

Certificate of Analysis

TRI-STAR PETROLEUM
Riverside Centre
Brisbane
QLD 4000



NATA Accredited
Accreditation Number 1261
Site Number 20794

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: PETA LAM
Report 413129-W
 Client Reference NEW CROWN 1
 Received Date Mar 26, 2014

Client Sample ID			M01911 M	M01795 M	M01825 M	M01721 M
Sample Matrix			Water	Water	Water	Water
Eurofins mgt Sample No.			B14-Ma22860	B14-Ma22861	B14-Ma22862	B14-Ma22863
Date Sampled			Not Provided	Not Provided	Not Provided	Not Provided
Test/Reference	LOR	Unit				
Cyanide (total)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Fluoride	0.5	mg/L	3.0	1.6	2.6	< 0.5
Nitrate (as N)	0.02	mg/L	0.13	0.03	< 0.02	< 0.02
Nitrite (as N)	0.02	mg/L	0.02	< 0.02	0.03	0.02
pH	0.1	units	8.1	7.4	8.2	8.1
Total Dissolved Solids	10	mg/L	6000	4400	4000	5600
Hardness mg equivalent CaCO3/L	5	mg/L	760	600	430	630
Alkali Metals						
Calcium	0.5	mg/L	180	150	77	130
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.002	0.003	0.002	0.002
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	0.007	0.006	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.002	< 0.001	< 0.001	0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Molybdenum (filtered)	0.005	mg/L	0.017	0.015	0.014	0.008
Nickel (filtered)	0.001	mg/L	0.005	0.003	0.010	0.013
Selenium (filtered)	0.001	mg/L	0.011	0.009	0.009	0.012
Silver (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Tin (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Zinc (filtered)	0.001	mg/L	0.028	0.002	0.006	0.010
Eurofins mgt Micro Suite 1						
Comments			M05	M05	M05	M05
E.coli	1	MPN/100mL	<10	10	<10	<10
Heterotrophic Colony Count (36°C)	1	cfu/mL	480000	1500000	41000	41000
Total Coliforms	-	MPN/100mL	41	>24000	<10	<10

Client Sample ID			M01 863 M	M01 882 M	M01 737 M	M01 773 M
Sample Matrix			Water	Water	Water	Water
Eurofins mgt Sample No.			B14-Ma22864	B14-Ma22865	B14-Ma22866	B14-Ma22867
Date Sampled			Not Provided	Not Provided	Not Provided	Not Provided
Test/Reference	LOR	Unit				
Cyanide (total)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Fluoride	0.5	mg/L	1.5	1.2	1.7	3.0
Nitrate (as N)	0.02	mg/L	< 0.02	< 0.02	0.15	< 0.02
Nitrite (as N)	0.02	mg/L	< 0.02	< 0.02	0.03	0.02
pH	0.1	units	8.1	8.0	7.9	8.0
Total Dissolved Solids	10	mg/L	5100	4800	4400	4100
Hardness mg equivalent CaCO3/L	5	mg/L	430	520	620	390
Alkali Metals						
Calcium	0.5	mg/L	78	100	150	67
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.001	0.001	0.002	0.002
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	0.001	0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Molybdenum (filtered)	0.005	mg/L	0.014	0.010	0.026	0.012
Nickel (filtered)	0.001	mg/L	0.004	0.011	0.006	0.004
Selenium (filtered)	0.001	mg/L	0.011	0.012	0.011	0.010
Silver (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Tin (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Zinc (filtered)	0.001	mg/L	0.002	0.003	0.003	0.005
Eurofins mgt Micro Suite 1						
Comments			M05	M05	M05	M05
E.coli	1	MPN/100mL	<10	<10	<10	<10
Heterotrophic Colony Count (36°C)	1	cfu/mL	14000	43000	37000	120000
Total Coliforms	-	MPN/100mL	<10	<10	10	<10

Client Sample ID			M01 756 M	M01 844 M
Sample Matrix			Water	Water
Eurofins mgt Sample No.			B14-Ma22868	B14-Ma22869
Date Sampled			Not Provided	Not Provided
Test/Reference	LOR	Unit		
Cyanide (total)	0.005	mg/L	< 0.005	< 0.005
Fluoride	0.5	mg/L	2.9	1.4
Nitrate (as N)	0.02	mg/L	< 0.02	< 0.02
Nitrite (as N)	0.02	mg/L	< 0.02	< 0.02
pH	0.1	units	8.0	8.1
Total Dissolved Solids	10	mg/L	3800	4100
Hardness mg equivalent CaCO3/L	5	mg/L	390	420
Alkali Metals				
Calcium	0.5	mg/L	67	73

Client Sample ID			M01 756 M	M01 844 M
Sample Matrix			Water	Water
Eurofins mgt Sample No.			B14-Ma22868	B14-Ma22869
Date Sampled			Not Provided	Not Provided
Test/Reference	LOR	Unit		
Heavy Metals				
Arsenic (filtered)	0.001	mg/L	0.002	0.002
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001
Molybdenum (filtered)	0.005	mg/L	0.010	0.009
Nickel (filtered)	0.001	mg/L	0.001	0.008
Selenium (filtered)	0.001	mg/L	0.008	0.009
Silver (filtered)	0.005	mg/L	< 0.005	< 0.005
Tin (filtered)	0.005	mg/L	< 0.005	< 0.005
Zinc (filtered)	0.001	mg/L	0.002	0.004
Eurofins mgt Micro Suite 1				
Comments			M05	M05
E.coli	1	MPN/100mL	<10	<10
Heterotrophic Colony Count (36°C)	1	cfu/mL	8000	20000
Total Coliforms	-	MPN/100mL	<10	<10

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
Cyanide (total) - Method: USEPA 9010 Cyanide	Melbourne	Mar 28, 2014	14 Day
Fluoride - Method: LM-LTM-INO-4300 (Fluoride by Ion Chromatography)	Melbourne	Mar 28, 2014	28 Day
Nitrate (as N) - Method: APHA 4500-NO3 Nitrate Nitrogen by FIA	Melbourne	Mar 27, 2014	2 Day
Nitrite (as N) - Method: APHA 4500-NO2 Nitrite Nitrogen by FIA	Melbourne	Mar 27, 2014	2 Day
pH - Method: APHA 4500 pH by Direct Measurement - ** Samples analysed outside holding time. Analysis should be performed in situ. Results for reference only.	Melbourne	Mar 28, 2014	0 Hours
Total Dissolved Solids - Method: APHA 2540C Total Dissolved Solids	Melbourne	Mar 31, 2014	7 Day
Hardness mg equivalent CaCO3/L - Method: APHA 2340B Hardness by Calculation	Melbourne	Mar 26, 2014	28 Day
Alkali Metals - Method: USEPA 6010 Alkali Metals	Melbourne	Mar 26, 2014	180 Day
IWRG 621 Metals : Metals M12 filtered - Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury	Melbourne	Mar 26, 2014	28 Day
Eurofins mgt Micro Suite 1 - Method: 6631: Heterotrophic Colony Count - Pour Plate 36 degrees 44 hours - Method: 6621: Total Coliforms by MPN - Method: 6621: E.Coli by MPN	Melbourne	Mar 27, 2014	24 Hour

Company Name: TRI-STAR PETROLEUM Address: Riverside Centre Brisbane QLD 4000 Client Job No.: NEW CROWN 1	Order No.: Report #: 413129 Phone: 07 3236 9800 Fax: 07 3221 2146	Received: Mar 26, 2014 3:00 AM Due: Apr 2, 2014 Priority: 5 Day Contact Name: PETA LAM
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Eurofins | mgt Client Manager: Sarah Gould

Sample Detail					Vic EPA Drinking Water Screen
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					X
Sydney Laboratory - NATA Site # 18217					
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
911 M	Not Provided		Water	B14-Ma22860	X
795 M	Not Provided		Water	B14-Ma22861	X
825 M	Not Provided		Water	B14-Ma22862	X
721 M	Not Provided		Water	B14-Ma22863	X
863 M	Not Provided		Water	B14-Ma22864	X
882 M	Not Provided		Water	B14-Ma22865	X
737 M	Not Provided		Water	B14-Ma22866	X
773 M	Not Provided		Water	B14-Ma22867	X
756 M	Not Provided		Water	B14-Ma22868	X
844 M	Not Provided		Water	B14-Ma22869	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

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

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance 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								
Cyanide (total)	mg/L	< 0.005			0.005	Pass		
Fluoride	mg/L	< 0.5			0.5	Pass		
Nitrate (as N)	mg/L	< 0.02			0.02	Pass		
Nitrite (as N)	mg/L	< 0.02			0.02	Pass		
Total Dissolved Solids	mg/L	< 10			10	Pass		
Method Blank								
Alkali Metals								
Calcium	mg/L	< 0.5			0.5	Pass		
Method Blank								
Heavy Metals								
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass		
Cadmium (filtered)	mg/L	< 0.0002			0.0002	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		
Molybdenum (filtered)	mg/L	< 0.005			0.005	Pass		
Nickel (filtered)	mg/L	< 0.001			0.001	Pass		
Selenium (filtered)	mg/L	< 0.001			0.001	Pass		
Silver (filtered)	mg/L	< 0.005			0.005	Pass		
Tin (filtered)	mg/L	< 0.005			0.005	Pass		
Zinc (filtered)	mg/L	< 0.001			0.001	Pass		
LCS - % Recovery								
Cyanide (total)	%	96			70-130	Pass		
Fluoride	%	115			70-130	Pass		
Nitrate (as N)	%	106			70-130	Pass		
Nitrite (as N)	%	100			70-130	Pass		
LCS - % Recovery								
Alkali Metals								
Calcium	%	90			70-130	Pass		
LCS - % Recovery								
Heavy Metals								
Arsenic (filtered)	%	113			80-120	Pass		
Cadmium (filtered)	%	96			80-120	Pass		
Chromium (filtered)	%	103			80-120	Pass		
Copper (filtered)	%	109			80-120	Pass		
Lead (filtered)	%	106			80-120	Pass		
Mercury (filtered)	%	84			70-130	Pass		
Molybdenum (filtered)	%	114			80-120	Pass		
Nickel (filtered)	%	109			80-120	Pass		
Selenium (filtered)	%	109			80-120	Pass		
Silver (filtered)	%	88			80-120	Pass		
Tin (filtered)	%	91			80-120	Pass		
Zinc (filtered)	%	106			80-120	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
				Result 1				
Cyanide (total)	B14-Ma22860	CP	%	71		70-130	Pass	
Nitrate (as N)	M14-Ma23248	NCP	%	111		70-130	Pass	
Nitrite (as N)	M14-Ma23248	NCP	%	101		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Copper (filtered)	M14-Ma24065	NCP	%	88			70-130	Pass	
Mercury (filtered)	M14-Ma22858	NCP	%	76			70-130	Pass	
Nickel (filtered)	M14-Ma24665	NCP	%	75			70-130	Pass	
Zinc (filtered)	M14-Ma24665	NCP	%	86			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	B14-Ma22863	CP	%	89			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	B14-Ma22863	CP	%	90			70-130	Pass	
Cadmium (filtered)	B14-Ma22863	CP	%	92			70-130	Pass	
Chromium (filtered)	B14-Ma22863	CP	%	100			70-130	Pass	
Lead (filtered)	B14-Ma22863	CP	%	75			70-130	Pass	
Molybdenum (filtered)	B14-Ma22863	CP	%	124			75-125	Pass	
Selenium (filtered)	B14-Ma22863	CP	%	78			70-130	Pass	
Silver (filtered)	B14-Ma22863	CP	%	76			75-125	Pass	
Tin (filtered)	B14-Ma22863	CP	%	106			75-125	Pass	
Spike - % Recovery									
Fluoride	B14-Ma22869	CP	%	104			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	B14-Ma22860	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nitrate (as N)	M14-Ma23248	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Nitrite (as N)	M14-Ma23248	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Total Dissolved Solids	M14-Ma21792	NCP	mg/L	3200	3300	4.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Mercury (filtered)	M14-Ma22858	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Hardness mg equivalent CaCO ₃ /L	B14-Ma22863	CP	mg/L	630	640	1.0	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	B14-Ma22863	CP	mg/L	130	130	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	B14-Ma22863	CP	mg/L	0.002	0.002	24	30%	Pass	
Cadmium (filtered)	B14-Ma22863	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	B14-Ma22863	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	B14-Ma22863	CP	mg/L	0.001	0.001	8.0	30%	Pass	
Lead (filtered)	B14-Ma22863	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Molybdenum (filtered)	B14-Ma22863	CP	mg/L	0.008	0.008	3.0	30%	Pass	
Nickel (filtered)	B14-Ma22863	CP	mg/L	0.013	0.013	1.0	30%	Pass	
Selenium (filtered)	B14-Ma22863	CP	mg/L	0.012	0.014	16	30%	Pass	
Silver (filtered)	B14-Ma22863	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Tin (filtered)	B14-Ma22863	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Zinc (filtered)	B14-Ma22863	CP	mg/L	0.010	0.008	24	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	B14-Ma22869	CP	mg/L	1.4	1.3	7.0	30%	Pass	

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
M01	Microbiological Testing performed outside the recommended holding time
M05	Sample submitted in non-sterile bottle

Authorised By

Sarah Gould	Client Services
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)
Niloufer Lobo	Senior Analyst-Microbiology (VIC)


Glenn Jackson
Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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