353	S16-Ja03354	S16-Ja03355
Date Sampled			Dec 06, 2015	Dec 06, 2015	Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit				
Heavy Metals						
Comments			M11	M11	M11	M11
Arsenic	0.001	mg/L	0.002	0.002	0.002	0.002
Cadmium	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper	0.001	mg/L	0.008	0.007	0.006	0.006
Lead	0.001	mg/L	< 0.001	< 0.001	0.002	0.004
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.003

Client Sample ID			BULK 3 1.0-2.0 VOIDVOL 1	BULK 3 1.0-2.0 VOIDVOL 2	BULK 3 1.0-2.0 VOIDVOL 4	BULK 3 1.0-2.0 VOIDVOL 8
Sample Matrix			ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water	ASLP - Reagent Water
Eurofins mgt Sample No.			S16-Ja03356	S16-Ja03357	S16-Ja03358	S16-Ja03359
Date Sampled			Dec 06, 2015	Dec 06, 2015	Dec 06, 2015	Dec 06, 2015
Test/Reference	LOR	Unit				
Heavy Metals						
Comments			M11	M11	M11	M11
Arsenic	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium	0.0001	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium	0.001	mg/L	0.001	0.002	< 0.001	< 0.001
Copper	0.001	mg/L	0.004	0.004	0.003	0.003
Lead	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.001	mg/L	0.003	0.001	< 0.001	< 0.001
Zinc	0.001	mg/L	0.020	0.008	0.003	0.001

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

Metals M8

Testing Site

Sydney

Extracted

Jan 15, 2016

Holding Time

28 Day

- Method: LTM-MET-3040_R0 TOTAL AND DISSOLVED METALS AND MERCURY IN WATERS BY ICP-MS

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Metals M8
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
BULK 1_0-1.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03336	X
BULK 1_0-1.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03337	X
BULK 1_0-1.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03338	X
BULK 1_0-1.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03339	X
BULK 1_1.0-2.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03340	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Metals M8
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
BULK 1 1.0-2.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03341	X
BULK 1 1.0-2.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03342	X
BULK 1 1.0-2.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03343	X
BULK 2 0-1.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03344	X
BULK 2 0-1.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03345	X
BULK 2 0-1.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03346	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Metals M8
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
BULK 2_0-1.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03347	X
BULK 2_1.0-2.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03348	X
BULK 2_1.0-2.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03349	X
BULK 2_1.0-2.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03350	X
BULK 2_1.0-2.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03351	X
BULK 3_0-1.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03352	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Metals M8
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
BULK 3_0-1.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03353	X
BULK 3_0-1.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03354	X
BULK 3_0-1.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03355	X
BULK 3_1.0-2.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03356	X
BULK 3_1.0-2.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03357	X
BULK 3_1.0-2.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03358	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Metals M8
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
BULK 3 1.0-2.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03359	X

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 LORs are matrix dependant. Quoted LORs 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 Advice.

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: Nephelometric Turbidity 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%.

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.

Quality Control Results

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank										
Heavy Metals										
Arsenic				mg/L	< 0.001			0.001	Pass	
Cadmium				mg/L	< 0.0001			0.0001	Pass	
Chromium				mg/L	< 0.001			0.001	Pass	
Copper				mg/L	< 0.001			0.001	Pass	
Lead				mg/L	< 0.001			0.001	Pass	
Mercury				mg/L	< 0.0001			0.0001	Pass	
Nickel				mg/L	< 0.001			0.001	Pass	
Zinc				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	S16-Ja03337	CP	%		100			70-130	Pass	
Cadmium	S16-Ja03337	CP	%		99			70-130	Pass	
Chromium	S16-Ja03337	CP	%		98			70-130	Pass	
Copper	S16-Ja03337	CP	%		98			70-130	Pass	
Lead	S16-Ja03337	CP	%		97			70-130	Pass	
Mercury	S16-Ja03337	CP	%		98			70-130	Pass	
Nickel	S16-Ja03337	CP	%		96			70-130	Pass	
Zinc	S16-Ja03337	CP	%		100			70-130	Pass	
Spike - % Recovery										
Heavy Metals					Result 1					
Arsenic	S16-Ja03347	CP	%		104			70-130	Pass	
Cadmium	S16-Ja03347	CP	%		106			70-130	Pass	
Chromium	S16-Ja03347	CP	%		103			70-130	Pass	
Copper	S16-Ja03347	CP	%		104			70-130	Pass	
Lead	S16-Ja03347	CP	%		104			70-130	Pass	
Mercury	S16-Ja03347	CP	%		101			70-130	Pass	
Nickel	S16-Ja03347	CP	%		104			70-130	Pass	
Zinc	S16-Ja03347	CP	%		107			70-130	Pass	
Spike - % Recovery										
Heavy Metals					Result 1					
Arsenic	S16-Ja03355	CP	%		95			70-130	Pass	
Cadmium	S16-Ja03355	CP	%		95			70-130	Pass	
Chromium	S16-Ja03355	CP	%		93			70-130	Pass	
Copper	S16-Ja03355	CP	%		94			70-130	Pass	
Lead	S16-Ja03355	CP	%		97			70-130	Pass	
Mercury	S16-Ja03355	CP	%		95			70-130	Pass	
Nickel	S16-Ja03355	CP	%		93			70-130	Pass	
Zinc	S16-Ja03355	CP	%		95			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	S16-Ja03336	CP	mg/L		0.004	0.004	2.0	30%	Pass	
Cadmium	S16-Ja03336	CP	mg/L		< 0.0001	< 0.0001	<1	30%	Pass	
Chromium	S16-Ja03336	CP	mg/L		0.003	0.003	3.0	30%	Pass	
Copper	S16-Ja03336	CP	mg/L		0.005	0.005	2.0	30%	Pass	
Lead	S16-Ja03336	CP	mg/L		< 0.001	< 0.001	<1	30%	Pass	
Mercury	S16-Ja03336	CP	mg/L		< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S16-Ja03336	CP	mg/L		< 0.001	< 0.001	<1	30%	Pass	
Zinc	S16-Ja03336	CP	mg/L		0.002	0.002	<1	30%	Pass	

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S16-Ja03346	CP	mg/L	0.006	0.006	2.0	30%	Pass
Cadmium	S16-Ja03346	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Chromium	S16-Ja03346	CP	mg/L	0.001	0.001	4.0	30%	Pass
Copper	S16-Ja03346	CP	mg/L	0.015	0.016	6.0	30%	Pass
Lead	S16-Ja03346	CP	mg/L	0.004	0.005	24	30%	Pass
Mercury	S16-Ja03346	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	S16-Ja03346	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc	S16-Ja03346	CP	mg/L	0.001	0.001	13	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S16-Ja03354	CP	mg/L	0.002	0.002	5.0	30%	Pass
Cadmium	S16-Ja03354	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Chromium	S16-Ja03354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper	S16-Ja03354	CP	mg/L	0.006	0.006	3.0	30%	Pass
Lead	S16-Ja03354	CP	mg/L	0.002	0.003	28	30%	Pass
Mercury	S16-Ja03354	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	S16-Ja03354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc	S16-Ja03354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass

Comments

Report revised to reflect lower LORs.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	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
M11	NATA accreditation does not cover the performance of this service.

Authorised By

Charl Du Preez	Analytical Services Manager
Ivan Taylor	Senior Analyst-Metal (NSW)



Glenn Jackson

National Operations 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.

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Metals M8

Sample Detail

Laboratory where analysis is conducted

Melbourne Laboratory - NATA Site # 1254 & 14271

Sydney Laboratory - NATA Site # 18217

Brisbane Laboratory - NATA Site # 20794

External Laboratory

Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
BULK 1_0-1.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03336	X
BULK 1_0-1.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03337	X
BULK 1_0-1.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03338	X
BULK 1_0-1.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03339	X
BULK 1_1.0-2.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03340	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Metals M8
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
BULK 1 1.0-2.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03341	X
BULK 1 1.0-2.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03342	X
BULK 1 1.0-2.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03343	X
BULK 2 0-1.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03344	X
BULK 2 0-1.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03345	X
BULK 2 0-1.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03346	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Metals M8
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
BULK 2_0-1.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03347	X
BULK 2_1.0-2.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03348	X
BULK 2_1.0-2.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03349	X
BULK 2_1.0-2.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03350	X
BULK 2_1.0-2.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03351	X
BULK 3_0-1.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03352	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Metals M8
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
BULK 3_0-1.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03353	X
BULK 3_0-1.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03354	X
BULK 3_0-1.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03355	X
BULK 3_1.0-2.0 VOIDVOL 1	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03356	X
BULK 3_1.0-2.0 VOIDVOL 2	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03357	X
BULK 3_1.0-2.0 VOIDVOL 4	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03358	X

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000
Project Name: ADDITIONAL: ATP
Project ID: 50720

Order No.:
Report #: 485259
Phone: 02 8245 0300
Fax:

Received: Jan 11, 2016 11:28 AM
Due: Jan 25, 2016
Priority: 10 Day
Contact Name: Nathan Cussen

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Metals M8
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
BULK 3 1.0-2.0 VOIDVOL 8	Dec 06, 2015		ASLP - Reagent Water	S16-Ja03359	X

Sample Receipt Advice

Company name: **JBS & G Australia (NSW & WA) P/L**
Contact name: **Nathan Cussen**
Project name: **ADDITIONAL: ATP**
Project ID: **50720**
COC number: **Not provided**
Turn around time: **10 Day**
Date/Time received: **Jan 11, 2016 11:28 AM**
Eurofins | mgt reference: **485259**

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 : 1.6 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.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Additional from 482927

Contact notes

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

Charl Du Preez on Phone : +61 (2) 9900 8400 or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Nathan Cussen - ncussen@jbsg.com.au.

Attachment 6 – Analytical Summary Tables

Table D: Soil Analytical Results
Project Number: 51142
Project Name: Fill Assessment - Lot 12

[illegible]

Env Site Comments

- #1 ESLs are of moderate reliability.
- #2 ESLs are of moderate reliability. To obtain F1 subtract the mass of BTEX from C6-C10.
- #3 ESLs are of low reliability.
- #4 Management limits of BTEX and naphthalene are not available, hence should not be subtracted from the relevant fractions to obtain F1 and F2.
- #5 Limits applied after consideration of relevant ESLs as per HSLS.
- #6 Key limitations of HSLS should be referred to prior to application in Friebel and Nadebaum (2011b and 2011d).
- #7 JV added from Chromium (VI).
- #8 Assumptions of HSLS are presented in Friebel and Nadebaum (2011a and 2011b).
- #9 Refer to the HSLS and soil saturation concentration limit.
- #10 TV may be multiplied by a factor to account for biodegradation of vapour
- #11 HIL relates to non-dioxin-like PCBs only. If PCB source is suspected a site-specific assessment should be undertaken
- #12 To obtain F1 subtract the mass of BTEX from C6-C10.
- #13 To obtain F2 subtract naphthalene from <C10-C16.

Data Comments

Table D: Soil Analytical Results
Project Number: 51142
Project Name: Fill Assessment - Lot 12

[illegible]

Inv Sds Comments

#1 E5L3 are of moderate reliability.

#2 E5L3 are of moderate reliability. To obtain F1 subtract the sum of BTEX from C6-C10.

#3 E5L3 are of low reliability.

#4 Management limits of BTEX and naphthalene are not available, hence should not be subtracted from the relevant F1.

#5 Limits applied for correction to relevant E5L3 and H5L3

#6 Iceberg initiations of H5L should be considered in FriebeI and Nadebaum (2011a and 2011b).

#7 V7 should follow Chromium (VI)

#8 Assumptions of H5L are presented in FriebeI and Nadebaum (2011a and 2011b).

#9 Refer to H5L and soil saturation concentration limit.

#10 V7 may be multiplied by a factor to account for biodegradation of vapour

#11 H5L relates to non-down-hole PCBs only. If PCB source is suspected a site-specific assessment should be undertaken

#12 To obtain F1, subtract the sum of BTEX from C6-C10.

#13 To obtain F2, subtract naphthalene F2 subtract naphthalene F2

Data Comments

[illegible]

Table D: Soil Analytical Results
Project Number: 51142
Project Name: Fill Assessment - Lot 12

	Organochlorine Pesticides																								Ionic Balance		SPOCAS						Asbestos			
	Aldrin	Aldrin + Dieldrin (Sum of Total)	Dieldrin	DDD	4,4-DDE	DDT	alpha-BHC	DDT+DDE+DDD (Sum of Total)	beta-BHC	delta-BHC	alpha-Chlordane	Chlordane	gamma-Chlordane	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene	Cation Exchange Capacity	pH 1:5 soil:water	pH-KCL	pH-OX	TSA	SPOCAS	Analysed Material	Extraneous Material	Approx. Sample Mass	Mass ACM	Total Organic Carbon	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	meq/100g	ph Units	ph Units	ph Units	MOL H+/T	%S	%	%	g	g	mg/kg	
EOL	0.05		0.05	0.05	0.05	0.05	0.05		0.05	0.05		0.10		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.10	1.00	0.05	0.10	0.10	0.10	2.00	0.02	0.10	0.10				
NEPC 2013 EIL, EILs Aged Sediment						640																														
NEPM 2013 ESL Commercial and Industrial, Coarse Soil																																				
NEPM 2013 Mgmt Limits - Commercial and Industrial, Coarse																																				
NEPM 2013 Soil HIL D		45						3600				530					100			50			2500	160												
NEPM 2013 Soil HSL D for Vapour Intrusion - Sand 0 to <1m																																				
NEPM 2013 Soil HSL D for Vapour Intrusion - Sand 1 to <2m																																				
NEPM 2013 Soil HSL D for Vapour Intrusion - Sand 2 to <4m																																				
NEPM 2013 Soil HSL D for Vapour Intrusion - Sand 4m+																																				
Field ID	Date	Matrix	Lab_Report_Number																																	
#1 ESDAT Combined. Some Analytes are missing from this Combined Compound.																																				
#2 ESDAT Combined with Non-Detect Multiplier of 0.5.																																				
#3 No respirable fibres detected																																				
#4 Organic fibres detected.																																				
#5 ESDAT Combined.																																				
#6 NIL (+)VE																																				
#7 Nil																																				

Table E: ASLP and Column Leach Analysis
Project Number: 51142
Project Name: Lot 12 Fill Assessment

[illegible]

Appendix C JBS&G (2016d) Soil Vapour Factual Data Report

27 May 2016

Barry Steedman
Mirvac Projects Pty Ltd
Via email: barry.steedman@mirvac.com

Locomotive Workshop Soil Vapour – Factual Data Report

Dear Barry,

1. Introduction and Background

JBS&G Australia Pty Ltd (JBS&G) has been engaged by Mirvac Projects Pty Ltd (Mircvac, the client) to provide environmental consultancy services associated with the remediation and redevelopment of a portion of the Australian Technology Park (ATP), herein referred to as the site (**Figures 1 and 2, Attachment 2**). The site is legally identified as Lots 8, 9, 12 in Deposited Plan (DP) 1136859, Part Lot 13 in DP 1136859 and Part Lot 10 in DP 1136859 (**Figure 3, Attachment 2**) and occupies an area of 11.6 ha. The site includes the Locomotive Workshop, public roads/domains (road reserves and pedestrian easements, recreational facilities and the eastern most extent of Lot 10 DP 1136859) and Developable Lots (Lots 8, 9 and 12). With the notable exception of the Locomotive Workshop, the footprints of existing ATP precinct structures (including the International Business Centre, National Innovation Centre, Traffic Management Centre (formally the RTA Building), Ambulance Service Building and Biomedical Building footprints) within Lot 13 in DP 113659 fall outside the site boundaries, as shown on **Figure 2 (Attachment 2)**.

It is understood that indoor air monitoring has been completed annually at the ATP since 2012. The monitoring has been undertaken as a precautionary measure in the absence of subsurface soil and groundwater characterisation below building footprints. As documented in JBS&G (2015a¹), elevated sub-slab soil vapour trichloroethylene (TCE) concentrations have been reported underlying Bays 5 and 6 of the Locomotive Workshop at sample locations SVE and SVF (**Figure 4, Attachment 2**). However, ambient air quality results from within the building collected as part of ongoing environmental management plan (EMP, ES 2015a²) requirements were all below the adopted assessment criteria. As such, no current risk from sub-slab vapour conditions has been reported, however, additional assessment of sub-slab vapour conditions underlying the Locomotive Workshop has been requested by the Site Auditor to support ongoing management or change to the EMP (ES 2015a), if necessary.

It is understood the Locomotive Workshop is proposed for adaptive commercial land use (excluding a childcare centre or similar) which will largely involve interior remodelling while retaining the current slab and ventilation systems.

¹ *Mircvac Projects Pty Ltd – Australian Technology Park Detailed Site Assessment. 2 Locomotive Street, Eveleigh NSW.* JBS&G Australia Pty Ltd dated 9 December 2015 (JBS&G 2015a)

² *Environmental Management Plan, Australian Technology Park, Eveleigh NSW.* Environmental Strategies Pty Ltd dated August 2015 Revision 0 (ES 2015a)

As part of JBS&G's engagement, Mirvac has requested JBS&G undertake a sub-slab soil assessment within the Locomotive Workshop to address the Site Auditors comments. This letter report documents sub-slab soil vapour assessment activities within the Locomotive Workshop.

2. Scope and Objective

The objective of the investigation is to document the concentration of soil vapour contaminants underlying the Locomotive Workshop. The results of the investigation will be used to assist in the preparation of a subsequent human health risk assessment for proposed redevelopment of the site.

The scope of works completed for this assessment comprised:

- Installation of twenty seven systematic sub-slab soil vapour points on an approximately 30 m grid across the Locomotive Workshop, sample collection, and subsequent laboratory analysis at a National Association of Testing Authority (NATA) certified laboratory for volatile organic compounds (VOC);
- Subsequent to receipt of the certificates of analysis of the initial sampling event, installation of six targeted sub-slab soil vapour locations, sample collection and laboratory analysis at a NATA certified laboratory for VOCs to assist in plume delineation / source identification in areas of elevated VOC concentrations; and
- Preparation of a factual letter report summarising the results of the sampling and analysis.

3. Site History and Setting

A detailed review of the site setting and history is presented in JBS&G (2015a). Relevant information to this assessment is summarised herein.

3.1 Locomotive Workshop Location and Description

The Locomotive Workshop (the assessment area) is located within the northern site extent in Lot 13 DP 1136859 and occupies an area of approximately 2.4 hectares (ha).

The Locomotive Workshop is a large heritage listed masonry and steel former railway building, which has undergone adaptive reuse in recent years for commercial purposes. With the notable exception of Bays 1 and 2 (Blacksmith and heritage room) within the Locomotive Workshop, based on advanced sample locations (**Figure 5, Attachment 2**) the concrete slab floor varies in thickness ranging from 0.4 m to 0.7 m and was noted to be in good condition with no observed cracks or fissures.

Within Bays 1 and 2 (Blacksmith and heritage room) ground surface treatments comprised a combination of gravels / crushed concrete (approximately 0.5 m in thickness) and / or asphaltic hardstands.

4. Methodology

4.1 Soil Vapour Sampling Methodology

The following methodology was adopted for the installation of sub-slab vapour points:

- Core concrete slab (20 mm diameter); and
- Place 6 mm Teflon tubing fixed with a Teflon sample tip and steel wool filter into the core hole to below the base of the slab, then seal the core hole with air-drying clay and a cementitious grout. The sub-slab point was purged immediately following installation.

The following methodology was adopted for the sampling of sub-slab vapour points:

- Purge the sub-slab vapour point using a calibrated photo-ionisation detector (PID) (10.6 eV lamp) and multi-gas meter to measure and record oxygen, carbon dioxide and methane concentrations until the parameters stabilise;
- To assess for leaks, place a rag saturated with Isopropyl alcohol around the probe / tubing at the ground surface and continue purging with the PID. If PID readings increase significantly this indicates a potential leak and additional measures were taken to adequately seal the point;
- Removal of tips from a carbon sorbent tube and connection to vapour point tubing. The downstream end of carbon sorbent tube was connected to a closed three-way valve and syringe of known volume (150 mL);
- Collect an approximate 6 litre volume vapour sample using the syringe to draw vapour through the carbon sorbent tube, using the three-way valve to prevent back-flow from the syringe through the tube;
- Use an isopropyl alcohol saturated rag around the sub-slab core hole throughout purging and sampling to assess for potential leaks;
- Disassemble syringe and tubing, remove carbon tube, replace tube caps and place in Zip-Lock bag; and
- Submit carbon tube for VOC analysis as per **Table A (Attachment 3)**.

Field notes documenting the sampling event are included in **Attachment 4**.

4.2 Laboratory Analysis

Eurofins / MGT (Eurofins) was the laboratory contracted for chemical analysis. Eurofins were NATA registered for the requested analysis at the time of analysis. Eurofins undertook internal Quality Assurance (QA) procedures in accordance with their NATA registration. In addition, the laboratories were required to meet JBS&G's internal Quality Assurance / Quality Control (QA/QC) requirements. Laboratory analytical reports are included in **Attachment 5**.

4.3 Quality Assurance / Quality Control

The pre-determined data quality indicators (DQIs) established for the project are discussed below in relation to precision, accuracy, representativeness, comparability, completeness and sensitivity (PARCCS parameters) (**Table 4.1**).

- Precision - measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percent Difference (RPD) of duplicate samples.
- Accuracy - measures the bias in a measurement system. The accuracy of the laboratory data that is generated during this study is a measure of the closeness of the analytical results obtained by a method to the 'true' value. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards.
- Representativeness –expresses the degree which sample data accurately and precisely represents a characteristic of a population or an environmental condition. Representativeness is achieved by collecting samples on a representative basis across the site, and by using an adequate number of sample locations to characterise the site to the required accuracy.

- **Comparability** - expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples; ensuring analysing laboratories use consistent analysis techniques and reporting methods.
- **Completeness** – is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study.
- **Sensitivity** – expresses the appropriateness of the chosen laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted site assessment criteria.

Table 4.1: Summary of Quality Assurance / Quality Control Program (carbon tubes)

Data Quality Indicator	Frequency	DQI Target
Precision		
Blind duplicates (intra-laboratory)	1/20 samples	<50% RPD
Equipment blank	1/sampling event	<LOR
Accuracy		
Surrogate spikes	All organic samples	70-130% recovery
Laboratory control samples	1 per lab batch or 20 samples	70-130% recovery
Representativeness		
Sampling appropriate for media and analytes	All samples	-
Laboratory blanks	1 per lab batch	<LOR
Samples extracted and analysed within holding times	All samples	-
Comparability		
Standard operating procedures used for sample collection and handling	All samples	All samples
Standard analytical methods used for all analyses	All samples	All samples
Consistent field conditions, field staff and laboratories	All works	All works
Limits of reporting appropriate and consistent	All samples	All samples
Completeness		
Field forms description and COCs completed and appropriate	All samples	All samples
Appropriate documentation completed	All works	All works
Satisfactory frequency and result for QC samples	All samples	All samples
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted Site assessment criteria	All Samples	LOR<= Site assessment criteria

1 Relative percent difference

If any of the DQIs are not met, further assessment will be necessary to determine whether the non-conformance will significantly affect the usefulness of the data. Corrective actions may include requesting further information from samplers and / or analytical laboratories, downgrading of the quality of the data or alternatively, re-collection of the data.

5. Summary of QA / QC Results

5.1 QA / QC Results

The QA / QC results are summarised in **Table 5.1**, presented in **Attachment 6** and discussed in **Section 5.2**. Laboratory certificates of analysis are provided in **Attachment 5**.

Table 5.1: Data Quality Indicators

Data Quality Indicator	Frequency	Results Reported	DQI Compliance
Precision			
Blind duplicates	3 / 33 samples analysed (9%)	0 %-135 %	Partial ¹
Equipment blank	1 / sampling event	<LOR	Yes
Accuracy			
Laboratory control samples	1 per lab batch or 20 samples	70% - 130 % recovery	Yes
Leak detection	All samples	<LOR	Yes
Representativeness			
Sampling appropriate for media and analytes	All samples	All sampling conducted in accordance with JBS&G procedures	Yes
Laboratory blanks	1 per lab batch	<LOR	Yes
Samples extracted and analysed within holding times	All samples	All samples extracted and analysed within holding times	Yes
Comparability			
Standard operating procedures used for sample collection and handling	All samples	Field staff used same standard operating procedures throughout works	Yes
Standard analytical methods used for all analyses	All samples	Standard analytical methods used as detailed in Appendix M	Yes
Consistent field conditions, field staff and laboratories	All works	Sampling was conducted by field staff members using standard operating procedures in the same conditions throughout the works. The laboratory remained consistent throughout the investigation.	Yes
Limits of reporting appropriate and consistent	All samples	Limits of reporting were consistent and appropriate.	Yes
Completeness			
Description and COCs completed and appropriate	All samples	All bore logs, field reporting forms and chain of custody were completed appropriately.	Yes
Appropriate documentation completed	All works	All appropriate field documentation is included in the Appendices.	Yes
Satisfactory frequency and result for QC samples	All samples	The QC results are considered adequate for the purposes of the investigation.	Yes
Data from critical samples is considered valid	-	Critical samples valid	Yes
Sensitivity			
Analytical methods and limits of recovery appropriate for media and adopted site assessment criteria	All works	Analytical methods and limits of recovery were considered appropriate for media and adopted site assessment criteria for all analytes.	Yes

5.2 QA / QC Discussion

5.2.1 Precision

Blind Duplicates (intra laboratory)

Soil vapour field blind (intra-laboratory) duplicates were collected at a rate of greater than 1 per 20 primary samples analysed, meeting the 1/20 DQI frequency (for blind duplicates). Blind (intra laboratory) duplicates for soil vapour RPDs were all within the acceptable JBS&G acceptable limit (0 % – 50 %), with the exception of samples:

- SV32_FRONT (0.4333 mg/m³) and QC03-SV_FRONT (<0.0833 mg/m³) with a Tetrachloroethene RPD of 135 %; and
- SV32_FRONT (0.2333 mg/m³) and QC03-SV_FRONT (<0.0833 mg/m³) with a trans-1,3-dichloropropene RPD of 95 %.

Elevated RPD calculations may be attributed to contaminant thresholds concentration being close to the LOR which results in disproportionately large RPDs. As a conservative measure, the higher reported concentration between the primary and duplicate sample will be considered.

Equipment Blank

An equipment blank was submitted with each laboratory batch. The results for all equipment blanks were less than the laboratory limit of reporting indicating the sampling methodology was not contributing the analytical results.

5.2.2 Accuracy

Surrogate Spikes

All laboratory control sample recoveries for vapour samples were compliant with DQIs and within the acceptable JBS&G acceptable limit (70 % – 130 %)

Leak Detection

Leak detection was conducted as per **Section 4.2**. No leaks were identified by the PID during sampling as further evidenced by the lowest possible detection limits being achieved, the absence of any analytes in laboratory results and the absence in the laboratory analysis results of any levels of Isopropyl alcohol.

5.2.3 Representativeness

Laboratory Blank

Results for all laboratory blanks for vapour samples were less than the limit of reporting indicating the analytical methods were not contributing to the analytical values reported.

Sampling Appropriate for Media and Analytes

Soil vapour sampling was undertaken appropriately. Soil vapour probes were correctly installed, sealed and leak detection was performed. The SKC Anasorb CSC tubes used were appropriate for the contaminant of concern (VOCs). Flow rate and total volume for each sample was recorded.

Holding Times

All analytes were undertaken within the holding times. Copies of laboratory sample receipts are included in **Attachment 5**.

5.2.4 Comparability

Samples were transported under full chain of custody documentation. The chain of custody documentation was completed correctly and the selected analyses were correctly conducted.

The frequency of analysis and result for all QC samples are appropriate.

5.2.5 Sensitivity

Laboratory analysis methods for all contaminants in soil vapour adopted during the investigation used limits of reporting less than the adopted assessment criteria.

5.2.6 Assessment of QA/QC

The results of the field and laboratory QA / QC program indicates the data obtained from the vapour sampling undertaken by JBS&G for this investigation are considered reliable and representative of the vapour conditions beneath the Locomotive Workshop during the time of sampling.

6. Results

6.1 Field Parameters and Observations

As discussed in **Section 2**, the assessment works comprised installation of twenty seven systematic sub-slab soil vapour points on an approximately 30 m grid across the Locomotive Workshop, sample collection, and subsequent laboratory analysis for VOC. Subsequent to receipt of the certificates of analysis of the initial sampling event, six targeted sub-slab soil vapour locations were installed, sampled, and submitted for VOC analysis.

During purging, oxygen levels were found to range from 5.8 % to 21.1 %, PID ranged from 0.0 to 2.1 ppm, CO₂ ranged from 0 % to 4.9 % and methane ranged from 0 to 2 % in all probes. Each probe was purged for a minimum of 30 seconds with an MX6. Field notes are present in **Attachment 4**.

The concrete slab of the Locomotive Workshop ranged in thickness from approximately 0.4 m to 0.7 m and was noted to be in good repair.

Within Bays 1 and 2 (Blacksmith and heritage room) ground surface treatments comprised a combination of gravels / crushed concrete (approximately 0.5 m in thickness) and / or asphaltic hardstands.

6.2 Soil Vapour Analytical Results

Soil vapour analytical results are summarised in **Table A (Attachment 6)**. Detailed laboratory reports are provided in **Attachment 4**. Sampling locations are shown on **Figure 5 (Attachment 2)**.

7. Conclusion

The completed soil vapour monitoring comprised twenty seven systematic and six targeted sub-slab soil vapour sampling locations, sample collection and subsequent laboratory analysis for VOCs at a NATA accredited laboratory.

The sampling procedures utilised for the investigation are considered appropriate for the chemical constituents analysed. The field and laboratory QA / QC program indicates that the data obtained from the sampling and analysis can be considered appropriately accurate for the objectives of the assessment – that is, the results of the investigation are considered reliable to assist in the preparation of a human health risk assessment for the site, specifically soil vapour conditions beneath the Locomotive Workshop.

8. Recommendations

It is recommended that the data is included in the human health risk assessment in accordance with the QA/QC discussion provided in this report.

Should you require clarification, please contact the undersigned on 02 8245 0300 or by email ncussen@jbsg.com.au.

Yours sincerely:



Nathan Cussen
Senior Consultant
JBS&G Australia Pty Ltd

Reviewed/Approved by:



Andrew Lau
Principal, Contaminated Land
JBS&G Australia Pty Ltd

Attachments:

- 1) Limitations
- 2) Figures
- 3) Table A: Summary of Analytical Results
- 4) Field Data Sheets
- 5) Laboratory Certificates of Analysis
- 6) Tabulated QA/QC Data

Attachment 1 – Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

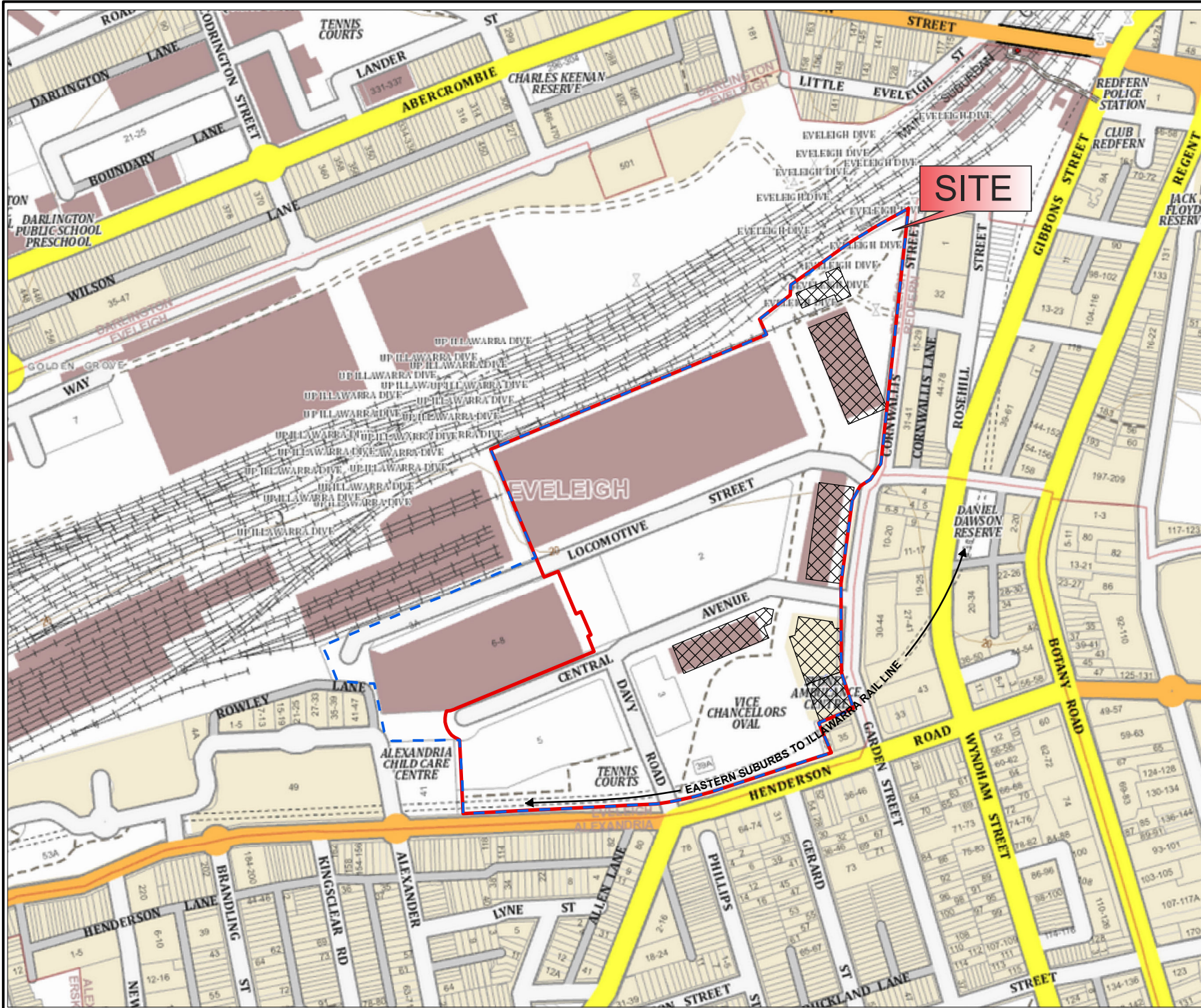
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Attachment 2 – Figures



Legend:

- Approximate Boundary - ATP Precinct
- Approximate Boundary - The Site
- Existing Building Footprint Excluded from "The Site"



Job No: 51142

Client: Mirvac

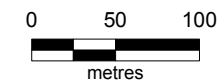
Version: L06 Rev 0

Date: 25-May-2016

Drawn By: SE

Checked By: NC

Scale 1:4,500



Coor. Sys. GDA 1994 MGA Zone 56

**Australia Technology Park
Eveleigh, NSW**

SITE LOCATION

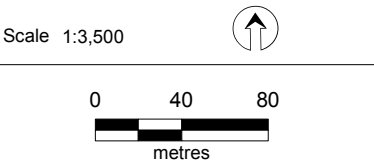
FIGURE 1:



- Legend:**
- Approximate Boundary - ATP Site
 - Approximate Boundary - The Site
 - Cadastral Boundaries
 - Existing Building Footprint Excluded from "The Site"
 - UST (Inferred Historical Location)



Job No: 51142	
Client: Mirvac	
Version: L06 Rev 0	Date: 25-May-2016
Drawn By: SE	Checked By: NC



Coor. Sys. GDA 1994 MGA Zone 56

**Australia Technology Park
Eveleigh, NSW**

SITE LAYOUT

FIGURE 2: