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A subsidiary of The Gribbles Group

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CERTIFICATE OF ANALYSIS

Contents :

Report No.	:	4E1497
Attention	:	David Stone
Client	:	Patterson Britton & Partners Pty Ltd
	:	PO Box 515
	:	NORTH SYDNEY
Samples	:	17
Reference/Order	:	4467/4142-05
Project	:	5194/4903-01 WARRIEWOOD
Received Samples	:	18/08/04
Instructions	:	18/08/04
Date Reported	:	26/08/04

PLEASE SEE FOLLOWING PAGES FOR METHOD LISTING AND RESULTS

RESULTS

All samples were analysed as received. This report relates specifically to the samples as received. Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued. Note that for methods indicated with "#", NATA accreditation does not cover the performance of this service. Three significant figures (or 2 for < 10PQL) are reported for statistical purposes only. Where "Total" concentrations are reported for organic suites of compounds this is the summation of the individual compounds and the PQL is noted for reporting purposes only. This report has been authorized by the NATA signatories listed in the method descriptions section on the following page.

James McMahon B.Sc.,Ph.D. (Chem.)
Manager - Environmental

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Report No. : 4E1497

Please note: Where samples are collected/submitted over several days, the date on which the last samples were analysed or extracted is reported.
Unless Ferrous Iron is determined on site, the possibility of a ferrous-ferric ratio change may occur.

Method	Description	Extracted	Analysed	Authorised	
E2570	Total Nitrogen	26/08/04	26/08/04	PKE	101
E2550	Nitrate-N	19/08/04	19/08/04	PKE	101
E2560	Nitrite-N	19/08/04	19/08/04	PKE	101
E2770	TKN	24/08/04	24/08/04	PKE	101
E2330	Ammonia as N	19/08/04	19/08/04	PKE	101
E2640	Phosphorus-Total	24/08/04	24/08/04	PKE	101
E2630	Dissolved Phosphorus	23/08/04	23/08/04	PKE	101
E2670	Suspended Solids	20/08/04	20/08/04	PKE	101
E2640R	Phosphorus-Total (Filtered RESIDUE)	24/08/04	24/08/04	PKE	101

NATA Signatory

Initials	Name	Sections/Methods
MCM	James McMahon	093, 094, 095, 101
MNG	Minh Nguyen	094, 095
MFA	Mark Fahmy	094, 095
LHA	Ly Kim Ha	094, 095
DJA	Dilanthi Jayamanne	094
GTO	Greg Towers	094
GPE	Geoff Peterson	095
DLU	Darrel Luck	093
NBL	Nina Blake	093
SHO	Steve Hopkins	093
JHO	Justin Hopghton	093
MAV	Merrin Avery	101
DBL	Dianne Blane	101
NCO	Nathan Cooper	101
AGR	Alison Graham	101
PKE	Peter Keyte	101

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Job Number : 4E1497

Client : Patterson Britton & Partners Pty Ltd

Reference : 4467/4142-05

Project : 5194/4903-01 WARRIEWOOD

Analyte	Lab No	E133857	E133858			
	Sample Id	WS303US	WS303DS			
	PQL					
Total Nitrogen	0.1	1.0	1.6			
E2550 Nitrate as N in Water						
Nitrate as N	0.01	0.40	0.82			
E2560 Nitrite as N in Water						
Nitrite as N	0.01	0.02	0.02			
E2770 Kjeldahl Nitrogen in Water						
Kjeldahl Nitrogen	0.1	0.6	0.9			
E2330 Ammonia as N in Water						
Ammonia as N	0.01	0.02	0.04			
E2640 Total Phosphorus in Water						
Phosphorus	0.02	0.15	0.29			
E2630 Dissolved Phosphorus in Water						
Dissolved Phosphorus	0.01	0.04	0.13			
E2670 Suspended Solids in Water						
Suspended Solids	1	50	83			
E2640 Total Phosphorus in filtered water						
Phosphorus	0.1	nd	0.2			

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = < PQL
-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Refer to Amdel standard laboratory qualifier codes for comments.

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AMDEL INTERNAL QUALITY ASSURANCE REVIEW.

Job No. 4E1497

General

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spikes, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results are available upon request.
3. PQLs are matrix dependent and are increased accordingly where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spike or surrogate recoveries.
5. Where 3 and 2 significant figures are reported for >10x PQL and <10x PQL respectively, the last figure is uncertain and is provided for statistical purposes only.
6. Samples duplicated or spiked are from this job only and are identified in the following QA/QC report.
7. SVOC analyses on waters are performed on homogenized, unfiltered samples, unless noted otherwise.

Maximum Holding Times for Soils, Sediments and Waters

Parameter	Holding Times
Soils	
Volatile and Semi-Volatile Organic Analysis.	Extracted in 14 days, analysed within 40 days.
Metals	Extracted and analysed within 28 days-6 months.
Inorganics*	Extracted and analysed within 7-28 days.
TCLPs*	Extracted and analysed within 14 days, (Zero Headspace-TCLP 7 days).
Waters	
Volatile Organic Analysis	Analysed within 7 days (USEPA requires 14 days).
Semi-Volatile Organic Analysis	Extracted in 7 days, analysed within 40 days.
Inorganics*	Analysed within 24 hrs-28 days.
Metals (dissolved metals should be supplied field filtered)	Prepared and analysed within 28 days.

* Please refer to 'Preservation Information Chart for Soils, Sediments & Waters' for further information. (ISFORM.098). Holding times may be extended with the use of preservation bottles and/or freezing samples. Holding times can be calculated from dates reported in the body of the report. Tests clearly exceeding holding times will be noted when sufficient information is provided.
Reference: USEPA SW846 and AMDEL SPM-01 (incorporating NEPM Guidelines).

Chain of Custody and Sample Integrity	Yes/NO/NA
Chain of Custody / instructions received with samples	Yes
Custody seals were received intact, if used	NA
Samples were received chilled and in good condition	Yes
Samples received appropriately preserved for all tests	Yes
VOC/SVOC samples were received in teflon lined containers	NA
Samples received with Zero Headspace	NA
Chain of Custody completed and attached (if applicable)	Yes
Chromatography Calibration/Acceptence Criteria (if applicable)	
Retention time window meets acceptance criteria (+/-2%)	NA
Reference standard meets acceptance criteria (+/-10%)	NA
Recalibration standard meets acceptance criteria (+/-15%)	NA
Internal standard recovery acceptable.	NA

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AMDEL INTERNAL QUALITY ASSURANCE REVIEW Cont..

Amdel QA/QC Compliance Assessment

	Compliance
Surrogates performed on all appropriate GC analyses and meet acceptance limits (70% - 130% recovery*).	Please see body of report
Matrix Spikes performed once per process batch and at least 1 in 20 samples (Results meet acceptance limits - 70% - 130% recovery* or 80% - 120% recovery* for inorganics in water.)	Please see body of report
Laboratory Control samples performed once per process batch and at least 1 in 20 samples (Results meet acceptance limits - 70% - 130% recovery* in soil or 70%-130%/90-110% recovery* for waters.)	NA
Laboratory Duplicate samples performed once per process batch and at least 1 in 10 samples	Yes
Laboratory duplicates meet acceptance criteria < 4 PQL - +/- 2 PQL 4-10 PQL - 25-50 or 50% RPD > 10 PQL - 10-30 or 30% RPD	Please see body of report
Method Blanks performed once per process batch and at least 1 in 20 samples (Results not detected at the PQL).	NA

N/A = Not Applicable.

* Phenols 50% - 130% recovery
* SVOCs 60% - 130% recovery
* Phenoxy Acid Herbicides 60% - 140% recovery

QA/QC Appendix

Please refer to the following pages for the QA/QC data.
For further information on samples or non-conformance in QC protocols please see notations in the body of the report plus comments on the following page.

Additional Comments

James McMahon B.Sc.,Ph.D. (Chem.)
Manager - Environmental

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AMDEL STANDARD LABORATORY QUALIFIER CODES.

Job NO. 4E1497

Qualifier Codes	Description
*	PQLs are raised due to matrix interference.
@	PQLs are raised due to insufficient sample provided for analysis.
$	The mass imbalance indicates the presence of other ions not measured as part of this procedure.
nd	< PQL
--	Not applicable
LNR	The sample was listed on the COC, but not received.
IS	Insufficient sample was supplied to conduct this analysis.
AN	The analysis indicates the presences of an analyte that has been 'tentatively' identified, and the associated numerical value represents it's approximate concentration.
A	Sample results are reported on an 'as received' basis (not moisture corrected).
B	The sample was not received in a suitable timeframe to allow completion within the recommended holding time.
C	This sample was received with headspace.
D	This sample was received with the incorrect preservation for this analysis.
E	The raw data indicates the absence of 0.055g of Copper Sulphate in the sample.
F	This sample contained significant amounts of solids and was therefore analysed by settling and decanting the aqueous phase to avoid including the solid in the analysis portion.
G	This test was performed outside the recommended holding time.
H	This sample contained significant material > 5mm which was removed prior to analysis.
ISD	Insufficient sample was supplied to conduct duplicate analyses.
ISM	Insufficient sample was supplied to conduct matrix spike analyses.
W	The spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
J	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity as the cause.
K	The matrix spike concentration is less than five times the background concentration in the sample, and therfore the spike recovery can not be determined.
L	The surrogate recovery is outside of the recommended acceptance criteria, due to matrix interference.
M	The surrogate recovery is outside of the recommended acceptance criteria. Insufficent sample remains to perform re-analysis.
N	Results are expressed in mg/L (ppm) due to the high concentration of the analyte.
O	The results reported are 'recoverable organics' for this fraction, as the chromatogram and peak shape indicates the presence of a significant concentration of polar compounds.
P	The concentration reported is mainly due to a single peak.
Q	This samples contains volatile halogenated oxygenated or other compounds that are included and quantitated as part of TPH C6-9.
R	Theoretically the total result should be greater or equal to the dissolved concentration. However the difference reported is within the uncertainty of the individual tests.
S	The mass imbalance was equal to or less than 0.2 milli-equivalents.
T	During Kjeldahl digestion, nitrate (> 10mg/L) can oxidise ammonia resulting in a negative TKN interference, which may have occurred for this sample.
U	Theoretically the TKN result should be greater or equal to ammonia concentration. However the difference reported is within the uncertainty of the individual tests.
V	This sample contained significant amounts of sediment which was included in the analysis portion as requested.
SUR	Surrogate recoveries could not be determined due to the dilution required to quantify the analyte.

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Job Number : 4E1497

QAQC : Laboratory Control Sample(s)

Analyte	Level	Level Detected			Recovery Details		
		Result1	Result2	Result3	Rec 1 (%)	Rec 2 (%)	Rec 3 (%)
E2550 Nitrate as N in Water							
Nitrate as N	1.0	1.02			102%		
E2560 Nitrite as N in Water							
Nitrite as N	1.0	1.04			104%		
E2770 Kjeldahl Nitrogen in Water							
Kjeldahl Nitrogen	1.0	0.8			84%		
E2330 Ammonia as N in Water							
Ammonia as N	1.0	1.00			101%		
E2640 Total Phosphorus in Water							
Phosphorus	0.4	0.39			97%		
E2630 Dissolved Phosphorus in Water							
Dissolved Phosphorus	1.0	1.03			103%		
E2670 Suspended Solids in Water							
Suspended Solids	75	70			93%		
E2640 Total Phosphorus in filtered water							
Phosphorus	0.4	0.4			103%		

PQL = Practical Quantitation Limit
-- = Not Applicable
nd = < PQL

(S) Soils : mg/kg (ppm) dry weight
(W) Waters : mg/L (ppm) unless otherwise specified

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Job Number : 4E1497

QAQC : Laboratory Duplicate(s)

Analyte	Dupl A	Dupl B	Average	RPD (%)	Dupl A	Dupl B	Average	RPD (%)
E2550 Nitrate as N in Water (E133842)								
Nitrate as N	0.46	0.46	0.46	0%				
E2560 Nitrite as N in Water (E133842)								
Nitrite as N	0.01	0.01	0.01	0%				
E2770 Kjeldahl Nitrogen in Water (E133842)								
Kjeldahl Nitrogen	0.9	1.0	1.0	10%				
E2330 Ammonia as N in Water (E133842)								
Ammonia as N	nd	nd						
E2640 Total Phosphorus in Water (E133842)								
Phosphorus	0.32	0.40	0.36	22%				
E2630 Dissolved Phosphorus in Water (E133842,E133843)								
Dissolved Phosphorus	0.18	0.18	0.18	0%	0.16	0.16	0.16	0%
E2640 Total Phosphorus in filtered water (E133843)								
Phosphorus	0.2	0.2	0.2	0%				

PQL = Practical Quantitation Limit
nd = <PQL
-- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
(W) Waters : mg/L (ppm) unless otherwise specified

The number in brackets after the method header identifies the sample tested.

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Job Number : 4E1497

QAQC : Method Blank(s)

ANALYTE	Sample ID PQL	Blank1	Blank2	Blank3	Blank4	Blank5
E2550 Nitrate as N in Water						
Nitrate as N	0.01	nd				
E2560 Nitrite as N in Water						
Nitrite as N	0.01	nd				
E2770 Kjeldahl Nitrogen in Water						
Kjeldahl Nitrogen	0.1	nd				
E2330 Ammonia as N in Water						
Ammonia as N	0.01	nd				
E2640 Total Phosphorus in Water						
Phosphorus	0.02	nd				
E2630 Dissolved Phosphorus in Water						
Dissolved Phosphorus	0.01	nd				
E2670 Suspended Solids in Water						
Suspended Solids	1	nd				
E2640 Total Phosphorus in filtered water						
Phosphorus	0.1	nd				

PQL = Practical Quantitation Limit
nd = < PQL
-- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
(W) Waters : mg/L (ppm) unless otherwise specified

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SILLIKER MICROTECH

Attention: Ms Julie Edman

AMDEL LIMITED
99 Mitchell Road
CARDIFF NSW 2285

Fax To: (02) 4902 4899

CERTIFICATE OF ANALYSIS

Report No: S 04040689 cmo **Report Date:** 23 August 2004

Date Received: 19 August 2004 **Date Tested:** 19 August 2004

Standing Order: S024507 **Arrival Temp:** 5°C

RESULTS

Sample Description **Order No.**

Water Samples – 18/08/04 4E1497

Sample Description	Thermotolerant Coliforms per 100ml M85
WS: 802US	490
WS: 802DS	2,600
WS: 802IS	880
WS: 8021S2	200
WS: P15US	6,900
WS: P15DS	2,600
WS: P15IS	1,500
WS: P15WQ CP 1 IN	1,500
WS: P15WQ CP1 Out	1,000
WS: P15WQ CP 2 IN	1,900
WS: P15WQ CP2 Out	3,500
WS: 1233DS	750
WS: 1233NB In	160

SILLIKER MICROTECH PTY LTD
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SILLIKER MICROTECH

Attention: Ms Julie Edman
AMDEL LIMITED (Results Con't)

Sample Description	Thermotolerant Coliforms per 100ml M85
~~WS: 1233NB Out~~	1,100
~~WS: 1233SB In~~	380
WS: 303US	1,900
WS: 303DS	1,900

MARGARET BOLLIGER BSc,MASM,MAIFST
CONSULTANT MICROBIOLOGIST

NATA accredited Laboratory Number 2766 and/or 2142. This Laboratory is accredited by the National Association of Testing Authorities, Australia. The test(s) reported herein have been performed in accordance with its scope of accreditation. This document shall not be reproduced except in full.

The data pertains solely to the analytical and sampling procedure(s) used and the condition and homogeneity of the sample(s) as received. The data therefore may not be representative of the lot or batch or other samples. Consequently the data may not necessarily justify the acceptance or rejection of a lot or batch, a product recall or support legal proceedings. It is the responsibility of the client to provide all information relevant to the analysis requested. This report does not imply that Silliker Microtech Pty Ltd has been engaged to consult upon the consequences of the analysis and for any action that should be taken as a result of the analysis.

TGA Licence No: 152612

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Patterson Britton & Partners Pty Ltd

consulting engineers

FORM No. 6,004.1 (DEC 1992)

job number 4467/4142-05 5944/4903-01

job title Warriewood.

sheet number 1 of 1

prepared by DS chk'd

date 18/8/04

Your Ref: Q020121.66

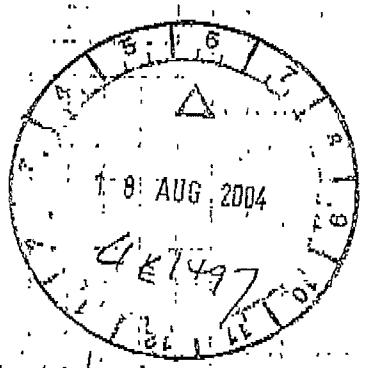
To Amdel,

Please test the following samples:

~~WS802US~~
~~WS802DS~~
~~WS802IS~~
~~WS802IS2~~

WSPISOS
~~WSPISDS~~
WSPISIS
WSPISWQCP1IN
~~WSPISWQCP1OUT~~
~~WSPISWQCP2IN~~
WSPISWQCP2OUT

~~WS123OS~~
~~WS123NBIN~~
~~WS123NBOUT~~
~~WS123SBIN~~
~~WS123SBOUT~~



not received by

WS303US
WS303DS

Test all samples for:

Total-N, TKN, Ammonia-N.
Nitrates + Nitrites
Total-P, ortho-P, non-filterable-P
Faecal coliforms
Suspended Solids

Regards

David Stone (99571619) davids@pbpart.com.au

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ANALYTICAL SERVICES DIVISION
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CERTIFICATE OF ANALYSIS

Contents :
1. Cover Pages (2)
2. Analysis Report Pages
3. QA/QC Appendix
4. Additional Reports - External (if applicable)
5. Chain of Custody (if applicable)

Report No.	:	4E1940
Attention	:	David Stone
Client	:	Patterson Britton & Partners Pty Ltd
	:	PO Box 515
	:	NORTH SYDNEY
Samples	:	9
Reference/Order	:	4142-05/4903/5194
Project	:	WARRIEWOOD
Received Samples	:	19/10/04
Instructions	:	19/10/04
Date Reported	:	28/10/04

PLEASE SEE FOLLOWING PAGES FOR METHOD LISTING AND RESULTS

RESULTS

All samples were analysed as received. This report relates specifically to the samples as received. Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued. Note that for methods indicated with "#", NATA accreditation does not cover the performance of this service. Three significant figures (or 2 for < 10PQL) are reported for statistical purposes only. Where "Total" concentrations are reported for organic suites of compounds this is the summation of the individual compounds and the PQL is noted for reporting purposes only. This report has been authorized by the NATA signatories listed in the method descriptions section on the following page.

James McMahon B.Sc.,Ph.D. (Chem.)
Manager - Environmental

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Report No. : 4E1940

Please note: Where samples are collected/submitted over several days, the date on which the last samples were analysed or extracted is reported.
Unless Ferrous Iron is determined on site, the possibility of a ferrous-ferric ratio change may occur.

Method	Description	Extracted	Analysed	Authorised
E2670	Suspended Solids	22/10/04	22/10/04	DBL 101
E2570	Total Nitrogen	26/10/04	26/10/04	DBL 101
E2550	Nitrate-N	22/10/04	22/10/04	DBL 101
E2560	Nitrite-N	22/10/04	22/10/04	DBL 101
E2770	TKN	25/10/04	25/10/04	DBL 101
E2330	Ammonia as N	22/10/04	22/10/04	DBL 101
E4970	Total Metals by ICP-MS	25/10/04	25/10/04	DLU 093
E49501	Mercury low level	26/10/04	26/10/04	DLU 093
E2640	Phosphorus-Total	25/10/04	25/10/04	DBL 101
E2630	Dissolved Phosphorus	21/10/04	21/10/04	DBL 101
E2635	Non-Filterable Phosphorus	26/10/04	26/10/04	DBL 101
E2530	Total Hardness	22/10/04	22/10/04	DLU 093
E0140	Phenols by GC/MS	20/10/04	26/10/04	LHA 095
E0080	Organochlorine Pesticides	21/10/04	22/10/04	LHA 095
E0090	Organophosphorus Pesticides	21/10/04	22/10/04	LHA 095
E2523	Grease & Oil (Gravimetric)	21/10/04	21/10/04	DBL 101
E0110	Polycyclic Aromatic Hydrocarbons	21/10/04	22/10/04	LHA 095
E2395	Chlorophyll-a	20/10/04	20/10/04	DBL 101

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NATA Signatory

Initials	Name	Sections/Methods
MCM	James McMahon	093, 094, 095, 101
MNG	Minh Nguyen	094, 095
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SHO	Steve Hopkins	093
JHO	Justin Hopghton	093
MAV	Merrin Avery	101
DBL	Dianne Blane	101
NCO	Nathan Cooper	101
AGR	Alison Graham	101
PKE	Peter Keyte	101

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Job Number : 4E1940
Client : Patterson Britton & Partners Pty Ltd
Reference : 4142-05/4903/5194
Project : WARRIEWOOD

Analyte	Lab No	E149497	E149498	E149499	E149500	
		WS803IS	WS803IS2	WS304US	WS304DS	
	Sample Id	18.10.04	18.10.04	18.10.04	18.10.04	
	PQL					
E2670 Suspended Solids in Water						
Suspended Solids	1	32	100	32	54	
Total Nitrogen	0.1	1.0	0.6	0.5	0.8	
E2550 Nitrate as N in Water						
Nitrate as N	0.01	0.19	0.07	0.14	0.41	
E2560 Nitrite as N in Water						
Nitrite as N	0.01	0.01	0.01	0.01	0.02	
E2770 Kjeldahl Nitrogen in Water						
Kjeldahl Nitrogen	0.1	0.8	0.5	0.4	0.4	
E2330 Ammonia as N in Water						
Ammonia as N	0.01	0.02	0.03	0.03	0.05	
E2640 Total Phosphorus in Water						
Phosphorus	0.02	0.29	0.22	0.09	0.20	
E2630 Dissolved Phosphorus in Water						
Dissolved Phosphorus	0.01	0.17	0.05	0.03	0.12	
E2635 Non-Filterable Phosphorus in Water						
Non-Filterable Phosphorus	0.01	0.11	0.16	0.06	0.08	

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = <PQL
-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Refer to Amdel standard laboratory qualifier codes for comments.

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Job Number : 4E1940
Client : Patterson Britton & Partners Pty Ltd
Reference : 4142-05/4903/5194
Project : WARRIEWOOD

Analyte	Lab No	E149497	E149498	E149499	E149500	
		WS803IS	WS803S2	WS304US	WS304DS	
	Sample Id	18.10.04	18.10.04	18.10.04	18.10.04	
	PQL					
E4970 Total Recoverable Metals in Waters						
Conducted under NATA accreditation 1645						
Arsenic	0.002	< 0.005	< 0.005	< 0.005	< 0.005	
Chromium	0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Copper	0.005	0.007	0.007	< 0.005	0.005	
Lead	0.002	< 0.005	0.006	< 0.005	< 0.005	
Zinc	0.01	0.03	0.03	0.03	0.05	
E49501 Total Recoverable Mercury in Water						
Mercury	0.00005	nd	nd	nd	nd	
E2530 Total Hardness						
Total Hardness as CaCO3	0.5	29	13	16	28	
E2523 Grease & Oil (Hexane)						
Grease & Oil	5	nd	nd	nd	nd	
E2395 Chlorophyll-a in Water						
Chlorophyll-a	0.005	nd	nd	nd	nd	

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = < PQL
-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Refer to Amdel standard laboratory qualifier codes for comments.

amdel

Job Number : 4E1940
Client : Patterson Britton & Partners Pty Ltd
Reference : 4142-05/4903/5194
Project : WARRIEWOOD

Analyte	Lab No	E149497	E149498	E149499	E149500	
		WS803IS	WS803IS2	WS304US	WS304DS	
	Sample Id	18.10.04	18.10.04	18.10.04	18.10.04	
	PQL					
E0140 Phenols By GC/MS In Water (ug/L)						
Phenol	5	nd	nd	nd	nd	
2-Chlorophenol	5	nd	nd	nd	nd	
2-Methylphenol	5	nd	nd	nd	nd	
3-Methylphenol & 4-Methylpheno	5	nd	nd	nd	nd	
2-Nitrophenol	5	nd	nd	nd	nd	
2.4-Dimethylphenol	5	nd	nd	nd	nd	
2.4-Dichlorophenol	5	nd	nd	nd	nd	
2.6-Dichlorophenol	5	nd	nd	nd	nd	
4-Chloro-3-methylphenol	5	nd	nd	nd	nd	
2.4.5-Trichlorophenol	5	nd	nd	nd	nd	
2.4.6-Trichlorophenol	5	nd	nd	nd	nd	
2.4-Dinitrophenol	50	nd	nd	nd	nd	
4-Nitrophenol	10	nd	nd	nd	nd	
2.3.4.6-Tetrachlorophenol	5	nd	nd	nd	nd	
4.6-Dinitro-2-methylphenol	20	nd	nd	nd	nd	
Pentachlorophenol	10	nd	nd	nd	nd	
4.6-Dinitro-2-sec-butylphenol	20	nd	nd	nd	nd	
2-Fluorophenol-SURROGATE	1	111%	108%	106%	103%	
Phenol-D6-SURROGATE	1	118%	107%	115%	110%	
2.4.6-Tribromophenol-SURROGATE	1	104%	52%	119%	115%	

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = < PQL
-- = Not Applicable

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Refer to Amdel standard laboratory qualifier codes for comments.

amdel

Job Number : 4E1940
Client : Patterson Britton & Partners Pty Ltd
Reference : 4142-05/4903/5194
Project : WARRIEWOOD

Analyte	Lab No	E149497	E149498	E149499	E149500	
		WS803IS	WS803IS2	WS304US	WS304DS	
	Sample Id	18.10.04	18.10.04	18.10.04	18.10.04	
	PQL					
E0080 OC Pesticides in Water (ug/L)						
HCB	1	nd	nd	nd	nd	
a-BHC	1	nd	nd	nd	nd	
g-BHC	1	nd	nd	nd	nd	
Heptachlor	1	nd	nd	nd	nd	
Aldrin	1	nd	nd	nd	nd	
b-BHC	1	nd	nd	nd	nd	
d-BHC	1	nd	nd	nd	nd	
Oxychlordane	1	nd	nd	nd	nd	
Heptachlor epoxide	1	nd	nd	nd	nd	
Endosulfan 1	1	nd	nd	nd	nd	
Chlordane-Trans	1	nd	nd	nd	nd	
Chlordane-Cis	1	nd	nd	nd	nd	
trans-Nonachlor	1	nd	nd	nd	nd	
DDE	1	nd	nd	nd	nd	
Dieldrin	1	nd	nd	nd	nd	
Endrin	1	nd	nd	nd	nd	
DDD	1	nd	nd	nd	nd	
Endosulfan 2	1	nd	nd	nd	nd	
DDT	1	nd	nd	nd	nd	
Endosulfan sulfate	1	nd	nd	nd	nd	
Methoxychlor	1	nd	nd	nd	nd	
2.4.5.6-TCMX-SURROGATE	1	78%	107%	97%	108%	

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nd = <PQL
-- = Not Applicable

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Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Refer to Amdel standard laboratory qualifier codes for comments.

amdel

Job Number : 4E1940
Client : Patterson Britton & Partners Pty Ltd
Reference : 4142-05/4903/5194
Project : WARRIEWOOD

Analyte	Lab No	E149497	E149498	E149499	E149500	
		WS803IS	WS803IS2	WS304US	WS304DS	
	Sample Id	18.10.04	18.10.04	18.10.04	18.10.04	
	PQL					
E0090 OP Pesticides in Water (ug/L)						
Dichlorvos	10	nd	nd	nd	nd	
Mevinphos	10	nd	nd	nd	nd	
Ethoprop	10	nd	nd	nd	nd	
Phorate	10	nd	nd	nd	nd	
Demeton-s-methyl	10	nd	nd	nd	nd	
Diazinon	10	nd	nd	nd	nd	
Disulfoton	10	nd	nd	nd	nd	
Ronnel	10	nd	nd	nd	nd	
Chlorpyrifos methyl	10	nd	nd	nd	nd	
Chlorpyrifos	10	nd	nd	nd	nd	
Merphos	10	nd	nd	nd	nd	
Parathion methyl	10	nd	nd	nd	nd	
Fenthion	10	nd	nd	nd	nd	
Malathion	10	nd	nd	nd	nd	
Fenitrothion	10	nd	nd	nd	nd	
Prothiofos	10	nd	nd	nd	nd	
Stirophos	10	nd	nd	nd	nd	
Ethion	10	nd	nd	nd	nd	
Bolstar	10	nd	nd	nd	nd	
Fensulfothion	10	nd	nd	nd	nd	
Azinphos methyl	10	nd	nd	nd	nd	
Coumaphos	10	nd	nd	nd	nd	
2-nitro-m-xylene-SURROGATE	1	85%	106%	105%	103%	

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-- = Not Applicable

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Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

Refer to Amdel standard laboratory qualifier codes for comments.

amdel

Job Number : 4E1940
Client : Patterson Britton & Partners Pty Ltd
Reference : 4142-05/4903/5194
Project : WARRIEWOOD

Analyte	Lab No	E149497	E149498	E149499	E149500	
		WS803S	WS803IS2	WS304US	WS304DS	
	Sample Id	18.10.04	18.10.04	18.10.04	18.10.04	
	PQL					
E0110 Priority PAH's in Water (ug/L)						
Naphthalene	1	nd	nd	nd	nd	
Acenaphthylene	1	nd	nd	nd	nd	
Acenaphthene	1	nd	nd	nd	nd	
Fluorene	1	nd	nd	nd	nd	
Phenanthrene	1	nd	nd	nd	nd	
Anthracene	1	nd	nd	nd	nd	
Fluoranthene	1	nd	nd	nd	nd	
Pyrene	1	nd	nd	nd	nd	
Benz(a)anthracene	1	nd	nd	nd	nd	
Chryene	1	nd	nd	nd	nd	
Benzo(b) & (k)fluoranthene	2	nd	nd	nd	nd	
Benzo(a)pyrene	1	nd	nd	nd	nd	
Indeno(1.2.3-cd)pyrene	1	nd	nd	nd	nd	
Dibenz(a.h)anthracene	1	nd	nd	nd	nd	
Benzo(g.h.i)perylene	1	nd	nd	nd	nd	
Total USEPA Priority PAHs	1	nd	nd	nd	nd	
2-Fluorobiphenyl-SURROGATE	1	71%	70%	72%	70%	
Anthracene-D10-SURROGATE	1	71%	83%	81%	84%	
p-Terphenyl-D14-SURROGATE	1	70%	85%	81%	83%	

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Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header

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AMDEL INTERNAL QUALITY ASSURANCE REVIEW.

Job No. 4E1940

General

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spikes, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results are available upon request.
3. PQLs are matrix dependent and are increased accordingly where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spike or surrogate recoveries.
5. Where 3 and 2 significant figures are reported for > 10x PQL and < 10x PQL respectively, the last figure is uncertain and is provided for statistical purposes only.
6. Samples duplicated or spiked are from this job only and are identified in the following QA/QC report.
7. SVOC analyses on waters are performed on homogenized, unfiltered samples, unless noted otherwise.

Maximum Holding Times for Soils, Sediments and Waters

Parameter	Holding Times
Soils	
Volatile and Semi-Volatile Organic Analysis.	Extracted in 14 days, analysed within 40 days.
Metals	Extracted and analysed within 28 days-6 months.
Inorganics*	Extracted and analysed within 7-28 days.
TCLPs*	Extracted and analysed within 14 days, (Zero Headspace-TCLP 7 days).
Waters	
Volatile Organic Analysis	Analysed within 7 days (USEPA requires 14 days).
Semi-Volatile Organic Analysis	Extracted in 7 days, analysed within 40 days.
Inorganics*	Analysed within 24 hrs-28 days.
Metals (dissolved metals should be supplied field filtered)	Prepared and analysed within 28 days.

* Please refer to 'Preservation Information Chart for Soils, Sediments & Waters' for further information. (ISFORM.098). Holding times may be extended with the use of preservation bottles and/or freezing samples. Holding times can be calculated from dates reported in the body of the report. Tests clearly exceeding holding times will be noted when sufficient information is provided.
Reference: USEPA SW846 and AMDEL SPM-01 (incorporating NEPM Guidelines).

Chain of Custody and Sample Integrity	Yes/NO/NA
Chain of Custody / instructions received with samples	Yes
Custody seals were received intact, if used	NA
Samples were received chilled and in good condition	Yes
Samples received appropriately preserved for all tests	Yes
VOC/SVOC samples were received in teflon lined containers	Yes
Samples received with Zero Headspace	Yes
Chain of Custody completed and attached (if applicable)	Yes
Chromatography Calibration/Acceptence Criteria (if applicable)	
Retention time window meets acceptance criteria (+/-2%)	Yes
Reference standard meets acceptance criteria (+/-10%)	Yes
Recalibration standard meets acceptance criteria (+/-15%)	Yes
Internal standard recovery acceptable.	Yes