Groundwater Monitoring Event Annual Review

One Rail Australia

BERRIMAH FREIGHT RAIL TERMINAL DIESEL SPILL

Appendix D: NATA Laboratory Certificates

DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client :	ORA	Date :	6/05/2021
Project :	ORA Diesel Spill	Sampled by :	Varun Bhagwat
Project Manager :	Dylan Byford	Sampler Mobile :	0428 829 444
Job No. :	J168829	Purchase Order :	PO286675
Location :	Berrimah Freight Terminal	T/Around	***STANDARD TAT***
Please email results to:	Dylan.Byford@greencap.com.au		Varun.Bhagwat@greencap.com.au

Relinquished by: VB 30/4/21 & 5/5/21	Recieved by: *Signature & date*	Relinquished by: *Signature & date*	Received by: *Signature & date*

Field ID	Depth	Sampled	Matrix *(Soil, Water, Vapour, etc)*	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	500ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	B16A : Natural Attenuation Suite #A : SO4, CH4, NO3, Fe2+	Manganese	Alkalinity					BTEX		Hold
MW02		30/04/2021	W		2	1	1	1	1	1			X	X	X	X							
MW05		30/04/2021	W		2	1	1	1	1	1			X	X	X	X							
MW06		30/04/2021	W		2	1	1	1	1	1			X	X	X	X							
MW01A		5/05/2021	W		2	1	1	1	1	1			X	X	X	X							
MW03		5/05/2021	W		2	1	1	1	1	1			X	X	X	X							
MW04		5/05/2021	W		2	1	1	1	1	1			X	X	X	X							
MW07		5/05/2021	W		2	1	1	1	1	1			X	X	X	X							
MW08		5/05/2021	W		2	1	1	1	1	1			X	X	X	X							
QC01		5/05/2021	W		2	1	1	1	1	1			X	X	X	X							
RB01		30/04/2021	W		2	1							X										
TB01		30/04/2021	W		2																		
RB01		5/05/2021	W		2	1							X								X		
TB01		5/05/2021	W		2																X		
Totals				0	26	11	9	9	9	9	0	0	11	9	9	9	0	0	0	0	0	2	0	0

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J168829 - COC with Testing

Varun Bhagwat <Varun.Bhagwat@greencap.com.au>

Thu 6/05/2021 1:09 PM

To: Michael Morrison <MichaelMorrison@eurofins.com>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; #AU09_EnviroSampleDRW <EnviroSampleDRW@eurofins.com>; Dylan Burford <Dylan.Burford@greencap.com.au>

1 attachments (15 KB)
J168829 - EF COC GME with Testing.pdf;

Hi Michael,

Attached is the COC with testing for groundwater samples collected on 30/4/2021 and 5/5/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point on 30/4/2021 and 5/5/21.

Can I please request you to rename the samples 'RB01' and 'TB01' collected on 5/5/21 to 'RB02' and 'TB02' respectively.

Please let me know if you have any questions.

Thank you.

Cheers,

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820

M: 0428 829 444 | **E:** Varun.Bhagwat@greencap.com.au | **in:** LinkedIn

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Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP
Clarity, Further in Managing Risk

Client	:	ORA	Date	:	30/04/2021
Project	:	ORA Diesel Spill	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Byford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	TBA
Location	:	Berrimah Freight Terminal	T/Around		***STANDARD TAT***
Please email results to:		Dylan.Byford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 30/4/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (*Soil, Water, Vapour, etc*)	Sample Containers									Testing											
				250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	500ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	B1 : TRH, BTEXN	B16A : Natural Attenuation Suite #A : SO4, CH4, NO3, Fe2+	Manganese	Alkalinity					BTEX		Hold
MW02		30/04/2021	W		2	1	1	1	1	1														
MW05		30/04/2021	W		2	1	1	1	1	1														1
MW06		30/04/2021	W		2	1	1	1	1	1														1
RB01		30/04/2021	W		2	1																		1
TB01		30/04/2021	W		2																			1
Totals				0	10	4	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4

DRAFT

793587

J168829 - EF COC GME without Testing

Varun Bhagwat <Varun.Bhagwat@greencap.com.au>

Fri 30/04/2021 4:13 PM

To: Michael Morrison <MichaelMorrison@eurofins.com>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; #AU09_EnviroSampleDRW <EnviroSampleDRW@eurofins.com>

1 attachments (14 KB)
J168829 - EF COC GME without testing.pdf;

Hi Michael,

Attached is the COC without testing for groundwater samples collected on 30/4/2021 for the project: **J168829.**

There are 8 groundwater wells in total on this site however I was only able to access 3 wells today to sample. I will sample the rest of the wells on Wednesday 5th May.

The attached COC includes info for the 3 wells sampled. Once I sample the remaining 5 wells, I will add their info with testing to this COC.

Hope that's all good.

The samples were delivered to the Darwin Eurofins drop off point on 30/4/2021.

Please let me know if you have any questions.

Thank you.

Cheers,

DRAFT

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

793587

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eurofins | Environment Testing

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NATA # 1261 Site # 20794

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NATA # 1261
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NATA # 1261 Site # 25079

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	ORA DIESEL SPILL
Project ID:	J168829
Turnaround time:	5 Day
Date/Time received	May 6, 2021 1:09 PM
Eurofins reference	793587

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

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Certificate of Analysis

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Varun**

Report **793587-W**
Project name ORA DIESEL SPILL
Project ID J168829
Received Date May 06, 2021

Client Sample ID			**MW02**	**MW05**	**MW06**	**MW01A**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-My14729**	**M21-My14730**	**M21-My14731**	**M21-My14732**
Date Sampled			**Apr 30, 2021**	**Apr 30, 2021**	**Apr 30, 2021**	**May 05, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.70	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	2.4	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	3.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	89	85	85	81
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	1.5	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	1.5	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	1.5	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	3	< 0.1	< 0.1	< 0.1
Ferrous Iron - Fe2+	0.05	mg/L	0.08	2.6	0.08	7.6
Nitrate (as N)	0.02	mg/L	0.11	0.13	0.66	0.11
Sulphate (as SO4)	5	mg/L	920	1600	490	2800
Alkalinity (speciated)						
Total Alkalinity (as CaCO3)	20	mg/L	< 20	28	< 20	87
Heavy Metals						
Manganese (filtered)	0.005	mg/L	9.8	0.96	1.5	2.2

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Client Sample ID			MW03	MW04	MW07	MW08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My14733	M21-My14734	M21-My14735	M21-My14736
Date Sampled			May 05, 2021	May 05, 2021	May 05, 2021	May 05, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	0.16	< 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-C36 (Total)	0.1	mg/L	< 0.1	0.16	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	91	91	85	93
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	0.24	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	0.24	< 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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	0.24	< 0.1	< 0.1
Ferrous Iron - Fe2+	0.05	mg/L	0.40	0.36	6.2	2.3
Nitrate (as N)	0.02	mg/L	1.7	0.78	0.70	1.3
Sulphate (as SO4)	5	mg/L	190	410	530	430
Alkalinity (speciated)						
Total Alkalinity (as CaCO3)	20	mg/L	< 20	24	21	24
Heavy Metals						
Manganese (filtered)	0.005	mg/L	1.1	2.4	1.4	1.6

Client Sample ID			QC01	RB01	TB01	RB02
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My14737	M21-My14738	M21-My14739	M21-My14740
Date Sampled			May 05, 2021	Apr 30, 2021	Apr 30, 2021	May 05, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	-	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	-	< 0.1

DRAFT

Client Sample ID			QC01	RB01	TB01	RB02
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My14737	M21-My14738	M21-My14739	M21-My14740
Date Sampled			May 05, 2021	Apr 30, 2021	Apr 30, 2021	May 05, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	92	89	88	89
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	-	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	-	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	-	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	-	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	-	< 0.1
Ferrous Iron - Fe2+	0.05	mg/L	0.63	-	-	-
Nitrate (as N)	0.02	mg/L	0.14	-	-	-
Sulphate (as SO4)	5	mg/L	2800	-	-	-
Alkalinity (speciated)						
Total Alkalinity (as CaCO3)	20	mg/L	90	-	-	-
Heavy Metals						
Manganese (filtered)	0.005	mg/L	2.5	-	-	-

Client Sample ID			TB02
Sample Matrix			Water
Eurofins Sample No.			M21-My14741
Date Sampled			May 05, 2021
Test/Reference	LOR	Unit	
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	98

DRAFT

Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 10, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	May 10, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 10, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 10, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins Suite B16A: SO4, CH4, NO3, Fe2+			
Dissolved Gases	Melbourne	May 10, 2021	14 Days
- Method: LTM-ORG-2070 by Headspace GC-FID			
Ferrous Iron - Fe2+	Melbourne	May 10, 2021	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
Nitrate (as N)	Melbourne	May 10, 2021	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Sulphate (as SO4)	Melbourne	May 10, 2021	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Alkalinity (speciated)	Melbourne	May 10, 2021	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Heavy Metals (filtered)	Melbourne	May 10, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

DRAFT

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

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NATA # 1261
Site # 1254 & 14271

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

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Site # 23736

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Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap NT P/L
Address: 11/14 Winnellie Road
Winnellie
NT 0800

Project Name: ORA DIESEL SPILL
Project ID: J168829

Order No.: PO286675
Report #: 793587
Phone: 61 8 8984 4244
Fax: 61 8 8984 3105

Received: May 6, 2021 1:09 PM
Due: May 13, 2021
Priority: 5 Day
Contact Name: Varun

Eurofins Analytical Services Manager : Michael Morrison

DRAFT

Sample Detail						Manganese (filtered)	Total Alkalinity (as CaCO3)	BTEX	Eurofins Suite B1	Eurofins Suite B16A: SO4, CH4, NO3, Fe2+
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
Mayfield Laboratory - NATA Site # 25079										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	MW02	Apr 30, 2021		Water	M21-My14729	X	X		X	X
2	MW05	Apr 30, 2021		Water	M21-My14730	X	X		X	X
3	MW06	Apr 30, 2021		Water	M21-My14731	X	X		X	X
4	MW01A	May 05, 2021		Water	M21-My14732	X	X		X	X
5	MW03	May 05, 2021		Water	M21-My14733	X	X		X	X
6	MW04	May 05, 2021		Water	M21-My14734	X	X		X	X
7	MW07	May 05, 2021		Water	M21-My14735	X	X		X	X
8	MW08	May 05, 2021		Water	M21-My14736	X	X		X	X
9	QC01	May 05, 2021		Water	M21-My14737	X	X		X	X

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

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IANZ # 1327

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO286675
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	793587
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	ORA DIESEL SPILL		
Project ID:	J168829		

Received:	May 6, 2021 1:09 PM
Due:	May 13, 2021
Priority:	5 Day
Contact Name:	Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Manganese (filtered)	Total Alkalinity (as CaCO3)	BTEX	Eurofins Suite B1	Eurofins Suite B16A: SO4, CH4, NO3, Fe2+
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
Mayfield Laboratory - NATA Site # 25079										
External Laboratory										
10	RB01	Apr 30, 2021		Water	M21-My14738				X	
11	TB01	Apr 30, 2021		Water	M21-My14739			X		
12	RB02	May 05, 2021		Water	M21-My14740				X	
13	TB02	May 05, 2021		Water	M21-My14741			X		
Test Counts						9	9	2	11	9

DRAFT

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Ferrous Iron - Fe2+	mg/L	< 0.05			0.05	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Alkalinity (speciated)							
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Heavy Metals							
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	101			70-130	Pass	
TRH C10-C14	%	96			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	94			70-130	Pass	
Ethylbenzene	%	86			70-130	Pass	
m&p-Xylenes	%	92			70-130	Pass	
Xylenes - Total*	%	89			70-130	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	113			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	100			70-130	Pass	
TRH C6-C10	%	99			70-130	Pass	

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Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16			%	99			70-130	Pass	
LCS - % Recovery									
Ferrous Iron - Fe2+			%	93			70-130	Pass	
Nitrate (as N)			%	99			70-130	Pass	
Sulphate (as SO4)			%	110			70-130	Pass	
LCS - % Recovery									
Alkalinity (speciated)									
Total Alkalinity (as CaCO3)			%	90			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-My18627	NCP	%	104			70-130	Pass	
TRH C10-C14	M21-My07950	NCP	%	112			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-My18627	NCP	%	101			70-130	Pass	
Toluene	M21-My18627	NCP	%	100			70-130	Pass	
Ethylbenzene	M21-My18627	NCP	%	95			70-130	Pass	
m&p-Xylenes	M21-My18627	NCP	%	100			70-130	Pass	
o-Xylene	M21-My18627	NCP	%	98			70-130	Pass	
Xylenes - Total*	M21-My18627	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-My18627	NCP	%	105			70-130	Pass	
TRH C6-C10	M21-My18627	NCP	%	98			70-130	Pass	
TRH >C10-C16	M21-My07950	NCP	%	115			70-130	Pass	
Spike - % Recovery									
Alkalinity (speciated)				Result 1					
Total Alkalinity (as CaCO3)	M21-My07899	NCP	%	121			70-130	Pass	
Spike - % Recovery									
				Result 1					
Nitrate (as N)	M21-My14730	CP	%	100			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Manganese (filtered)	M21-My14732	CP	%	77			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Manganese (filtered)	M21-My14739	CP	%	84			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M21-My14729	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Sulphate (as SO4)	B21-My07640	NCP	mg/L	280	280	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Nitrate (as N)	M21-My14730	CP	mg/L	0.13	0.12	6.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-My14731	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-My14731	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-My14731	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-My14731	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-My14731	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-My14731	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Manganese (filtered)	M21-My14732	CP	mg/L	2.2	2.6	14	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Total Alkalinity (as CaCO3)	M21-My14734	CP	mg/L	24	24	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ferrous Iron - Fe2+	M21-My14735	CP	mg/L	6.2	6.2	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Manganese (filtered)	M21-My14739	CP	mg/L	0.13	0.13	1.0	30%	Pass	

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

Authorised by:

Emily Daos	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

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CHAIN OF CUSTODY RECORD

☐ Sydney Laboratory
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☐ Brisbane Laboratory
Unit 1 21 Smallwood Place Murarrie QLD 4172

☐ Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
EnviroSampleVic@eurofins.com

Company	Greencap NT P/L	Project №	J168829	Project Manager	Varun Bhagwat	Sampler(s)	Varun Bhagwat
Address	Unit 11 / 14 Winnellie Road Winnellie, NT 0820	Project Name	ORA Diesel Spill	EDD Format (Excel, EQuIS etc)		Facility Code	Handed over by: Varun Bhagwat
Contact Name	Varun Bhagwat						Email for Invoice: Varun.Bhagwat@greencap.com.au
Phone №	0428 826 444						Email for Results: Varun.Bhagwat@greencap.com.au
Special Directions							
Purchase Order	PO287316						
Quote ID №							

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing

Containers — Change container type & size if necessary.

Required Turnaround Time (TAT) — Default will be 5 days if not ticked. *Surcharge will apply

☐ Overnight (reporting by 9am)*
☐ Same day ◆ ☐ 1 day ◆
☑ 2 days ◆ ☐ 3 days ◆
☐ 5 days (Standard)
☐ Other(

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	TRH	B16A - Natural Attenuation Suite #A : SO4, CH4, NO3, Fe2+	Manganese	Alkalinity	B14 : OCP, OPP TRH (C6-C10) & BTEX	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	SVV : SVOC, VOC	NSW DECC Waste Classification Table 1	R21: NEPM Screen for Soil Classification Screen	BTEXN	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h2SO4)	60ml Ferrous Iron (HCL)	Sample Comments / Dangerous Goods Hazard Warning
1	MW02	20/05/21	Water	X										1			1	2	1	1	1	
2																						
3	RB01		Water	X													1	2				
4	TB01		Water										X					2				
5																						
6																						
7																						
8																						
9																						
10																						
	Add Rows		Total Counts	2									1	1		2	6	1	1	1		

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal — Name — Signature — Date — Time

Laboratory Use Only						
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Temperature
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date 20/5	Time 2025	Report № 777557

HARD

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

eurofins

Environment Testing

PROJECT INFORMATION

Date Received: 20/5/21

Company: QC

Contact person: VB

Contact Number: 0428 829 444

Contact E-mail:

Project Name/site: DIESEL SPILL | ORA

Project Number: J168829

DRAFT

COC: **Attached** ☐
E-mailed ☑
Not received ☐

32.4 - 0.2
Temp: 32.2°C

Received: 20/5/21 @ 1425
S. Ounsworth

eurofins | Environment Testing

ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

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NATA # 1261 Site # 18217

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	ORA DIESEL SPILL
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	May 20, 2021 2:25 PM
Eurofins reference	797037

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Varun**

Report **797037-W**
Project name ORA DIESEL SPILL
Project ID J168829
Received Date May 20, 2021

Client Sample ID			**MW02**	**RB01**	**TB01**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-My41962**	**M21-My41963**	**M21-My41964**
Date Sampled			**May 20, 2021**	**May 20, 2021**	**May 20, 2021**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	-
BTEX					
Benzene	0.001	mg/L	-	-	< 0.001
Toluene	0.001	mg/L	-	-	< 0.001
Ethylbenzene	0.001	mg/L	-	-	< 0.001
m&p-Xylenes	0.002	mg/L	-	-	< 0.002
o-Xylene	0.001	mg/L	-	-	< 0.001
Xylenes - Total*	0.003	mg/L	-	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	-	91

DRAFT

Sample History

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

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	Melbourne	May 21, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 21, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 21, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX and Naphthalene			
BTEX	Melbourne	May 21, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO287316
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	797037
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	ORA DIESEL SPILL		
Project ID:	J168829		

Received:	May 20, 2021 2:25 PM	
Due:	May 24, 2021	
Priority:	2 Day	
Contact Name:	Varun	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	MW02	May 20, 2021		Water	M21-My41962		X
2	RB01	May 20, 2021		Water	M21-My41963		X
3	TB01	May 20, 2021		Water	M21-My41964	X	
Test Counts						1	2

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	85			70-130	Pass	
TRH C10-C14	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	109			70-130	Pass	
TRH C6-C10	%	82			70-130	Pass	
TRH >C10-C16	%	109			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	96			70-130	Pass	
Toluene	%	84			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	87			70-130	Pass	
Xylenes - Total*	%	88			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-My35614	NCP	%	113			70-130	Pass	
TRH C10-C14	N21-My33857	NCP	%	127			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-My35614	NCP	%	96			70-130	Pass	
TRH C6-C10	M21-My35614	NCP	%	111			70-130	Pass	
TRH >C10-C16	N21-My33857	NCP	%	127			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-My35614	NCP	%	99			70-130	Pass	
Toluene	M21-My35614	NCP	%	110			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	M21-My35614	NCP	%	110			70-130	Pass	
m&p-Xylenes	M21-My35614	NCP	%	106			70-130	Pass	
o-Xylene	M21-My35614	NCP	%	110			70-130	Pass	
Xylenes - Total*	M21-My35614	NCP	%	108			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-My37634	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-My37634	NCP	mg/L	0.3	0.2	18	30%	Pass	
TRH C29-C36	M21-My37634	NCP	mg/L	0.1	< 0.1	49	30%	Fail	Q15
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-My37634	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-My37634	NCP	mg/L	0.4	0.3	26	30%	Pass	
TRH >C34-C40	M21-My37634	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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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
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	:	ORA	Date	:	30/04/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO288447
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 30/4/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix *(Soil, Water, Vapour, etc)*	Sample Containers									Testing											
				250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (Including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21 : NEPM Screen for Soil Classification Screen	Hold
SW02		30/04/2021	W	2	1								X											
SW03		30/04/2021	W	2	1								X											
SW04		30/04/2021	W	2	1								X											
SED 2		30/04/2021	S	1																				
Totals				1	6	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0

DRAFT

29/8/10
L. Byers

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PROJECT INFORMATION

Date Received: 30/4/21

Company: GC

Contact person: VB

Contact Number: 0428 829 444

Contact E-mail:

Project Name/site: ~~OPEX~~ DIESEL SPILL | ORA

Project Number: J168829

DRAFT

79810
C. Burgess

COC: **Attached** ☐
E-mailed ☑
Not received ☐

Received:
30/4/21 @ 1410
Temp 33.3 - 0.2
= 33.1°C

Last modified on: 16 October 2019	Approved on: 16 October 2019	Version: QS1039_R2
Last modified by: H. Le	Approver: M. Makarios	Page 1 of 1
Editorial Committee: T. Lakeland, F. Sanjaya, H. Le, M. Makarios		Next required review date: 16 October 2022

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IANZ # 1327

Christchurch
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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	-- ALL INVOICES (pdf only)
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	May 1, 2021 2:10 PM
Eurofins reference	791810

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to -- ALL INVOICES (pdf only) - ap@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Varun**

Report **791810-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date May 01, 2021

Client Sample ID			**SW02**	**SW03**	**SW04**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-My00819**	**M21-My00820**	**M21-My00821**
Date Sampled			**Apr 30, 2021**	**Apr 30, 2021**	**Apr 30, 2021**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1
BTEX					
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	123	122	122
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1

DRAFT

Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 01, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	May 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 01, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 01, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

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Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap VIC P/L
Address: Level 1, 677 High St
Kew East
VIC 3102

Project Name: SP MANAGEMENT
Project ID: J168829

Order No.:
Report #: 791810
Phone: 9890 8811
Fax: 9890 8911

Received: May 1, 2021 2:10 PM
Due: May 5, 2021
Priority: 2 Day
Contact Name: Dylan Burford

Eurofins Analytical Services Manager : Michael Morrison

DRAFT

Sample Detail						HOLD	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW02	Apr 30, 2021		Water	M21-My00819			X
2	SW03	Apr 30, 2021		Water	M21-My00820			X
3	SW04	Apr 30, 2021		Water	M21-My00821			X
4	SED 2	Apr 30, 2021		Soil	M21-My00822	X	X	
Test Counts						1	1	3

eurofins | Environment Testing

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	124			70-130	Pass	
TRH C10-C14	%	110			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	106			70-130	Pass	
Toluene	%	100			70-130	Pass	
Ethylbenzene	%	109			70-130	Pass	
m&p-Xylenes	%	116			70-130	Pass	
Xylenes - Total*	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	123			70-130	Pass	
TRH C6-C10	%	119			70-130	Pass	
TRH >C10-C16	%	108			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-Ap51859	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Ap51859	NCP	%	88			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-My00720	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-My00720	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-My00720	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-My00720	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-My00720	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-My00720	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
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
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	:	ORA	Date	:	6/05/2021
Project	:	ORA Diesel Spill	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Byford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO286676
Location	:	Berrimah Freight Terminal	T/Around		***STANDARD TAT***
Please email results to:		Dylan.Byford@greencap.com.au	Varun.Bhagwat@greencap.com.au		

Relinquished by: VB 6/5/21	Recieved by: 10:45am	Relinquished by:	Received by: ALS Syd 1PM
Signature & date	*Signature & date* 06/05/21	*Signature & date*	*Signature & date* 7/5/21

Field ID	Depth	Sampled	Matrix (*Soil, Water, Vapour, etc*)	Sample Containers									Testing										
				250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	500ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	S-4 : TRH, BTEXN	Natural attenuation Indicators (Nitrate, Sulfate, Ferrous Iron, Methane)	Alkalinity	Manganese							Hold
QC01A		5/05/2021	W		2	1	1	1	1	1			X	X	X	X							
Totals				0	2	1	1	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0

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Environmental Division
Sydney
Work Order Reference
ES2116718

LAB OF ORIGIN:
DARWIN

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2116718**

Client	: **GREENCAP-NAA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR DYLAN BURFORD	Contact	: Shane Ellis
Address	: 11/14 Winnellie Road WINNELLIE NT, AUSTRALIA 0820	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: dylan.burford@greencap.com.au	E-mail	: Shane.Ellis@ALSGlobal.com
Telephone	: +61 08 8299 9955	Telephone	: +61 2 8784 8555
Facsimile	: +61 08 8362 9776	Facsimile	: +61-2-8784 8500
Project	: J168829 ORA Diesel Spill	Page	: 1 of 2
Order number	: PO286676	Quote number	: ES2020ADEENV0001 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: Berrimah Freight Terminal		
Sampler	: VARUN BHAGWAT		

Dates

Date Samples Received	: 07-May-2021 12:30	Issue Date	: 07-May-2021
Client Requested Due Date	: 17-May-2021	Scheduled Reporting Date	: **17-May-2021**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 7.4
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

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Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - ED037-P Alkalinity as CaCO3 (PCT)	WATER - W-04 TRH/BTEXN	WATER - W-28 & Mn Natural Attenuation Indicators - including Mn
ES2116718-001	05-May-2021 00:00	QC01A	✓	✓	✓

DRAFT

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received Date	Samples Received Evaluation	Instructions Received Date	Instructions Received Evaluation
EG051G: Ferrous Iron by Discrete Analyser							
QC01A	Clear Plastic Bottle - HCl	----	06-May-2021	07-May-2021	✘	----	----

Requested Deliverables

ALL ACCOUNTS

- A4 - AU Tax Invoice (INV)	Email	ap@greencap.com.au

DYLAN BURFORD

- *AU Certificate of Analysis - NATA (COA)	Email	dylan.burford@greencap.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	dylan.burford@greencap.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	dylan.burford@greencap.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	dylan.burford@greencap.com.au
- Chain of Custody (CoC) (COC)	Email	dylan.burford@greencap.com.au
- EDI Format - ENMRG (ENMRG)	Email	dylan.burford@greencap.com.au
- EDI Format - ESDAT (ESDAT)	Email	dylan.burford@greencap.com.au

VARUN BHAGWAT

- *AU Certificate of Analysis - NATA (COA)	Email	varun.bhagwat@greencap.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	varun.bhagwat@greencap.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	varun.bhagwat@greencap.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	varun.bhagwat@greencap.com.au
- Chain of Custody (CoC) (COC)	Email	varun.bhagwat@greencap.com.au
- EDI Format - ENMRG (ENMRG)	Email	varun.bhagwat@greencap.com.au
- EDI Format - ESDAT (ESDAT)	Email	varun.bhagwat@greencap.com.au

QUALITY CONTROL REPORT

Work Order	: **ES2116718**	Page	: 1 of 5
Client	: **GREENCAP-NAA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR DYLAN BURFORD	Contact	: Shane Ellis
Address	: 11/14 Winnellie Road WINNELLIE NT, AUSTRALIA 0820	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 08 8299 9955	Telephone	: +61 2 8784 8555
Project	: J168829 ORA Diesel Spill	Date Samples Received	: 07-May-2021
Order number	: PO286676	Date Analysis Commenced	: 07-May-2021
C-O-C number	: ----	Issue Date	: 17-May-2021
Sampler	: VARUN BHAGWAT		
Site	: Berrimah Freight Terminal		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

DRAFT

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
ED037P: Alkalinity by PC Titrator (QC Lot: 3669213)									
ES2116680-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	14	14	0.0	0% - 50%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	14	14	0.0	0% - 50%
ES2117119-003	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	35	34	0.0	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	35	34	0.0	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3666034)									
ES2116922-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	101	101	0.0	0% - 20%
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3677098)									
ES2116718-001	QC01A	EG020A-F: Manganese	7439-96-5	0.001	mg/L	1.70	1.66	2.2	0% - 20%
ES2117209-001	Anonymous	EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG051G: Ferrous Iron by Discrete Analyser (QC Lot: 3667637)									
ES2116712-016	Anonymous	EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	<0.05	0.0	No Limit
ES2117226-001	Anonymous	EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	<0.05	0.0	No Limit
EP033: C1 - C4 Hydrocarbon Gases (QC Lot: 3668080)									
EM2108257-004	Anonymous	EP033: Methane	74-82-8	10	µg/L	4560	4780	4.6	0% - 20%
EP2105046-003	Anonymous	EP033: Methane	74-82-8	10	µg/L	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3669308)									
CA2102887-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	170	180	6.1	No Limit
ES2115891-013	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	110	130	17.7	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3669308)									
CA2102887-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	170	180	6.3	No Limit

DRAFT

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3669308) - continued									
ES2115891-013	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	110	130	17.2	No Limit
EP080: BTEXN (QC Lot: 3669308)									
CA2102887-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	78	78	0.0	0% - 20%
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES2115891-013	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

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Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED037P: Alkalinity by PC Titrator (QCLot: 3669213)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	100.0	81.0	111
				----	50 mg/L	102	80.0	120
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3666034)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	107	82.0	122
				<1	500 mg/L	110	82.0	122
EG020F: Dissolved Metals by ICP-MS (QCLot: 3677098)								
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	93.0	82.0	110
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 3667637)								
EG051G: Ferrous Iron	----	0.05	mg/L	<0.05	2 mg/L	102	89.0	117
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 3668080)								
EP033: Methane	74-82-8	10	µg/L	<10	28.48 µg/L	96.1	86.0	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3665919)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	73.8	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	97.6	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	109	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3669308)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	84.9	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3665919)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	84.4	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	103	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	74.6	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3669308)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	87.3	75.0	127
EP080: BTEXN (QCLot: 3669308)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	87.1	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	98.8	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	103	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	99.2	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	97.8	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	113	70.0	120

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Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3666034)							
ES2116922-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	10 mg/L	# Not Determined	70.0	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 3677098)							
ES2117159-001	Anonymous	EG020A-F: Manganese	7439-96-5	1 mg/L	95.2	70.0	130
EG051G: Ferrous Iron by Discrete Analyser (QCLot: 3667637)							
ES2116712-016	Anonymous	EG051G: Ferrous Iron	----	1 mg/L	92.6	70.0	130
EP033: C1 - C4 Hydrocarbon Gases (QCLot: 3668080)							
EM2108257-003	Anonymous	EP033: Methane	74-82-8	28.48 µg/L	# Not Determined	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3669308)							
CA2102887-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	120	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3669308)							
CA2102887-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	116	70.0	130
EP080: BTEXN (QCLot: 3669308)							
CA2102887-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	91.0	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	113	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	102	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	98.6	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	92.7	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	85.6	70.0	130

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QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2116718**	Page	: 1 of 5
Client	: **GREENCAP-NAA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR DYLAN BURFORD	Telephone	: +61 2 8784 8555
Project	: J168829 ORA Diesel Spill	Date Samples Received	: 07-May-2021
Site	: Berrimah Freight Terminal	Issue Date	: 17-May-2021
Sampler	: VARUN BHAGWAT	No. of samples received	: 1
Order number	: PO286676	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

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Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA	ES2116922--001	Anonymous	**Sulfate as SO4 - Turbidimetric**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP033: C1 - C4 Hydrocarbon Gases	EM2108257--003	Anonymous	**Methane**	74-82-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EG051G: Ferrous Iron by Discrete Analyser						
Clear Plastic Bottle - HCl						
QC01A	----	----	----	10-May-2021	06-May-2021	**4**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count: QC	Count: Regular	Rate (%): Actual	Rate (%): Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
TRH - Semivolatile Fraction	0	19	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TRH - Semivolatile Fraction	0	19	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
QC01A	**05-May-2021**	**----**	----	----	**11-May-2021**	19-May-2021	✓

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Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
QC01A	**05-May-2021**	**----**	----	----	**07-May-2021**	02-Jun-2021	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC01A	**05-May-2021**	**----**	----	----	**14-May-2021**	01-Nov-2021	✓
EG051G: Ferrous Iron by Discrete Analyser							
Clear Plastic Bottle - HCl (EG051G)							
QC01A	**05-May-2021**	**----**	----	----	**10-May-2021**	06-May-2021	×
EP033: C1 - C4 Hydrocarbon Gases							
Amber VOC Vial - Sulfuric Acid (EP033)							
QC01A	**05-May-2021**	**----**	----	----	**10-May-2021**	19-May-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC01A	**05-May-2021**	**08-May-2021**	12-May-2021	✓	**11-May-2021**	17-Jun-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC01A	**05-May-2021**	**14-May-2021**	19-May-2021	✓	**14-May-2021**	19-May-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC01A	**05-May-2021**	**08-May-2021**	12-May-2021	✓	**11-May-2021**	17-Jun-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC01A	**05-May-2021**	**14-May-2021**	19-May-2021	✓	**14-May-2021**	19-May-2021	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
QC01A	**05-May-2021**	**14-May-2021**	19-May-2021	✓	**14-May-2021**	19-May-2021	✓

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Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	19	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	7	**28.57**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
C1 - C4 Gases	EP033	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ferrous Iron by Discrete Analyser	EG051G	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	19	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

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Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Ferrous Iron by Discrete Analyser	EG051G	WATER	In house: Referenced to APHA 3500 Fe-B. A colorimetric determination based on the reaction between phenanthroline and ferrous iron at pH 3.2-3.3 to form an orange-red complex that is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3).
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM Schedule B(3)
C1 - C4 Gases	EP033	WATER	Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, US EPA - Region 1, EPA New England, July 2001. Automated static headspace, dual column GC/FID. A 12 mL sample is pipetted into a 20 mL headspace vial containing 3g of sodium chloride and sealed. Each sample is equilibrated with shaking at 40 degrees C for 10 minutes prior to analysis by GC/FID using a pair of PLOT columns of different polarity.
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

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CERTIFICATE OF ANALYSIS

Work Order	: **ES2116718**	Page	: 1 of 5
Client	: **GREENCAP-NAA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR DYLAN BURFORD	Contact	: Shane Ellis
Address	: 11/14 Winnellie Road WINNELLIE NT, AUSTRALIA 0820	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 08 8299 9955	Telephone	: +61 2 8784 8555
Project	: J168829 ORA Diesel Spill	Date Samples Received	: 07-May-2021 12:30
Order number	: PO286676	Date Analysis Commenced	: 07-May-2021
C-O-C number	: ----	Issue Date	: 17-May-2021 14:29
Sampler	: VARUN BHAGWAT		
Site	: Berrimah Freight Terminal		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

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General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.

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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC01A	----	----	----	----
				Sampling date / time	05-May-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2116718-001	--------	--------	--------	--------
					Result	----	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		**90**	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		**90**	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		**2840**	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Manganese	7439-96-5	0.001	mg/L		**1.70**	----	----	----	----
EG051G: Ferrous Iron by Discrete Analyser									
Ferrous Iron	----	0.05	mg/L		**2.64**	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.08**	----	----	----	----
EP033: C1 - C4 Hydrocarbon Gases									
Methane	74-82-8	10	µg/L		**<10**	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----

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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC01A	----	----	----	----
				Sampling date / time	05-May-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2116718-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080: BTEXN - Continued									
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**85.1**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**124**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**125**	----	----	----	----

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Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

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Simon Welsh

From: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Sent: Tuesday, 5 October 2021 12:34 PM
To: Adam Reed
Cc: Graeme Miller; Ian Lightfoot; Dylan Burford
Subject: September 2021 (Interim) Groundwater Monitoring Event Results
Attachments: J169849 - Results Tables - September 2021.pdf; 824079-W_report.pdf; ES2132570_0_COA.pdf

Hi Adam,

Apologies for the delay, attached are the results tables and lab results for the interim groundwater monitoring event that was undertaken on 9/9/21.

The reported results show that there were some elevated hydrocarbon impacts for MW01.
MW01 was sampled for the first time since July 2020 as no product was observed in the monitoring well.

The next monitoring event is planned for October 2021 at this stage.

Please let me know if you have any questions.

Thank you.

Cheers,

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | **E:** Varun.Bhagwat@greencap.com.au | **in:** LinkedIn

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'Caution in Construction: Imported Asbestos & Prohibited Goods'
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Monitoring Well	Date	TRH - 1999 NEPM Fractions (µg/L)					TRH - 2013 NEPM Fractions (µg/L)								Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylene (µg/L)			Naphthalene (µg/L)	Natural Attenuation Parameters (mg/L)					
		C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	C_{10}-C_{36} (Total)	C_6-C_{10}	F1	>C_{10}-C_{16}	F2	F3	F4	>C_{10}-C_{34} Total	>C_{10}-C_{40} Total				m-	p-	o-		Fe^{2+}	NO_3	SO_4	CaCO3	Manganese	Methane
CRC Care HSL Intrusive Workers, Sand (2-<4m)							NL		NL						NL	NL	NL			NL	NL						
CRC Care HSL Intrusive Workers, Sand (4-<8m)							NL		NL						NL	NL	NL			NL	NL						
NEPM HSL[1]		-	-	-	-	-	-	6,000	-	NL	-	-	-	-	5,000	NL	NL	NL	NL	NL	NL						
ANZECC[2]		-	-	-	-	-	-	-	-	-	-	-	300	-	500	110	50	50	200	350	50						
Fish (n=3)[3]		-	-	-	-	1400-2200	-	-	-	-	-	-	-	1400-2200	-	-	-	-	-	-	-						
Crustacean (N=8)[3]		-	-	-	-	300-4500	-	-	-	-	-	-	-	300-4500	-	-	-	-	-	-	-						
Molluscs (n=1)[3]		-	-	-	-	600	-	-	-	-	-	-	-	600	-	-	-	-	-	-	-						
Annelids (n=6)[3]		-	-	-	-	800-3200	-	-	-	-	-	-	-	800-3200	-	-	-	-	-	-	-						
Algae (n=6)[3]		-	-	-	-	500-1600	-	-	-	-	-	-	-	500-1600	-	-	-	-	-	-	-						
MW01	*30/07/2020*	<20	150	<100	<100	150	20	<20	140	140	<100	<100	140	140	<1	**<1**	**2**	**<2**		3	<10	-	-	-	-	-	-
MW02	*30/07/2020*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	**<1**	**<1**	**<2**		<1	<10	-	-	-	-	-	-
MW03	*30/07/2020*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	**<1**	<2		<1	<10	-	-	-	-	-	-
MW04	*30/07/2020*	<20	100	600	<100	700	<20	<20	240	240	400	<100	640	640	**<1**	<1	**<1**	<2		<1	<10	-	-	-	-	-	-
MW01A	*14/10/2020*	<20	<50	500	200	700	20	<20	<50	<50	600	<100	600	600	**<1**	**<1**	**2**	<2		3	<10	-	-	-	-	-	-
MW02	*14/10/2020*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	**<100**	**<1**	<1	**<1**	<2		<1	<10	-	-	-	-	-	-
MW03	*14/10/2020*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	**<100**	**<1**	<1	**<1**	<2		<1	<10	-	-	-	-	-	-
MW04	*14/10/2020*	<20	210	1600	<100	1810	<20	<20	520	520	1300	<100	1820	1820	**<1**	**<1**	<1	<2		1	<10	-	-	-	-	-	-
MW05	*31/10/2020*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	**<100**	**<100**	**<100**	<1	**<1**	<1	<2		<1	<10	-	-	-	-	-	-
MW06	*31/10/2020*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	**<100**	**<100**	**<100**	<1	**<1**	<1	<2		<1	<10	-	-	-	-	-	-
MW07	*31/10/2020*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	**<100**	**<100**	**<100**	<1	<1	<1	<2		<1	<10	-	-	-	-	-	-
MW08	*31/10/2020*	<20	<50	<100	<100	<100	<20	<20	<50	<50	**<100**	**<100**	**<100**	**<100**	**<1**	<1	<1	<2		<1	<10	-	-	-	-	-	-
MW01A	*21/01/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	**<100**	**<100**	<100	**<1**	<1	<1	<2		<1	<10	20	0.63	2900	90	1.2	<0.05
MW02	*21/01/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	**<100**	<100	**<100**	<100	**<1**	<1	<1	<2		<1	<10	<0.05	0.46	480	<20	3.8	<0.05
MW03	*21/01/2021*	<20	<50	300	<100	300	<20	<20	<50	<50	**300**	<100	**300**	300	**<1**	<1	<1	<2		<1	<10	<0.05	1	180	<20	1.1	<0.05
MW04	*21/01/2021*	<20	210	1600	<100	<100	<20	<20	<50	**<50**	**300**	<100	**<100**	**<100**	**<1**	<1	<1	<2		1	<10	0.18	1.2	290	21	1.2	<0.05
MW05	*21/01/2021*	<20	<50	<100	<100	<100	<20	<20	<50	**<50**	**<100**	<100	**<100**	**<100**	<1	<1	<1	<2		<1	<10	5.8	<0.02	2100	35	0.88	<0.05
MW06	*21/01/2021*	<20	<50	<100	<100	<100	<20	<20	<50	**<50**	**<100**	<100	<100	**<100**	<1	<1	<1	<2		<1	<10	<0.05	1.1	320	<20	1	<0.05
MW07	*21/01/2021*	<20	<50	<100	<100	<100	<20	**<20**	<50	**<50**	<100	**<100**	<100	<100	<1	<1	<1	<2		<1	<10	3.8	0.69	850	37	1	<0.05
MW08	*21/01/2021*	<20	<50	100	<100	100	<20	**<20**	**<50**	<50	100	**<100**	**<100**	<100	<1	<1	<1	<2		<1	<10	1	1.2	290	<20	1.3	<0.05
MW01A	*5/05/2021*	<20	<50	<100	<100	<100	**<20**	**<20**	**<50**	<50	**<100**	**<100**	**<100**	<100	<1	<1	<1	<2		<1	<10	7.6	0.11	2800	87	2.2	<0.05
MW02	*20/05/2021*	<20	<50	<100	<100	<100	<20	<20	**<50**	**<50**	<100	**<100**	**<100**	<100	<1	<1	<1	<2		<1	<10	0.08	0.11	920	<20	9.8	<0.05
MW03	*5/05/2021*	<20	<50	<100	<100	<100	**<20**	**<20**	<50	**<50**	<100	**<100**	<100	<100	<1	<1	<1	<2		<1	<10	0.4	1.7	190	<20	1.1	<0.05
MW04	*5/05/2021*	<20	160	<100	<100	160	**<20**	**<20**	240	**240**	**<100**	<100	<100	<100	<1	<1	<1	<2		<1	<10	0.36	0.78	410	24	2.4	<0.05
MW05	*30/04/2021*	<20	<50	<100	<100	<100	**<20**	**<20**	**<50**	**<50**	**<100**	<100	<100	<100	<1	<1	<1	<2		<1	<10	2.6	0.13	1600	28	0.96	<0.05
MW06	*30/04/2021*	<20	<50	<100	<100	<100	**<20**	**<20**	**<50**	<50	**<100**	<100	<100	<100	<1	<1	<1	<2		<1	<10	0.08	0.66	490	<20	1.5	<0.05
MW07	*5/05/2021*	<20	<50	<100	<100	<100	**<20**	**<20**	**<50**	<50	**<100**	<100	<100	<100	<1	<1	<1	<2		<1	<10	6.2	0.7	530	21	1.4	<0.05
MW08	*5/05/2021*	<20	<50	<100	<100	<100	**<20**	**<20**	**<50**	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	2.3	1.3	430	24	1.6	<0.05
MW01A	*9/09/2021*	<20	<50	<100	<100	<100	<20	**<20**	**<50**	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	12	<0.02	3100	85	2.1	<0.05
MW01	*9/09/2021*	<20	150	400	<100	270	<20	**<20**	270	270	200	<100	200	470	<1	<1	<1	<2		<1	<10	29	0.02	640	<20	2	<0.05
MW02	*9/09/2021*	<20	<50	<100	<100	<100	<20	**<20**	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	0.07	<0.02	860	<20	16	<0.05
MW03	*9/09/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	2.5	0.06	700	<20	2.6	<0.05
MW04	*9/09/2021*	<20	160	<100	<100	160	<20	<20	240	240	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	4.8	<0.02	800	<20	2	<0.05
MW05	*9/09/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	7.4	<0.02	1700	55	0.88	<0.05
MW06	*9/09/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	1.1	0.09	1100	26	1.3	<0.05
MW07	*9/09/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	18	0.13	1600	40	1.1	<0.05
MW08	*9/09/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	5.3	<0.02	1600	390	1.6	<0.05
SURFACE WATER																											
SW03	*21/01/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	-	-	-	-	-	-
SW04	*21/01/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	-	-	-	-	-	-
SW03	*30/04/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	-	-	-	-	-	-
SW04	*30/04/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	-	-	-	-	-	-
SW03	*3/09/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	-	-	-	-	-	-
SW04	*3/09/2021*	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<100	<1	<1	<1	<2		<1	<10	-	-	-	-	-	-

F1 = C_6-C_{10} less BTEX; F2 = >C_{10}-C_{16} less naphthalene; F3 = >C_{16}-C_{34}; F4 = >C_{34}-C_{40}

$Fe2+$ = Ferrous Iron; N = Nitrate; SO^4 = Sulphate; $CaCO_3$ = Total Alkalinity

1 = Groundwater Health Screening Level for vapour intrusion – Commercial/industrial land use with sand 2 m to <4 m. *Assessment of Site Contamination National Environment Protection Measure* (1999). National Environment Protection Council (as amended 2013)

2 = Marine ecosystems (95% protection) – ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at www.waterquality.gov.au/anz-guidelines

3 = Table 8.3.24 from ANZECC 2018 Toxicity ranges for different oils to marine organisms—from from Tsvetnenko (1998). LC50 figures normalised (Hamoda et al. 1989) (mg/L)

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BAC Diesel Spill - Groundwater Duplicate Results Summary Table
September 2021

J169849

			SDG Field ID Sampled Date/Time	20-Sep-21 MW01A 9/09/2021	20-Sep-21 QC01 9/09/2021	RPD	20-Sep-21 MW01A 9/09/2021	21-Sep-21 QC01A 9/09/2021	RPD
Method_Type	**ChemName**	**Units**	**EQL**						
Organic	C6-C10 less BTEX (F1)	mg/kg	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<10.0	0
Volatile	Benzene	mg/kg	0.1 (Primary): 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Ethylbenzene	mg/kg	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Toluene	mg/kg	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Xylene (m & p)	mg/kg	0.2 (Primary): 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.5	0
	Xylene (o)	mg/kg	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Xylene Total	mg/kg	0.3 (Primary): 0.5 (Interlab)	<0.3	<0.3	0	<0.3	<0.5	0
Organic	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<1.0	0
	C10-C16	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0
	C16-C34	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0
	C34-C40	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0
	F2-NAPHTHALENE	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0
	C6 - C9	mg/kg	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<10.0	0
	C10 - C40 (Sum of total)	mg/kg	100 (Primary): 50 (Interlab)	<100.0	<100.0	0	<100.0	<50.0	0
	C6-C10	mg/kg	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<10.0	0
TPH	C10 - C14	mg/kg	20 (Primary): 50 (Interlab)	<20.0	<20.0	0	<20.0	<50.0	0
	C15 - C28	mg/kg	50 (Primary): 100 (Interlab)	<50.0	<50.0	0	<50.0	<100.0	0
	C29-C36	mg/kg	50 (Primary): 100 (Interlab)	<50.0	<50.0	0	<50.0	<100.0	0
	+C10 - C36 (Sum of total)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0

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Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Varun**

Report **824079-W**
Project name DIESEL SPILL
Project ID J168829
Received Date Sep 10, 2021

Client Sample ID			**MW01**	**MW01A**	**MW02**	**MW03**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Se25032**	**M21-Se25033**	**M21-Se25034**	**M21-Se25035**
Date Sampled			**Sep 09, 2021**	**Sep 09, 2021**	**Sep 09, 2021**	**Sep 09, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.15	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	0.4	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.55	< 0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.27	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.27	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	0.2	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.47	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	113	109	110	111
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Ferrous Iron - Fe2+	0.05	mg/L	29	12	0.07	2.5
Nitrate (as N)	0.02	mg/L	0.02	< 0.02	< 0.02	0.06
Sulphate (as SO4)	5	mg/L	640	3100	860	700
Alkalinity (speciated)						
Total Alkalinity (as CaCO3)	20	mg/L	< 20	85	< 20	< 20
Heavy Metals						
Manganese (filtered)	0.005	mg/L	2.0	2.1	16	2.6

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Client Sample ID			MW04	MW05	MW06	MW07
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Se25036	M21-Se25037	M21-Se25038	M21-Se25039
Date Sampled			Sep 09, 2021	Sep 09, 2021	Sep 09, 2021	Sep 09, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	103	107	108	109
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Ferrous Iron - Fe2+	0.05	mg/L	4.8	7.4	1.1	18
Nitrate (as N)	0.02	mg/L	< 0.02	< 0.02	0.09	0.13
Sulphate (as SO4)	5	mg/L	800	1700	1100	1600
Alkalinity (speciated)						
Total Alkalinity (as CaCO3)	20	mg/L	< 20	55	26	40
Heavy Metals						
Manganese (filtered)	0.005	mg/L	2.0	0.88	1.3	1.1

Client Sample ID			MW08	QC01	RB01	TB01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Se25040	M21-Se25041	M21-Se25042	M21-Se25043
Date Sampled			Sep 09, 2021	Sep 09, 2021	Sep 09, 2021	Sep 09, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-

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Client Sample ID			MW08	QC01	RB01	TB01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Se25040	M21-Se25041	M21-Se25042	M21-Se25043
Date Sampled			Sep 09, 2021	Sep 09, 2021	Sep 09, 2021	Sep 09, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	110	110	105	106
Dissolved Gases						
Methane	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
Ferrous Iron - Fe2+	0.05	mg/L	5.3	12	< 0.05	-
Nitrate (as N)	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
Sulphate (as SO4)	5	mg/L	1600	3100	< 5	-
Alkalinity (speciated)						
Total Alkalinity (as CaCO3)	20	mg/L	390	78	< 20	-
Heavy Metals						
Manganese (filtered)	0.005	mg/L	1.6	2.1	< 0.005	-

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Sep 14, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 14, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 14, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Sep 14, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins Suite B16A: SO4, CH4, NO3, Fe2+			
Dissolved Gases	Melbourne	Sep 14, 2021	14 Days
- Method: LTM-ORG-2070 by Headspace GC-FID			
Ferrous Iron - Fe2+	Melbourne	Sep 14, 2021	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
Nitrate (as N)	Melbourne	Sep 14, 2021	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Sulphate (as SO4)	Melbourne	Sep 14, 2021	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Alkalinity (speciated)	Melbourne	Sep 14, 2021	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Heavy Metals (filtered)	Melbourne	Sep 14, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Company Name:	Greencap NT P/L	**Order No.:**	PO29175
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	824079
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	DIESEL SPILL		
Project ID:	J168829		

Received:	Sep 10, 2021 9:00 AM
Due:	Sep 17, 2021
Priority:	5 Day
Contact Name:	Varun

Eurofins Analytical Services Manager : Michael Morrison

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Sample Detail						Manganese (filtered)	Total Alkalinity (as CaCO3)	BTEX and Naphthalene	Eurofins Suite B1	Eurofins Suite B16A: SO4, CH4, NO3, Fe2+
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217										
Brisbane Laboratory - NATA # 1261 Site # 20794										
Mayfield Laboratory - NATA # 1261 Site # 25079										
Perth Laboratory - NATA # 2377 Site # 2370										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	MW01	Sep 09, 2021		Water	M21-Se25032	X	X		X	X
2	MW01A	Sep 09, 2021		Water	M21-Se25033	X	X		X	X
3	MW02	Sep 09, 2021		Water	M21-Se25034	X	X		X	X
4	MW03	Sep 09, 2021		Water	M21-Se25035	X	X		X	X
5	MW04	Sep 09, 2021		Water	M21-Se25036	X	X		X	X
6	MW05	Sep 09, 2021		Water	M21-Se25037	X	X		X	X
7	MW06	Sep 09, 2021		Water	M21-Se25038	X	X		X	X
8	MW07	Sep 09, 2021		Water	M21-Se25039	X	X		X	X
9	MW08	Sep 09, 2021		Water	M21-Se25040	X	X		X	X

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IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO29175
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	824079
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	DIESEL SPILL		
Project ID:	J168829		

Received: Sep 10, 2021 9:00 AM
Due: Sep 17, 2021
Priority: 5 Day
Contact Name: Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Manganese (filtered)	Total Alkalinity (as CaCO3)	BTEX and Naphthalene	Eurofins Suite B1	Eurofins Suite B16A: SO4, CH4, NO3, Fe2+
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217										
Brisbane Laboratory - NATA # 1261 Site # 20794										
Mayfield Laboratory - NATA # 1261 Site # 25079										
Perth Laboratory - NATA # 2377 Site # 2370										
External Laboratory										
10	QC01	Sep 09, 2021		Water	M21-Se25041	X	X		X	X
11	RB01	Sep 09, 2021		Water	M21-Se25042	X	X		X	X
12	TB01	Sep 09, 2021		Water	M21-Se25043			X		
Test Counts						11	11	1	11	11

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Dissolved Gases							
Methane	mg/L	< 0.05			0.05	Pass	
Method Blank							
Ferrous Iron - Fe2+	mg/L	< 0.05			0.05	Pass	
Nitrate (as N)	mg/L	< 0.02			0.02	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Method Blank							
Alkalinity (speciated)							
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Heavy Metals							
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	118			70-130	Pass	
TRH C10-C14	%	98			70-130	Pass	
Naphthalene	%	110			70-130	Pass	
TRH C6-C10	%	118			70-130	Pass	
TRH >C10-C16	%	101			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	94			70-130	Pass	
Toluene	%	101			70-130	Pass	
Ethylbenzene	%	105			70-130	Pass	
m&p-Xylenes	%	109			70-130	Pass	
Xylenes - Total*	%	108			70-130	Pass	
LCS - % Recovery							
Dissolved Gases							
Methane	%	80			70-130	Pass	
LCS - % Recovery							
Ferrous Iron - Fe2+	%	113			70-130	Pass	
Nitrate (as N)	%	101			70-130	Pass	
Sulphate (as SO4)	%	110			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M21-Se22712	NCP	%	122			70-130	Pass	
Naphthalene	M21-Se22712	NCP	%	129			70-130	Pass	
TRH C6-C10	M21-Se22712	NCP	%	122			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Se22712	NCP	%	98			70-130	Pass	
Toluene	M21-Se22712	NCP	%	105			70-130	Pass	
Ethylbenzene	M21-Se22712	NCP	%	110			70-130	Pass	
m&p-Xylenes	M21-Se22712	NCP	%	113			70-130	Pass	
o-Xylene	M21-Se22712	NCP	%	110			70-130	Pass	
Xylenes - Total*	M21-Se22712	NCP	%	112			70-130	Pass	
Spike - % Recovery									
				Result 1					
Nitrate (as N)	M21-Se25032	CP	%	89			70-130	Pass	
Sulphate (as SO4)	S21-Se21058	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Manganese (filtered)	M21-Se22658	NCP	%	98			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M21-Se25034	CP	%	77			70-130	Pass	
TRH >C10-C16	M21-Se25034	CP	%	78			70-130	Pass	
Spike - % Recovery									
Dissolved Gases				Result 1					
Methane	M21-Se25035	CP	%	102			70-130	Pass	
Spike - % Recovery									
Dissolved Gases				Result 1					
Methane	M21-Se25042	CP	%	81			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Ferrous Iron - Fe2+	M21-Se25032	CP	mg/L	29	29	1.0	30%	Pass	
Nitrate (as N)	M21-Se25032	CP	mg/L	0.02	< 0.02	37	30%	Fail	Q15
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Total Alkalinity (as CaCO3)	M21-Se10511	NCP	mg/L	410	**	2.3	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M21-Se25033	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Se25033	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Se25033	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M21-Se25033	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Se25033	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Se25033	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Manganese (filtered)	M21-Se25035	CP	mg/L	2.6	2.9	9.0	30%	Pass	
Duplicate									
Dissolved Gases				Result 1	Result 2	RPD			
Methane	M21-Se25036	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ferrous Iron - Fe2+	M21-Se25036	CP	mg/L	4.8	4.8	1.0	30%	Pass	

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Duplicate									
				Result 1	Result 2	RPD			
Sulphate (as SO4)	M21-Se25041	CP	mg/L	3100	3100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Sulphate (as SO4)	M21-Se25042	CP	mg/L	< 5	< 5	<1	30%	Pass	

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
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
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Emily Daos	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2132570**	Page	: 1 of 5
Client	: **GREENCAP-NAA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR DYLAN BYFORD	Contact	: Peter Ravlic
Address	: 11/14 Winnellie Road WINNELLIE NT, AUSTRALIA 0820	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 08 8299 9955	Telephone	: +6138549 9645
Project	: J168829 ORA Spill	Date Samples Received	: 15-Sep-2021 10:00
Order number	: PO291976	Date Analysis Commenced	: 15-Sep-2021
C-O-C number	: ----	Issue Date	: 21-Sep-2021 17:31
Sampler	: VARUN BHAGWAT		
Site	: Berrimah Freight Terminal		
Quote number	: EN/333 - secondary work only		
No. of samples received	: 1		
No. of samples analysed	: 1		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

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General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.

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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC01A	----	----	----	----
				Sampling date / time	09-Sep-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2132570-001	--------	--------	--------	--------
					Result	----	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		79	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		79	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		2800	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Manganese	7439-96-5	0.001	mg/L		1.72	----	----	----	----
EG051G: Ferrous Iron by Discrete Analyser									
Ferrous Iron	----	0.05	mg/L		14.0	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EP033: C1 - C4 Hydrocarbon Gases									
Methane	74-82-8	10	µg/L		<10	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----

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Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC01A	----	----	----	----
				Sampling date / time	09-Sep-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2132570-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080: BTEXN - Continued									
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**131**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**129**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**123**	----	----	----	----

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Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

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Winnellie, NT 0820
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11 October 2021

Adam Reed
Environment Manager
One Rail Australia
Level 3, 33 Richmond Road, Keswick
South Australia 5035

RE: BERRIMAH FREIGHT RAIL TERMINAL DIESEL SPILL – SURFACE WATER AND SEDIMENT SAMPLING (FEBRUARY TO SEPTEMBER 2021)

1.0 Introduction

Greencap Pty Ltd (Greencap) was commissioned by One Rail Australia (ORA) to conduct weekly surface water and sediment inspections in relation to the storage and management of diesel-impacted material at the Berrimah Freight Terminal, 75 O'Sullivan Circuit, Berrimah, Northern Territory (the Site).

The objective of the inspections was to identify any potential impacts relating to the presence of a diesel-impacted stockpile. The inspection program included discretionary sampling to support the observations.

A diesel spill occurred on the Site on 30 May 2020 and approximately 800m^3 of contaminated soil was removed and stockpiled on site. The contaminated soil was placed on a plastic liner and covered with layers of plastic. Lesser contaminated material was placed on top and also covered with plastic. The top plastic layer covering the whole stockpile was removed after a period of high winds that resulted in damage to the covering, increasing the risk of the plastic being windblown to either onto operational rail lines or into the mangrove environment. The plastic liner was subsequently replaced and well secured with sediment fencing and ballast also installed along the drain line frontage of the stockpile to capture and reduce any runoff from the stockpile.

As per the *Remediation Management Plan*, the stockpile was relocated over a period of four months between May and August 2021 to an alternative location approximately 150m south of the original location for remediation purposes. During the relocation period, the plastic layer covering the stockpile was completely removed, however, the sediment fencing and ballast installed along the drain line frontage of the stockpile remained in place.

The stockpile has now been completed relocated and the sediment fencing and ballast remain in place.

2.0 Observations, Surface Water and Sediment Sampling

The drain network and areas surrounding the diesel-impacted stockpile were visually assessed for potential migration of impacted material.

Surface water and sediment sampling locations are associated with drains downgradient of the spill site and are presented in **Attachment 2**. Justification for the locations are outlined in Table 1.

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Table 1 – Surface Water and Sediment Monitoring Details

Location ID	Target
1	Culvert under 1 road – evidence of migration of diesel from existing impacts underlying rail lines
2	Stormwater drain directing water offsite – delineation sampling point if impacts are identified at sample location 1 and/or impact associated from potential soil loss from the hydrocarbon-impact material storage area
3	Stormwater discharge point – contingency stormwater sampling point if impacts are identified at sample locations 1 and/or 2
4	Receiving environment – contingency stormwater sampling point if impacts are identified at sample locations 1 and/or 2

Surface water (stormwater) samples were collected as appropriate when stormwater was present in the drains. In the event that no water was present at any given sample location, only a sediment sample was collected. Surface water and sediment samples were analysed for fuel-related contamination, i.e., TRH and BTEX.

2.1 Sampling Methodology

Surface water and sediment samples were collected using techniques in accordance with GMMP requirements. The following methodology was applied:

- Surface water samples were collected from the stormwater drains directly into the appropriate sampling containers with the aid of an extension pole.
- All surface water samples were collected in appropriate, decontaminated bottles/vials provided by an analytical laboratory and immediately placed in a chilled portable cooler for transportation to a laboratory.
- Sediment samples were collected using decontaminated stainless steel hand trowels from the base of the drains. Collected samples were placed in containers provided by an analytical laboratory.
- All sediment samples were immediately placed in a chilled portable cooler for transportation to a laboratory.

2.2 Field Observations and Analytical Results

A potential hydrocarbon sheen on surface water was noted in the drain during the 5 February 2021 and 16 April 2021 inspections. No visual or olfactory evidence of fuel-impact was observed in any of the sediment samples collected. A subset of these samples was analysed to confirm no impacts were present.

Surface water and sediment samples were analysed for total recoverable hydrocarbons (TRH) and benzene, toluene, ethylbenzene, xylene and naphthalene (BTEXN) at National Association of Testing Authorities (NATA)-accredited laboratories (Eurofins and ALS).

All surface water results are presented as a chart in Figure 1.

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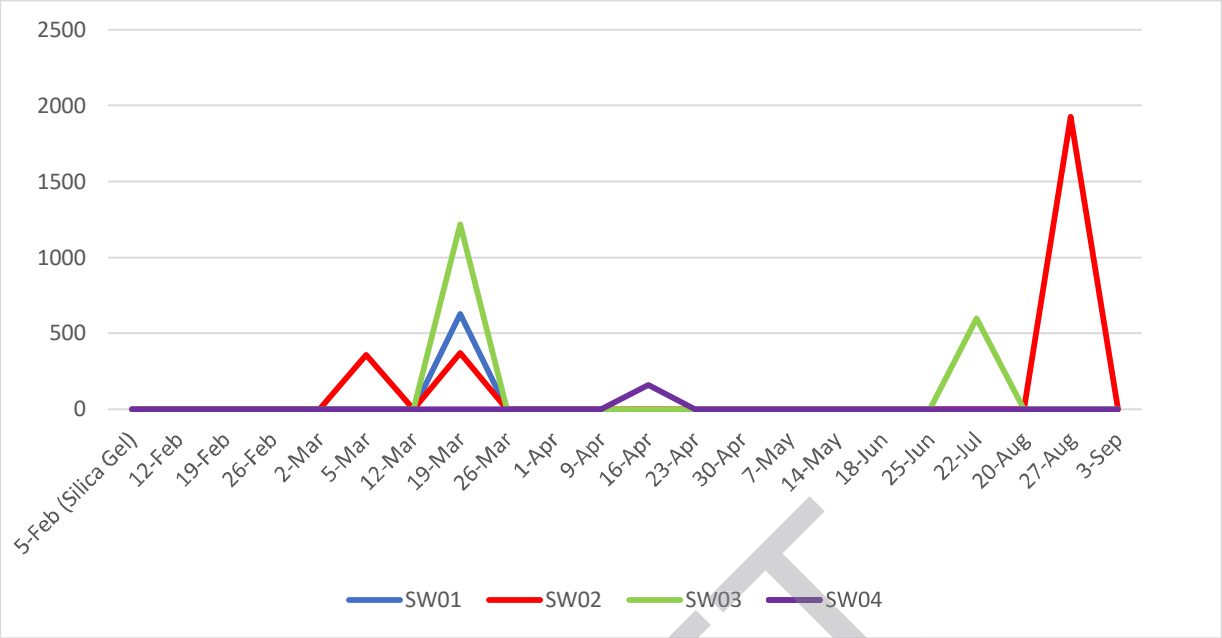


Figure 1 - TRH >C_{10}-C_{40} Results (µg/L)

The first sampling event occurred on 5 February 2021 and the last sampling event occurred on 3 September 2021.

The majority of results reported throughout the monitoring program were below LORs. Results are included in **Attachment 3** and elevated results above LORs are summarised in Table 2. TRH fractions >C_{10}-C_{40} have been assessed as a proxy for indicative impact rather than specific review of various fractions. Laboratory certificates are included in **Appendix A.**

Table 2 – Elevated Stormwater Analytical Results (µg/L)

Location	Sample Date	>C_{10}-C_{40}	>C_{10}-C_{40} post silica-gel clean-up
SW01	5-Feb-21	400	<LOR
	19-Mar-21	630	N/A
SW02	5-Mar-21	360	N/A
	19-Mar-21	370	N/A
	27-Aug-21	1930	N/A
SW03	5-Feb-21	270	<LOR
	19-Mar-21	1,220	N/A
	22-Jul-21	600	N/A
SW04	5-Feb-21	200	<LOR
	16-Apr-21	160	N/A

As shown in Table 2, hydrocarbons were reported above LORs during six of the 22 (27%) sampling events – February (SW01), March (SW01, SW02 and SW03), April (SW04), July (SW03) and August (SW02). 10 of 61 (16%) samples collected were reported above LORs.

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Three results (SW01, SW03 and SW04) reported concentration above limits of reporting (LORs) after this first monitoring event in February 2021. As a significant quantity of organic matter was observed at these locations, additional TRH analyses were conducted following a silica gel clean-up on all elevated samples. The silica gel clean-up reported all results below LORs. This indicates that the TRH concentrations reported initially are not associated with anthropogenic causes and are likely to be associated with organic matter in the soils at the locations tested.

The results from the 19 March monitoring round are considered to be potentially attributable to site activity, the exact source of which is unclear. It is likely that the source was upgradient of the diesel-impacted stockpile as impacts were reported in SW01. The impact is considered isolated as it was not reported at the receiving environment (SW04), nor was it repeated in the subsequent monitoring round.

The three results reported above LORs (SW02 on 5 March, SW04 on 16 April and SW03 on 22 July) are possibly due to natural degradation of organic matter as evidenced by the silica-gel clean-up conducted on the original samples collected in February. Furthermore, no upgradient impact was identified on 16 April suggesting the impact reported at the discharge to the mangrove environment is likely from the greater catchment area rather than the ORA site.

A sample was collected from SW02 on August 27 as water was present due to heavy rains occurring a few days prior. The reported result above the LOR is potentially attributable to site activity, the exact source of which is unclear. The stockpile had been completely relocated prior to August 27. The impact is considered isolated as it was not reported further along the drain (SW03), the receiving environment (SW04), nor was it repeated in the subsequent monitoring round (September 3).

It is noted that with the majority of surface water samples were collected from SW03 and SW04 due to the onset of the dry season from mid-April. Only a small number of samples were collected from SW02 as limited water was present.

All sediment results analysed with the exception of SED 2 (adjacent stockpile), were reported below LORs. From early May onwards the stockpile was uncovered, however sediment control measures (ballast and sediment fencing) were in place to mitigate against the migration of soil from the stockpile. Results from SED 2 were reported above LORs for the 14 & 20 May 2021, 9 & 18 June 2021 and 22 July 2021 sampling events. A silica-gel clean-up was conducted on the original reported result from 20 May (610mg/kg) which still produced an elevated result of 470mg/kg. Whilst no visual and/or olfactory evidence of fuel impacts were observed it is possible that fuel impacts were present. On 9 June 2021, sediment samples were collected slightly up and downgradient of SED 2. The upgradient sample reported a result of 130mg/kg in comparison to 220mg/kg from the original result. Results from the down gradient sample were reported below LORs. No results were reported above LORs in the downgradient surface waters (SW03 and SW04) collected during the same monitoring rounds.

An approximate 0.1m layer of sediment was removed from the drain adjacent to the stockpile where SED 2 is located. SED 2 was resampled on 25 June 2021 and no results were reported above LORs. An isolated result was reported above the LOR for the sample collected on 22 July 2021, with subsequent results below detection limits up until and including the final sampling event on 3 September 2021.

2.3 QA/QC Results

Duplicate Analysis

Field duplicates (QC01 and QC01A, duplicates of SW03) were collected on 14 May 2021 and analysed at the primary (Eurofins) and secondary (ALS) laboratories for TRH and BTEXN.

Duplicate analytical results were assessed by calculating relative percent differences (RPDs) between primary sample results and duplicate sample results. All of the laboratory duplicate surface water analyses had RPD values below the recommended comparison criteria of 50%.

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A table summarising the duplicate sample results is presented at the end of this report (refer to **Attachment 4**).

Blank Analyses

Rinsate blank samples (RB01) were collected during all sampling events and analysed at the primary laboratory for TRH and BTEXN. The rinsate blank samples were collected from decontaminated sampling equipment to ensure adequate cleaning has occurred.

Trip blank samples (TB01) were prepared and kept with the samples in the portable cooler for the duration of each sampling event and delivered to the primary laboratory for BTEXN analysis. The trip blanks were prepared using de-ionised water to detect potential cross-contamination throughout sampling and sample delivery.

Results for rinsate and trip blank samples are presented in the laboratory certificates included in **Appendix A** and show that no concentrations above LORs were reported indicating adequate cleaning and the absence of cross contamination.

3.0 Conclusions

Greencap was commissioned by One Rail Australia to conduct weekly site inspections supported by surface water and sediment sampling in relation to the storage and management of diesel-impacted material at the Berrimah Freight Terminal. The objective of the monitoring was to assess for any release of diesel/diesel-impacted sediment from the adjacent diesel-impacted stockpile.

Hydrocarbon impacts in stormwater were detected in six of the 22 monitoring events, four of which are attributable to factors unrelated to the storage of the diesel-impacted material as follows:

- The detections reported on 5 February 2021 are considered associated with the natural degradation of organic matter.
- The detections reported on 19 March 2021 are associated with unrelated site activities upgradient from the stockpile, the exact source of which in uncertain. It is noted that no impact was reported in the receiving environment (SW04).
- The detections reported on 16 April 2021 and 22 July 2021 are likely due to the natural degradation of organic matter and/or minor stormwater impacts associated with the greater catchment area. The detection in SW02 adjacent the stockpile is potentially associated with the storage of the material. It is noted that this impact did not migrate beyond this location as no impacts were reported in the subsequent downgradient locations, inclusive of the receiving environment.
- The detection reported on 27 August 2021 may be attributable to site activity, the exact source of which is unclear. The impact is considered to be isolated as it was not reported at the receiving environment (SW04), nor was it repeated in the subsequent monitoring round (3 September 2021).

All sediment results analysed with the exception of SED 2 (adjacent stockpile) were reported below detection limits. Results from SED 2 were reported above the limits of reporting on a number of occasions although no visual and/or olfactory evidence of fuel impacts were observed. Upgradient and downgradient sediment sample results demonstrated that the impacts were localised. Subsequently, approximately 0.1m layer of sediment was removed from the drain adjacent to the stockpile where SED 2 is located. SED 2 was resampled on 25 June 2021 and no results were reported above limits of reporting.

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Yours Sincerely,



Varun Bhagwat
Environmental Consultant – NT



Dylan Burford
Practice Manager – Environmental & Contaminated Land Management

Attachments

1	Statements of Limitation
2	Surface Water and Sediment Location Plan
3	Results Summary Tables
4	QA/QC Summary Tables
5	Photographic Log

Appendices

A	Laboratory Certificates of Analysis

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Surface Water and Sediment Sampling – February to September 2021

One Rail Australia

BERRIMAH FREIGHT RAIL TERMINAL DIESEL SPILL

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Attachment 1: Statements of Limitation

Statements of Limitation

All and any Services proposed by Greencap to the Client were subject to the Terms and Conditions listed on the Greencap website at: https://www.greencap.com.au/terms-conditions Unless otherwise expressly agreed to in writing and signed by Greencap, Greencap does not agree to any alternative terms or variation of these terms if subsequently proposed by the Client. The Services were carried out in accordance with the current and relevant industry standards of testing, interpretation and analysis. The Services were carried out in accordance with Commonwealth, State, Territory or Government legislation, regulations and/or guidelines. The Client was deemed to have accepted these Terms when the Client signed the Proposal (where indicated) or when the Company commenced the Services at the request (written or otherwise) of the Client.

The services were carried out for the Specific Purpose, outlined in the body of the Proposal. To the fullest extent permitted by law, Greencap, its related bodies corporate, its officers, consultants, employees and agents assume no liability, and will not be liable to any person, or in relation to, any losses, damages, costs or expenses, and whether arising in contract, tort including negligence, under statute, in equity or otherwise, arising out of, or in connection with, any matter outside the Specific Purpose.

The Client acknowledged and agreed that proposed investigations were to rely on information provided to Greencap by the Client or other third parties. Greencap made no representation or warranty regarding the completeness or accuracy of any descriptions or conclusions based on information supplied to it by the Client, its employees or other third parties during provision of the Services. Under no circumstances shall Greencap have any liability for, or in relation to, any work, reports, information, plans, designs, or specifications supplied or prepared by any third party, including any third party recommended by Greencap. The Client releases and indemnifies Greencap from and against all Claims arising from errors, omissions or inaccuracies in documents or other information provided to Greencap by the Client, its employees or other third parties.

The Client was to ensure that Greencap had access to all information, sites and buildings as required by or necessary for Greencap to undertake the Services. Notwithstanding any other provision in these Terms, Greencap will have no liability to the Client or any third party to the extent that the performance of the Services was not able to be undertaken (in whole or in part) due to access to any relevant sites or buildings being prevented or delayed due to the Client or their respective employees or contractors expressing safety or health concerns associated with such access.

Unless otherwise expressly agreed to in writing and signed by Greencap, Greencap, its related bodies corporate, its officers, employees and agents assume no liability and will not be liable for lost profit, revenue, production, contract, opportunity, loss arising from business interruption or delay, indirect or consequential loss or loss to the extent caused or contributed to by the Client or third parties, suffered or incurred arising out of or in connection with our Proposals, Reports, the Project or the Agreement. In the event Greencap is found by a Court or Tribunal to be liable to the Client for any loss or damage arising in connection with the Services, the Client's entitlement to recover damages from Greencap shall be reduced by such amount as reflects the extent to which any act, default, omission or negligence of the Client, or any third party, caused or contributed to such loss or damage. Unless otherwise agreed in writing and signed by both parties, Greencap's total aggregate liability will not exceed the total consulting fees paid by the client in relation to this Proposal. For further detail, see Greencap's Terms and Conditions available at https://www.greencap.com.au/terms-conditions

The Report is provided for the exclusive use of the Client and for this Project only, in accordance with the Scope and Specific Purpose as outlined in the Agreement, and only those third parties who have been authorized in writing by Greencap. It should not be used for other purposes, other projects or by a third party unless otherwise agreed and authorized in writing by Greencap. Any person relying upon this Report beyond its exclusive use and Specific Purpose, and without the express written consent of Greencap, does so entirely at their own risk and without recourse to Greencap for any loss, liability or damage. To the extent permitted by law, Greencap assumes no responsibility for any loss, liability, damage, costs or expenses arising from interpretations or conclusions made by others, or use of the Report by a third party. Except as specifically agreed by Greencap in writing, it does not authorize the use of this Report by any third party. It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

The conclusions, or data referred to in this Report, should not be used as part of a specification for a project without review and written agreement by Greencap. This Report has been written as advice and opinion, rather than with the purpose of specifying instructions for design or redevelopment. Greencap does not purport to recommend or induce a decision to make (or not make) any purchase, disposal, investment, divestment, financial commitment or otherwise in relation to the site it investigated.

This Report should be read in whole and should not be copied in part or altered. The Report as a whole set outs the findings of the investigations. No responsibility is accepted by Greencap for use of parts of the Report in the absence (or out of context) of the balance of the Report.

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Attachment 2: Surface Water and Sediment Location Plan



Location ID	Description
1	Spill side of culvert. Immediately downgradient from spill
2	Further downgradient from spill and adjacent stockpile of impacted material
3	Stormwater sampling contingency point – this is a drain that goes under the rail line into the mangroves
4	Sediment sampling contingency point – discharge point

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Surface Water and Sediment Sampling – February to September 2021

One Rail Australia

BERRIMAH FREIGHT RAIL TERMINAL DIESEL SPILL

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Attachment 3: Results Summary Tables

GREENCAP

One Rail Diesel Spill - Weekly Surface Water Results
February - September 2021

J168829-05

Sample ID	Date	Lab Report #	TRH - 1999 NEPM Fractions (µg/L)					TRH - 2013 NEPM Fractions (µg/L)						Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylene (µg/L)			Naphthalene (µg/L)	Comments
			C_6-C_9	$C_{10}-C_{14}$	$C_{15}-C_{28}$	$C_{29}-C_{36}$	C_6-C_{36} (Total)	C_6-C_{10}	F1	$>C_{10}-C_{16}$	F2	F3	F4	$>C_{10}-C_{36}$ Total				m-	p-	o-		
CRC Care HSL Intrusive Workers, Sand (2-<4m)								NL		NL					NL	NL	NL				NL	NL	
NEPM HSL[1]			-	-	-	-	-	-	6,000	-	NL	-	-	-	5,000	NL	NL	NL	NL	NL	NL	NL	
ANZECC[2]			-	-	-	-	-	-	-	-	-	-	-	-	500	110	50	90	200	350	50		
Fish (n=3)[3]			-	-	-	-	1400-2200	-	-	-	-	-	-	1400-2200	-	-	-	-	-	-	-		
Crustacean (N=8)[3]			-	-	-	-	300-4500	-	-	-	-	-	-	300-4500	-	-	-	-	-	-	-		
Molluscs (n=1)[3]			-	-	-	-	600	-	-	-	-	-	-	600	-	-	-	-	-	-	-		
Annelids (n=6)[3]			-	-	-	-	800-3200	-	-	-	-	-	-	800-3200	-	-	-	-	-	-	-		
Algae (n=6)[3]			-	-	-	-	500-1600	-	-	-	-	-	-	500-1600	-	-	-	-	-	-	-		
SW01	5/02/2021	772780	<20	<50	**400**	<100	**400**	<20	<30	<50	<50	**400**	<300	**400**	<1	<1	<1		<2	<1	<10		
SW01 (after silica gel clean-up)	5/02/2021	772799	<20	<50	<100	<100	<100	<20	<30	<50	<50	<300	<300	<100	-	-	-		-	-	-		
SW02	5/02/2021	772780	<20	<50	<100	<100	<100	<20	<30	<50	<50	<300	<300	<100	<1	<1	<1		<2	<1	<30		
SW03	5/02/2021	772780	<20	<50	**300**	<100	**300**	<20	<30	**70**	**70**	**200**	<300	**270**	<1	<1	<1		<2	<1	<30		
SW03 (after silica gel clean-up)	5/02/2021	772799	<20	<50	<100	<100	<100	<20	<30	<50	<50	<300	<300	<100	-	-	-		-	-	-		
SW04	5/02/2021	772780	<20	<50	**200**	<300	**200**	<20	<30	<50	<50	**200**	<300	**200**	-	-	-		-	-	-		
SW04 (after silica gel clean-up)	5/02/2021	772799	<20	<50	<100	<300	<100	<20	<30	<50	<50	<300	<300	<100	<1	<1	<1		<2	<1	<30		
SW01	12/02/2021	774165	<20	<50	<100	<300	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<30		
SW02	12/02/2021	774165	<20	<50	<100	<300	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<30		
SW03	12/02/2021	774165	<20	<50	<100	<300	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<30		
SW04	12/02/2021	774165	<20	<50	<100	<300	<100	<20	<20	<50	<50	<100	<100	<100	<1	**<1**	<1		<2	<1	<30		
SW01	19/02/2021	775472	<20	<50	<100	<300	<100	<20	<20	<50	<50	<100	<100	<100	<1	**<1**	<1		<2	<1	<30		
SW02	19/02/2021	775472	<20	<50	<100	<300	<100	<20	<20	<50	<50	<100	<100	<100	<1	**<1**	<1		<2	<1	<30		
SW03	19/02/2021	775472	<20	<50	<100	<300	<100	<20	<20	<50	<50	<100	<100	<100	**<1**	**<1**	<1		<2	<1	<10		
SW04	19/02/2021	775472	<20	<50	<100	<300	<100	<20	<20	<50	<50	<100	<100	<100	<1	**<1**	**<1**		<2	<1	<10		
SW01	26/02/2021	777332	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	**<1**	**<1**		<2	<1	<10		
SW02	26/02/2021	777332	<20	<50	<300	<100	<100	<20	<20	<50	<50	<100	<100	**<100**	<1	**<1**	**<1**		<2	<1	<10		
SW03	26/02/2021	777332	<20	<50	<300	<100	<100	<20	<20	<50	<50	<100	<100	**<100**	<1	**<1**	**<1**		<2	<1	<10		
SW04	26/02/2021	777332	<20	<50	<300	<100	<100	<20	<20	<50	<50	**<100**	**<100**	**<100**	**<1**	<1	**<1**		**<2**	<1	<10		
SW01	5/03/2021	778962	<20	<50	<300	<100	<100	<20	<20	<50	<50	**<100**	**<100**	**<100**	**<1**	<1	**<1**		**<2**	<1	<10		
SW02	5/03/2021	778962	<20	<50	**400**	<100	**400**	<20	<20	**60**	**60**	**300**	**<100**	**360**	**<1**	<1	**<1**		**<2**	<1	<10		
SW03	5/03/2021	778962	<20	<50	<300	<100	<100	<20	<20	<50	<50	**<100**	**<100**	**<100**	**<1**	**<1**	**<1**		**<2**	<1	<10		
SW04	5/03/2021	778962	<20	<50	<300	<100	<100	<20	<20	<50	<50	**<100**	**<100**	**<100**	**<1**	**<1**	<1		**<2**	<1	<10		
SW01	12/03/2021	780826	<20	<50	<300	<100	<100	<20	<20	<50	**<50**	**<100**	**<100**	**<100**	**<1**	**<1**	<1		**<2**	<1	<10		
SW02	12/03/2021	780826	<20	<50	<300	<100	<100	<20	<20	<50	**<50**	**<100**	**<100**	**<100**	**<1**	**<1**	<1		<2	<1	<10		
SW03	12/03/2021	780826	<20	<50	<300	<100	<100	<20	<20	<50	**<50**	**<100**	**<100**	**<100**	**<1**	**<1**	**<1**		<2	<1	<10		
SW04	12/03/2021	780826	<20	<50	<300	<100	<100	<20	<20	**<50**	**<50**	**<100**	<300	**<100**	**<1**	**<1**	**<1**		<2	<1	<10		
SW01	19/03/2021	782057	<20	**70**	**900**	<100	**570**	**<20**	**<20**	130	**130**	500	**<100**	**630**	**<1**	**<1**	<1		<2	<1	<10	Oil leak from diesel used on excavator 80m south of stockpile. Heavy rains causing leak to flow into stormwater drains.	
SW02	19/03/2021	782057	<20	<50	**300**	<100	**300**	**<20**	**<20**	**70**	**70**	**300**	**<100**	**370**	**<1**	<1	<1		<2	<1	<10		
SW03	19/03/2021	782057	<20	**90**	**700**	**300**	**1090**	**<20**	**<20**	**120**	**120**	**99**	**200**	**1220**	<1	<1	<1		<2	<1	<10		
SW04	19/03/2021	782057	<20	<50	<100	<100	**<100**	**<20**	**<20**	**<50**	**<50**	<100	**<100**	**<300**	<1	<1	<1		<2	<1	<10		
SW01	26/03/2021	783910	<20	<50	**<100**	<100	<100	**<20**	**<20**	**<50**	**<50**	<100	**<100**	**<300**	<1	<1	<1		<2	<1	<10	Heavy rains present during sampling.	
SW02	26/03/2021	783910	<20	<50	**<100**	<100	**<100**	<20	<20	**<50**	**<50**	**<100**	<100	**<300**	<1	<1	<1		<2	<1	<10		
SW03	26/03/2021	783910	<20	<50	**<100**	<100	**<100**	<20	<20	<50	**<50**	**<100**	<100	<300	<1	<1	<1		<2	<1	<10		
SW04	26/03/2021	783910	<20	**<50**	**<100**	<100	**<100**	**<20**	<20	<50	<50	**<100**	**<100**	<300	<1	<1	<1		<2	<1	<10		
SW01	1/04/2021	785284	<20	**<50**	**<100**	**<100**	**<100**	**<20**	<20	<50	<50	**<100**	<100	<300	<1	<1	<1		<2	<1	<10		
SW02	1/04/2021	785284	**<20**	**<50**	**<100**	**<100**	<100	**<20**	<20	**<50**	<50	<100	<100	<300	<1	<1	<1		<2	<1	<10		
SW03	1/04/2021	785284	**<20**	**<50**	**<100**	**<100**	<100	<20	<20	**<50**	**<50**	<100	<100	<300	<1	<1	<1		<2	<1	<10		
SW04	1/04/2021	785284	**<20**	**<50**	**<100**	**<100**	<100	<20	**<20**	**<50**	**<50**	<100	<100	<300	<1	<1	<1		<2	<1	<10		
SW01	9/04/2021	786269	**<20**	**<50**	**<100**	**<100**	<100	<20	**<20**	**<50**	**<50**	<100	<100	<300	<1	<1	<1		<2	<1	<10		
SW02	9/04/2021	786269	<20	<50	**<100**	**<100**	<100	**<20**	**<20**	**<50**	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW03	9/04/2021	786269	**<20**	<50	**<100**	**<100**	<100	**<20**	**<20**	**<50**	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW04	9/04/2021	786269	**<20**	<50	**<100**	**<100**	<100	<20	**<20**	**<50**	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW01	16/04/2021		Not sampled as no water present																				
SW02	16/04/2021	788411	**<20**	<50	**<100**	**<100**	**<100**	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10	Sheen observed on surface water, possibly naturally occuring.	
SW03	**16/04/2021**	788411	<20	**<50**	**<100**	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10	Water stagnant, no water flowing from stockpile into stormwater drain.	
SW04	**16/04/2021**	788411	**<20**	**<50**	**<100**	**<100**	<100	<20	<20	**160**	**160**	<100	<100	**160**	<1	<1	<1		<2	<1	<10		
SW01	**21/04/2021**		Not sampled as no water present																				
SW02	**21/04/2021**																						
SW03	21/04/2021	**790052**	<20	**<50**	**<100**	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW04	**21/04/2021**	**790052**	<20	**<50**	**<100**	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW01	**30/04/2021**		Not sampled as no water present																				
SW02	**30/04/2021**	**791810**	**<20**	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW03	**30/04/2021**	**791810**	**<20**	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW04	**30/04/2021**	**791810**	**<20**	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW01	**7/05/2021**		Not sampled as no water present																				
SW02	**7/05/2021**																						
SW03	**7/05/2021**	**793630**	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW04	**7/05/2021**	**793630**	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW01	**14/05/2021**		Not sampled as no water present																				
SW02	**14/05/2021**																						
SW03	**14/05/2021**	795567	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW04	**14/05/2021**	795567	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW01	18/06/2021		Not sampled as no water present																				
SW02	18/06/2021																						
SW03	18/06/2021	804967	<20	<50	<100	<100	<300	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW04	18/06/2021	804967	<20	<50	<100	<100	<300	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW01	25/06/2021		Not sampled as no water present																				
SW02	25/06/2021																						
SW03	25/06/2021	806486	<20	<50	<100	<100	<300	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1		<2	<1	<10		
SW04	25/06/2021	806846	<20	<50	<100	<100	<300	<20	<20	<50	<50	<100	<300	<100	<1	<1	<1		<2	<1	<10		
SW01	22/07/2021		Not sampled as no water present																				
SW02	22/07/2021																						
SW03	22/07/2021	813399	<20	**90**	**200**	**200**	**490**	<20	<20	**100**	**100**	**300**	**200**	**600**	<1	<1	<1		<2	<1	<10		
SW04	22/07/2021	813399	<20	<50	<100	<100	<300	<20	<20	<50	<50	<100	<300	<100	<1	<1	<1		<2	<1	<10		
SW01	20/08/2021		Not sampled as no water present																				
SW02	20/08/2021																						
SW03	20/08/2021	819720	<20	<50	<100	<100	<300	<20	<20	<50	<50	<100	<300	<100	<1	<1	<1		<2	<1	<10		
SW04	20/08/2021	819720	<20	<50	<100	<100	<300	<20	<20	<50	<50	<100	<300	<100	<1	<1	<1		<2	<1	<10		
SW02	27/08/2021	820390	<20	**300**	**1500**	**200**	**2000**	<20	<20	<50	**630**	**1200**	**100**	**1930**	<1	<1	<1		<2	<1	<10	Heavy rains a few days prior, water flowing in drain.	
SW01	3/09/2021		Not sampled as no water present																				
SW02	3/09/2021																						
SW03	3/09/2021	822097	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<300	<100	<1	<1	<1		<2	<1	<10		
SW04	3/09/2021	822097	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<300	<100	<1	<1	<1		<2	<1	<10		

F1 = C_6-C_{10} less BTEX; F2 = $>C_{10}-C_{16}$ less naphthalene; F3 = $>C_{16}-C_{34}$; F4 = $>C_{34}-C_{44}$

1 = Groundwater Health Screening Level for vapour intrusion – Commercial/industrial land use with sand 2 m to <4 m. *Assessment of Site Contamination National Environment Protection Measure* (1999). National Environment Protection Council (as amended 2013)

2 = Marine ecosystems (95% protection) – ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at www.waterquality.gov.au/anz-guidelines

3 = Table 8.3.24 from ANZECC 2018 Toxicity ranges for different oils to marine organisms—from from Tsvetnenko (1998). LC50 figures normalised (Hamoda et al. 1989) (mg/L)

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				TRH			BTEXN				
				C6-C10 - BTEX (F1)	TRH >C16-C34	TRH>C16-C34 (Silica Gel Cleanup)	Benzene	Ethylbenzene	Toluene	Xylene (total)	Naphthalene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR				20	100	100	0.1	0.1	0.1	0.2	0.5
CRC Care HSLs Comm/Ind HSL Direct Contact					27000		430	27000	99000	81000	11000
CRC Care HSLs Intrusive Workers HSL Direct Contact					85000		1100	85000	120000	130000	29000
CRC Care HSLs Intrusive Workers HSL Vapour, Sand (0-<2m)					NL		77	NL	NL	NL	NL
ANZ Guidelines Trigger Value				>LOR	280	280	>LOR	>LOR	>LOR	>LOR	>LOR
1-2m				370			3	NL	NL		NL
2-4m				630			3	NL	NL		NL
>4m				NL			3	NL	NL		NL
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil				215	2500		95	185	135		
Location	Field ID	Sample Date	Lab Report #								
1	SED 1	5/02/2021	772780	<20	<20	-	<0.1	<0.1	<0.1	<0.2	<0.5
		2/03/2021	778025	<20	<20	-	<0.1	<0.1	<0.1	<0.2	<0.5
2	SED 2	5/02/2021	772780	<20	<20	-	<0.1	<0.1	<0.1	<0.2	<0.5
		2/03/2021	778025	<20	<20	-	<0.1	<0.1	<0.1	<0.2	<0.5
		16/04/2021	788411	<20	<20	-	<0.1	<0.1	<0.1	<0.2	<0.5
		14/05/2021	795567	<20	340	-	<0.1	<0.1	<0.1	<0.2	<0.5
		20/05/2021	797042	<20	610	-	<0.1	<0.1	<0.1	<0.2	<0.5
		20/05/2021	798997	-	-	470	-	-	-	-	-
		9/06/2021	802076	<20	220	-	<0.1	<0.1	<0.1	<0.2	<0.5
		18/06/2021	804967	<20	370	-	<0.1	<0.1	<0.1	<0.2	<0.5
		25/06/2021	806486	<20	<100	-	<0.1	<0.1	<0.1	<0.2	<0.5
		22/07/2021	813399	<20	110	-	<0.1	<0.1	<0.1	<0.2	<0.5
		3/09/2021	822097	<20	<100	-	<0.1	<0.1	<0.1	<0.2	<0.5
	SED 2 (UP)	9/06/2021	802076	<20	130	-	<0.1	<0.1	<0.1	<0.2	<0.5
	SED 2 (DOWN)	9/06/2021	802076	<20	<100	-	<0.1	<0.1	<0.1	<0.2	<0.5
3	SED 3	5/02/2021	772780	<20	<20	-	<0.1	<0.1	<0.1	<0.2	<0.5
		2/03/2021	778025	<20	<20	-	<0.1	<0.1	<0.1	<0.2	<0.5

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Surface Water and Sediment Sampling – February to September 2021

One Rail Australia

BERRIMAH FREIGHT RAIL TERMINAL DIESEL SPILL

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Attachment 4: QA/QC Summary Tables

			SDG Field ID Sampled Date/Time	18-May-21 SW03 14/05/2021	18-May-21 QC01 14/05/2021	RPD	18-May-21 SW03 14/05/2021	21-May-21 QC01A 14/05/2021	RPD
Method_Type	**ChemName**	**Units**	**EQL**						
Organic	C6-C10 less BTEX (F1)	mg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
Volatile	Benzene	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0
	Ethylbenzene	mg/L		<0.001	<0.001	0	<0.001	<0.001	0
	Toluene	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0
	Xylene (m & p)	mg/L	0.002	<0.002	<0.002	0	<0.002	<0.002	0
	Xylene (o)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0
	Xylene Total	mg/L	0.003	<0.003	<0.003	0	<0.003	<0.003	0
Organic	Naphthalene	mg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
	C10-C16	mg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	C16-C34	mg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	C34-C40	mg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	F2-NAPHTHALENE	mg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	C6 - C9	mg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	C10 - C40 (Sum of total)	mg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	C6-C10	mg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
TPH	C10 - C14	mg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	C15 - C28	mg/L	0.1	<0.1	<0.1	0	<0.1	0.1	0
	C29-C36	mg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	+C10 - C36 (Sum of total)	mg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0

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Surface Water and Sediment Sampling – February to September 2021

One Rail Australia

BERRIMAH FREIGHT RAIL TERMINAL DIESEL SPILL

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Attachment 5: Photographic Log



Photograph 1 – View of stockpile looking south east



Photograph 2 – View of secure plastic protection covering stockpile and sedimentary fencing



Photograph 3 – View of Sample Location 1 looking west

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Photograph 4 – View of Sample Location 2 in stormwater drain looking north



Photograph 5 – View of Sample Location 3 at time of dye test looking south east



Photograph 6 – View of Sample Location 4

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Photograph 7 – Evidence of protection measures (sediment fencing and boom) looking south



Photograph 8 – Evidence of protection measures (sediment fencing) downgradient of stockpile



Photograph 9 – Evidence of removal of sediment layer from drain adjacent to stockpile

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Photograph 10 – Evidence of stockpile removal from original location looking north west

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Surface Water and Sediment Sampling – February to September 2021

One Rail Australia

BERRIMAH FREIGHT RAIL TERMINAL DIESEL SPILL

Appendix A: Laboratory Certificates of Analysis

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Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP
Come Further in Management

Client	:	ORA	Date	:	8/02/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO283189
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 8/2/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers										Testing											
				250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (H_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SPR1		5/02/2021	W	1									X											
SPR2		5/02/2021	S	1									X											
SPR3		5/02/2021	S	1									X											
SPR4		5/02/2021	S	1									X											
SPR5		5/02/2021	S	1									X											
SPR6		5/02/2021	S	1									X											
SED 1		5/02/2021	S	1									X											
SED 2		5/02/2021	S	1									X											
SED 3		5/02/2021	S	1									X											
SED 4		5/02/2021	S	1									X											
SED 5		5/02/2021	S	1									X											
MANGROVE		5/02/2021	S	1									X											
SED 6		6/02/2021	S	1									X											
SED 7		6/02/2021	S	1									X											
SED 8		6/02/2021	S	1									X											
SW01		5/02/2021	W		2	1							X											
SW02		5/02/2021	W		2	1							X											
SW03		5/02/2021	W		2	1							X											
SW04		5/02/2021	W		2	1							X											
SW05		5/02/2021	W		2	1							X											
NW MANGROVE DRAIN		5/02/2021	W		2	1							X											
SW06		8/02/2021	W		2	1							X											
SW07		8/02/2021	W		2	1							X											
NW MANGROVE DRAIN 2		8/02/2021	W		2	1							X											
SW08		8/02/2021	W		2	1							X											
SW09		8/02/2021	W		2	1							X											
RB01		5/02/2021	W		2	1							X											
TB01		5/02/2021	W		2																X			
RB01		8/02/2021	W		2	1							X											
TB01		8/02/2021	W		2																X			
Totals				15	30	13	0	0	0	0	0	0	28	0	0	0	0	0	0	0	2	0	0	

DRAFT

772780
Nik M

#AU_CAU001_EnviroSampleVic

From: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Sent: Monday, 8 February 2021 5:21 PM
To: Michael Morrison
Cc: #AU_CAU001_EnviroSampleVic; #AU09_EnviroSampleDRW; Dylan Burford
Subject: J168829 - COC with Testing
Attachments: J168829 - EFCOC 08.02.2021.pdf

Hi Michael,

Attached is the COC with testing for soil and water samples collected on 5/2/2021 and 8/2/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point on 5/2/2021 and 8/2/2021.

Unfortunately there is a bit of confusion with the sample names and they therefore have to be relabelled.

If possible, please can you relabel the samples:

- SP01 - SP06 relabel to SPR1 - SPR6 respectively.
- SED 1, SED 2 and SED 3 sampled on 8/2/21 to SED 6, SED 7 and SED 8 respectively.
- SW01 and SW02 sampled on 8/2/21 to SW06 and SW07 respectively.
- SW03 sampled on 8/2/21 to NW MANGROVE DRAIN 2.
- SW04 and SW05 sampled on 8/2/21 to SW08 and SW09 respectively

I hope that makes sense.

Please contact me if you have any questions/queries.

Thank you!

Cheers,

DRAFT

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

772780
Nik M

GREENCAP

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Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap SA P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMNT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Feb 8, 2021 5:21 PM
Eurofins reference	772780

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Cassidy on phone : +61 3 8564 5000 or by email: MichaelCassidy@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap SA P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Dylan Burford**

Report **772780-S**
Project name SP MANAGEMNT
Project ID J168829
Received Date Feb 08, 2021

Client Sample ID			**SPR1**	**SPR2**	**SPR3**	**SPR4**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M21-Fe17393**	**M21-Fe17394**	**M21-Fe17395**	**M21-Fe17396**
Date Sampled			**Feb 05, 2021**	**Feb 05, 2021**	**Feb 05, 2021**	**Feb 05, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	86	100	83	67
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
% Moisture	1	%	14	10	17	11

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Client Sample ID			SPR5	SPR6	SED1	SED2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Fe17397	M21-Fe17398	M21-Fe17399	M21-Fe17400
Date Sampled			Feb 05, 2021	Feb 05, 2021	Feb 05, 2021	Feb 05, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	55	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	710	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	765	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	105	81	88	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	180	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	180	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	580	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	760	< 100	< 100	< 100
% Moisture	1	%	17	22	18	17

Client Sample ID			SED3	SED4	SED5	MANGROVE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Fe17401	M21-Fe17402	M21-Fe17403	M21-Fe17404
Date Sampled			Feb 05, 2021	Feb 05, 2021	Feb 05, 2021	Feb 05, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	83	91	148	82

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Client Sample ID			SED3	SED4	SED5	MANGROVE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Fe17401	M21-Fe17402	M21-Fe17403	M21-Fe17404
Date Sampled			Feb 05, 2021	Feb 05, 2021	Feb 05, 2021	Feb 05, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
% Moisture	1	%	29	19	17	16

Client Sample ID			SED6	SED7	SED8
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M21-Fe17405	M21-Fe17406	M21-Fe17407
Date Sampled			Feb 08, 2021	Feb 08, 2021	Feb 08, 2021
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	71	64	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100
% Moisture	1	%	46	32	24

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 09, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Feb 09, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 09, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 09, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Feb 09, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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Australia

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NATA # 1261
Site # 1254 & 14271

Sydney
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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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NATA # 1261 Site # 20794

Perth
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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
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Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

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35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap SA P/L	**Order No.:**	PO283189*
Address:	12 Greenhill Road Wayville SA 5034	**Report #:**	772780
		Phone:	08 8299 9955
		Fax:	08 8299 9954
Project Name:	SP MANAGEMNT		
Project ID:	J168829		

Received:	Feb 8, 2021 5:21 PM
Due:	Feb 10, 2021
Priority:	2 Day
Contact Name:	Dylan Burford

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SPR1	Feb 05, 2021		Soil	M21-Fe17393		X	X
2	SPR2	Feb 05, 2021		Soil	M21-Fe17394		X	X
3	SPR3	Feb 05, 2021		Soil	M21-Fe17395		X	X
4	SPR4	Feb 05, 2021		Soil	M21-Fe17396		X	X
5	SPR5	Feb 05, 2021		Soil	M21-Fe17397		X	X
6	SPR6	Feb 05, 2021		Soil	M21-Fe17398		X	X
7	SED1	Feb 05, 2021		Soil	M21-Fe17399		X	X
8	SED2	Feb 05, 2021		Soil	M21-Fe17400		X	X
9	SED3	Feb 05, 2021		Soil	M21-Fe17401		X	X

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Address: 12 Greenhill Road
Wayville
SA 5034

Project Name: SP MANAGEMNT
Project ID: J168829

Order No.: PO283189*
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Phone: 08 8299 9955
Fax: 08 8299 9954

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Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
10	SED4	Feb 05, 2021		Soil	M21-Fe17402		X	X
11	SED5	Feb 05, 2021		Soil	M21-Fe17403		X	X
12	MANGROVE	Feb 05, 2021		Soil	M21-Fe17404		X	X
13	SED6	Feb 08, 2021		Soil	M21-Fe17405		X	X
14	SED7	Feb 08, 2021		Soil	M21-Fe17406		X	X
15	SED8	Feb 08, 2021		Soil	M21-Fe17407		X	X
16	SW01	Feb 05, 2021		Water	M21-Fe17408			X
17	SW02	Feb 05, 2021		Water	M21-Fe17409			X
18	SW03	Feb 05, 2021		Water	M21-Fe17410			X
19	SW04	Feb 05, 2021		Water	M21-Fe17411			X
20	SW05	Feb 05, 2021		Water	M21-Fe17412			X

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Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
21	NW MANGROVE DRAIN	Feb 05, 2021		Water	M21-Fe17413			X
22	SW06	Feb 08, 2021		Water	M21-Fe17414			X
23	SW07	Feb 08, 2021		Water	M21-Fe17415			X
24	NW MANGROVE DRAIN 2	Feb 08, 2021		Water	M21-Fe17416			X
25	SW08	Feb 08, 2021		Water	M21-Fe17417			X
26	SW09	Feb 08, 2021		Water	M21-Fe17418			X
27	RB01	Feb 05, 2021		Water	M21-Fe17419			X
28	TB01	Feb 05, 2021		Water	M21-Fe17420	X		

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Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
29	RB01	Feb 08, 2021		Water	M21-Fe17421			X
30	TB01	Feb 08, 2021		Water	M21-Fe17422	X		
Test Counts						2	15	28

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	106			70-130	Pass	
TRH C10-C14	%	103			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	102			70-130	Pass	
Toluene	%	110			70-130	Pass	
Ethylbenzene	%	98			70-130	Pass	
m&p-Xylenes	%	119			70-130	Pass	
Xylenes - Total*	%	118			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	103			70-130	Pass	
TRH C6-C10	%	106			70-130	Pass	
TRH >C10-C16	%	103			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-Fe17395	CP	%	80			70-130	Pass	
TRH C10-C14	M21-Fe17395	CP	%	96			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Fe17395	CP	%	77			70-130	Pass	
Toluene	M21-Fe17395	CP	%	80			70-130	Pass	
Ethylbenzene	M21-Fe17395	CP	%	78			70-130	Pass	
m&p-Xylenes	M21-Fe17395	CP	%	95			70-130	Pass	
o-Xylene	M21-Fe17395	CP	%	93			70-130	Pass	
Xylenes - Total*	M21-Fe17395	CP	%	94			70-130	Pass	
Spike - % Recovery									

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-Fe17395	CP	%	88			70-130	Pass	
TRH C6-C10	M21-Fe17395	CP	%	82			70-130	Pass	
TRH >C10-C16	M21-Fe17395	CP	%	94			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Fe15118	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Fe15118	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M21-Fe15118	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M21-Fe15118	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M21-Fe15118	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M21-Fe15118	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M21-Fe15118	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Fe15118	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-Fe15118	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-Fe17394	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M21-Fe17394	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M21-Fe17394	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-Fe17394	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M21-Fe17394	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M21-Fe17394	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M21-Fe17398	CP	%	22	23	6.0	30%	Pass	

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

Authorised by:

Harry Bacalis	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Dylan Burford**

Report **772780-W**
Project name SP MANAGEMNT
Project ID J168829
Received Date Feb 08, 2021

Client Sample ID			**SW01**	**SW02**	**SW03**	**SW04**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Fe17408**	**M21-Fe17409**	**M21-Fe17410**	**M21-Fe17411**
Date Sampled			**Feb 05, 2021**	**Feb 05, 2021**	**Feb 05, 2021**	**Feb 05, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	0.4	0.3	< 0.1	0.3
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.4	0.3	< 0.1	0.3
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	84	104	79	71
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.07
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.07
TRH >C16-C34	0.1	mg/L	0.4	0.3	< 0.1	0.2
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.4	0.3	< 0.1	0.27

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Client Sample ID			SW05	NW MANGROVE DRAIN	SW06	SW07
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Fe17412	M21-Fe17413	M21-Fe17414	M21-Fe17415
Date Sampled			Feb 05, 2021	Feb 05, 2021	Feb 08, 2021	Feb 08, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	5.5	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	30	0.2	0.2	0.3
TRH C29-C36	0.1	mg/L	0.9	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	36.4	0.2	0.2	0.3
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	0.002	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	91	83	79	77
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	0.04	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	0.04	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	13	< 0.05	0.05	0.11
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	13	< 0.05	0.05	0.11
TRH >C16-C34	0.1	mg/L	24	0.2	0.2	0.3
TRH >C34-C40	0.1	mg/L	0.4	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	37.4	0.2	0.25	0.41

Client Sample ID			NW MANGROVE DRAIN 2	SW08	SW09	RB01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Fe17416	M21-Fe17417	M21-Fe17418	M21-Fe17419
Date Sampled			Feb 08, 2021	Feb 08, 2021	Feb 08, 2021	Feb 05, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	83	79	84	80

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Client Sample ID			NW MANGROVE DRAIN 2	SW08	SW09	RB01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Fe17416	M21-Fe17417	M21-Fe17418	M21-Fe17419
Date Sampled			Feb 08, 2021	Feb 08, 2021	Feb 08, 2021	Feb 05, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			TB01	RB01	TB01
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M21-Fe17420	M21-Fe17421	M21-Fe17422
Date Sampled			Feb 05, 2021	Feb 08, 2021	Feb 08, 2021
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	-	< 0.02	-
TRH C10-C14	0.05	mg/L	-	< 0.05	-
TRH C15-C28	0.1	mg/L	-	< 0.1	-
TRH C29-C36	0.1	mg/L	-	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	-	< 0.1	-
BTEX					
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	81	80	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	-	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	< 0.02	-
TRH >C10-C16	0.05	mg/L	-	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	-	< 0.05	-
TRH >C16-C34	0.1	mg/L	-	< 0.1	-
TRH >C34-C40	0.1	mg/L	-	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	-	< 0.1	-

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 09, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Feb 09, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 09, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 09, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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Site # 23736

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IANZ # 1290

Company Name:	Greencap SA P/L	**Order No.:**	PO283189*
Address:	12 Greenhill Road Wayville SA 5034	**Report #:**	772780
		Phone:	08 8299 9955
		Fax:	08 8299 9954
Project Name:	SP MANAGEMNT		
Project ID:	J168829		

Received:	Feb 8, 2021 5:21 PM
Due:	Feb 10, 2021
Priority:	2 Day
Contact Name:	Dylan Burford

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SPR1	Feb 05, 2021		Soil	M21-Fe17393		X	X
2	SPR2	Feb 05, 2021		Soil	M21-Fe17394		X	X
3	SPR3	Feb 05, 2021		Soil	M21-Fe17395		X	X
4	SPR4	Feb 05, 2021		Soil	M21-Fe17396		X	X
5	SPR5	Feb 05, 2021		Soil	M21-Fe17397		X	X
6	SPR6	Feb 05, 2021		Soil	M21-Fe17398		X	X
7	SED1	Feb 05, 2021		Soil	M21-Fe17399		X	X
8	SED2	Feb 05, 2021		Soil	M21-Fe17400		X	X
9	SED3	Feb 05, 2021		Soil	M21-Fe17401		X	X

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Company Name: Greencap SA P/L
Address: 12 Greenhill Road
Wayville
SA 5034

Project Name: SP MANAGEMNT
Project ID: J168829

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Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
10	SED4	Feb 05, 2021		Soil	M21-Fe17402		X	X
11	SED5	Feb 05, 2021		Soil	M21-Fe17403		X	X
12	MANGROVE	Feb 05, 2021		Soil	M21-Fe17404		X	X
13	SED6	Feb 08, 2021		Soil	M21-Fe17405		X	X
14	SED7	Feb 08, 2021		Soil	M21-Fe17406		X	X
15	SED8	Feb 08, 2021		Soil	M21-Fe17407		X	X
16	SW01	Feb 05, 2021		Water	M21-Fe17408			X
17	SW02	Feb 05, 2021		Water	M21-Fe17409			X
18	SW03	Feb 05, 2021		Water	M21-Fe17410			X
19	SW04	Feb 05, 2021		Water	M21-Fe17411			X
20	SW05	Feb 05, 2021		Water	M21-Fe17412			X

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
21	NW MANGROVE DRAIN	Feb 05, 2021		Water	M21-Fe17413			X
22	SW06	Feb 08, 2021		Water	M21-Fe17414			X
23	SW07	Feb 08, 2021		Water	M21-Fe17415			X
24	NW MANGROVE DRAIN 2	Feb 08, 2021		Water	M21-Fe17416			X
25	SW08	Feb 08, 2021		Water	M21-Fe17417			X
26	SW09	Feb 08, 2021		Water	M21-Fe17418			X
27	RB01	Feb 05, 2021		Water	M21-Fe17419			X
28	TB01	Feb 05, 2021		Water	M21-Fe17420	X		

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Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
29	RB01	Feb 08, 2021		Water	M21-Fe17421			X
30	TB01	Feb 08, 2021		Water	M21-Fe17422	X		
Test Counts						2	15	28

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	116			70-130	Pass	
TRH C10-C14	%	106			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	112			70-130	Pass	
Toluene	%	109			70-130	Pass	
Ethylbenzene	%	108			70-130	Pass	
m&p-Xylenes	%	114			70-130	Pass	
Xylenes - Total*	%	111			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	116			70-130	Pass	
TRH C6-C10	%	111			70-130	Pass	
TRH >C10-C16	%	108			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-Fe17411	CP	%	91			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Fe17411	CP	%	96			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-Fe17410	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Fe17410	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Fe17410	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-Fe17410	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Fe17410	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Fe17410	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Fe12534	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Fe12534	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Fe12534	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Fe12534	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Fe12534	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Fe12534	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Fe12534	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Fe12534	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Fe12534	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	

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

Authorised by:

Harry Bacalis	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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#AU_CAU001_EnviroSampleVic

From: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Sent: Friday, 12 February 2021 11:29 AM
To: Michael Morrison
Cc: #AU_CAU001_EnviroSampleVic
Subject: RE: [EXT]:Eurofins Test Results, Invoice - Report 772780 : Site SP MANAGEMNT (J168829)

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Michael,

Regarding the above job, can we please do a silica gel clean up for all TRH fractions on the following samples:

- SPR5
- SW01
- SW02
- SW04
- SW06
- SW07
- NW MANGROVE DRAIN

For standard TAT please.

The PO number is: PO283346

Thank you.

Cheers,

Fe17397 - RT236 - FA105
Fe17408 - GT380 - 25 - Amber
Fe17409 -
Fe17411 -
Fe17414 -
Fe17415 -
Fe17413 -

773799
L Rogers

DRAFT

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

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IANZ # 1327

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	SP MANAGEMNT
Project ID:	J168829
Turnaround time:	5 Day
Date/Time received	Feb 12, 2021 11:29 PM
Eurofins reference	773799

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Varun**

Report **773799-S**
Project name SP MANAGEMNT
Project ID J168829
Received Date Feb 12, 2021

Client Sample ID			**SPR5**
Sample Matrix			**Soil**
Eurofins Sample No.			**M21-Fe26581**
Date Sampled			**Feb 05, 2021**
Test/Reference	LOR	Unit	
TRH - 2013 NEPM Fractions (after silica gel clean-up)			
TRH >C10-C16 (after silica gel clean-up)	50	mg/kg	94
TRH >C16-C34 (after silica gel clean-up)	100	mg/kg	280
TRH >C34-C40 (after silica gel clean-up)	100	mg/kg	< 100
TRH - 1999 NEPM Fractions (after silica gel clean-up)			
TRH C10-C36 (Total) (after silica gel clean-up)	50	mg/kg	365
TRH C10-C14 (after silica gel clean-up)	20	mg/kg	25
TRH C15-C28 (after silica gel clean-up)	50	mg/kg	340
TRH C29-C36 (after silica gel clean-up)	50	mg/kg	< 50
% Moisture	1	%	13

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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.

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)	Melbourne	Feb 13, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Feb 13, 2021	14 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			
% Moisture	Melbourne	Feb 12, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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NATA # 1261 Site # 20794

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IANZ # 1290

Company Name: Greencap NT P/L
Address: 11/14 Winnellie Road
Winnellie
NT 0800

Project Name: SP MANAGEMNT
Project ID: J168829

Order No.:
Report #: 773799
Phone: 61 8 8984 4244
Fax: 61 8 8984 3105

Received: Feb 12, 2021 11:29 PM
Due: Feb 18, 2021
Priority: 5 Day
Contact Name: Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						TRH (after Silica Gel cleanup)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SPR5	Feb 05, 2021		Soil	M21-Fe26581	X	X
2	SW01	Feb 05, 2021		Water	M21-Fe26582	X	
3	SW02	Feb 05, 2021		Water	M21-Fe26583	X	
4	SW04	Feb 05, 2021		Water	M21-Fe26584	X	
5	SW06	Feb 05, 2021		Water	M21-Fe26585	X	
6	SW07	Feb 05, 2021		Water	M21-Fe26586	X	
7	NW MANGROVE DRAIN	Feb 05, 2021		Water	M21-Fe26587	X	
Test Counts						7	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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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-C14 (after silica gel clean-up)	mg/kg	< 20			20	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/kg	< 50			50	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/kg	< 50			50	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M21-Fe26581	CP	%	13	14	7.0	30%	Pass	

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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:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Site Number 1254

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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Varun**

Report **773799-W-V2**
Project name SP MANAGEMNT
Project ID J168829
Received Date Feb 12, 2021

Client Sample ID			**SW01**	**SW02**	**SW04**	**SW06**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Fe26582**	**M21-Fe26583**	**M21-Fe26584**	**M21-Fe26585**
Date Sampled			**Feb 05, 2021**	**Feb 05, 2021**	**Feb 05, 2021**	**Feb 05, 2021**
Test/Reference	LOR	Unit				
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
Comments						G03
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	I/S
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	I/S
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	I/S
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
Comments						G03
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	I/S
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	I/S
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	I/S

Client Sample ID			**SW07**	**NW MANGROVE DRAIN**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M21-Fe26586**	**M21-Fe26587**
Date Sampled			**Feb 05, 2021**	**Feb 05, 2021**
Test/Reference	LOR	Unit		
TRH - 2013 NEPM Fractions (after silica gel clean-up)				
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)				
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1

DRAFT

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.

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)	Melbourne	Feb 23, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Feb 23, 2021	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			

Repeat Samples

Description	Testing Site	Extracted	Holding Time
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Feb 23, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Feb 23, 2021	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			

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Australia

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6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
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Phone : +61 2 4968 8448

New Zealand

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35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap NT P/L
Address: 11/14 Winnellie Road
Winnellie
NT 0800

Project Name: SP MANAGEMNT
Project ID: J168829

Order No.:
Report #: 773799
Phone: 61 8 8984 4244
Fax: 61 8 8984 3105

Received: Feb 12, 2021 11:29 PM
Due: Feb 18, 2021
Priority: 5 Day
Contact Name: Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						TRH (after Silica Gel cleanup)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SPR5	Feb 05, 2021		Soil	M21-Fe26581	X	X
2	SW01	Feb 05, 2021		Water	M21-Fe26582	X	
3	SW02	Feb 05, 2021		Water	M21-Fe26583	X	
4	SW04	Feb 05, 2021		Water	M21-Fe26584	X	
5	SW06	Feb 05, 2021		Water	M21-Fe26585	X	
6	SW07	Feb 05, 2021		Water	M21-Fe26586	X	
7	NW MANGROVE DRAIN	Feb 05, 2021		Water	M21-Fe26587	X	
Test Counts						7	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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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/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	88			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	85			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
TRH - 2013 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH >C10-C16 (after silica gel clean-up)	M21-Fe20943	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34 (after silica gel clean-up)	M21-Fe20943	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40 (after silica gel clean-up)	M21-Fe20943	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
TRH - 1999 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH C10-C36 (Total) (after silica gel clean-up)	M21-Fe20943	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C10-C14 (after silica gel clean-up)	M21-Fe20943	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28 (after silica gel clean-up)	M21-Fe20943	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36 (after silica gel clean-up)	M21-Fe20943	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Comments

This report has been revised (V2) following repeat analysis. Test TRH Silica Gel Cleanup results for sample Fe26586 have now been replaced by the repeat results.

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
G03	Insufficient sample was supplied to conduct this analysis

Authorised by:

Michael Cassidy	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here

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Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP
Going Further in Managing Risk

Client	:	ORA	Date	:	12/02/2021
Project	:	SP Management	Sampled by		Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.		J168829	Purchase Order		PO283363
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au
Relinquished by: VB 12/2/21 *Signature & date*		Recieved by: *Signature & date*	Relinquished by: *Signature & date*		Received by: *Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers										Testing											
				250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (H_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW02		12/02/2021	W		2	1							X												
SW03		12/02/2021	W		2	1							X												
SW05		12/02/2021	W		2	1							X												
SW07		12/02/2021	W		2	1							X												
NW MANGROVE 3		12/02/2021	W		2	1							X												
RB01		12/02/2021	W		2	1							X												
TB01		12/02/2021	W		2																	X			
Totals				0	14	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	1	0	0	

774165

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#AU_CAU001_EnviroSampleVic

From: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Sent: Friday, 12 February 2021 5:33 PM
To: Michael Morrison
Cc: #AU_CAU001_EnviroSampleVic; #AU09_EnviroSampleDRW; Dylan Burford
Subject: J168829 - COC with Testing
Attachments: J168829 - EF COC 12.02.2021.pdf

Hi Michael,

Attached is the COC with testing for water samples collected on 12/2/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point on 12/2/2021.

Please contact me if you have any questions/queries.

Thank you.

Cheers

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

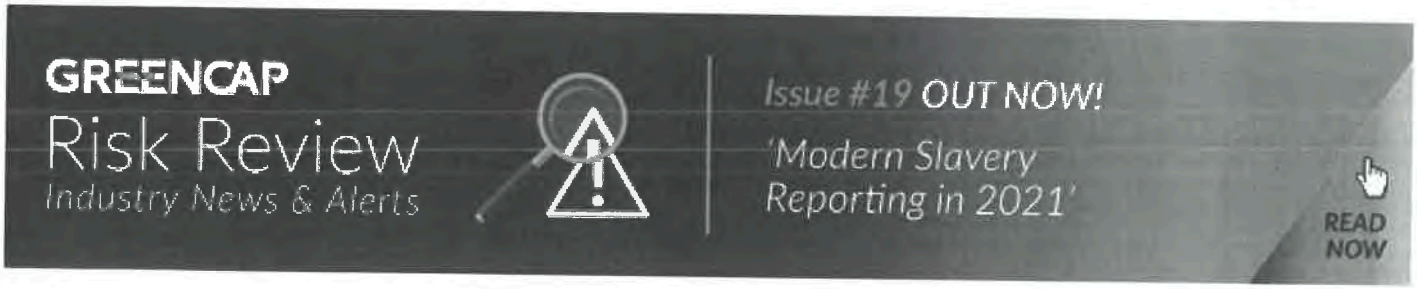
774165

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IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Feb 12, 2021 5:33 PM
Eurofins reference	774165

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Dylan Burford**

Report **774165-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Feb 12, 2021

Client Sample ID			**SW02**	**SW03**	**SW05**	**SW07**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Fe30055**	**M21-Fe30056**	**M21-Fe30057**	**M21-Fe30058**
Date Sampled			**Feb 12, 2021**	**Feb 12, 2021**	**Feb 12, 2021**	**Feb 12, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	102	93	93	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

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Client Sample ID			NW MANGROVE 3	RB01	TB01
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M21-Fe30059	M21-Fe30060	M21-Fe30061
Date Sampled			Feb 12, 2021	Feb 12, 2021	Feb 12, 2021
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	-
BTEX					
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	95	101	97
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	-

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Feb 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

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35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap NT P/L
Address: 11/14 Winnellie Road
Winnellie
NT 0800

Project Name: SP MANAGEMENT
Project ID: J168829

Order No.: PO283363
Report #: 774165
Phone: 61 8 8984 4244
Fax: 61 8 8984 3105

Received: Feb 12, 2021 5:33 PM
Due: Feb 17, 2021
Priority: 2 Day
Contact Name: Dylan Burford

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SW02	Feb 12, 2021		Water	M21-Fe30055		X
2	SW03	Feb 12, 2021		Water	M21-Fe30056		X
3	SW05	Feb 12, 2021		Water	M21-Fe30057		X
4	SW07	Feb 12, 2021		Water	M21-Fe30058		X
5	NW MANGROVE 3	Feb 12, 2021		Water	M21-Fe30059		X
6	RB01	Feb 12, 2021		Water	M21-Fe30060		X
7	TB01	Feb 12, 2021		Water	M21-Fe30061	X	
Test Counts						1	6

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	113			70-130	Pass	
TRH C10-C14	%	108			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	112			70-130	Pass	
Toluene	%	121			70-130	Pass	
Ethylbenzene	%	106			70-130	Pass	
m&p-Xylenes	%	113			70-130	Pass	
Xylenes - Total*	%	113			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	88			70-130	Pass	
TRH C6-C10	%	114			70-130	Pass	
TRH >C10-C16	%	112			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-Fe28339	NCP	%	116			70-130	Pass	
TRH C10-C14	M21-Fe28342	NCP	%	111			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Fe28339	NCP	%	108			70-130	Pass	
Toluene	M21-Fe28339	NCP	%	115			70-130	Pass	
Ethylbenzene	M21-Fe28339	NCP	%	123			70-130	Pass	
m&p-Xylenes	M21-Fe28339	NCP	%	129			70-130	Pass	
o-Xylene	M21-Fe28339	NCP	%	110			70-130	Pass	
Xylenes - Total*	M21-Fe28339	NCP	%	122			70-130	Pass	
Spike - % Recovery									

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-Fe28339	NCP	%	105			70-130	Pass	
TRH C6-C10	M21-Fe28339	NCP	%	118			70-130	Pass	
TRH >C10-C16	M21-Fe28342	NCP	%	114			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Fe28298	NCP	mg/L	0.02	< 0.02	2.0	30%	Pass	
TRH C10-C14	S21-Fe23474	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S21-Fe23474	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S21-Fe23474	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Fe28298	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Fe28298	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Fe28298	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Fe28298	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Fe28298	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Fe28298	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Fe28298	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Fe28298	NCP	mg/L	0.02	< 0.02	2.0	30%	Pass	
TRH >C10-C16	S21-Fe23474	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S21-Fe23474	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S21-Fe23474	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	:	ORA	Date	:	19/02/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO283549
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 19/2/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

				Sample Containers										Testing										
Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW01		19/02/2021	W		2	1							X											
SW02		19/02/2021	W		2	1							X											
SW03		19/02/2021	W		2	1							X											
SW04		19/02/2021	W		2	1							X											
SED 1		19/02/2021	S	1																				
SED 2		19/02/2021	S	1																				
SED 3		19/02/2021	S	1																				
RB01		19/02/2021	W		2	1							X											
TB01		19/02/2021	W		2																	X		
Totals				3	12	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	0	

775472
L Angell

DRAFT

#AU_CAU001_EnviroSampleVic

From: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Sent: Friday, 19 February 2021 5:13 PM
To: Michael Morrison
Cc: #AU_CAU001_EnviroSampleVic; #AU09_EnviroSampleDRW; Dylan Burford
Subject: J168829 - COC with Testing
Attachments: J168829 - EF COC-19.02.2021.pdf

Hi Michael,

Attached is the COC with testing for water and soil samples collected on 19/2/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point on 19/2/2021.

Please contact me if you have any questions/queries.

Thank you.

775422
L. Bryce

Cheers

Varun Bhagwat

Environmental Consultant | Greencap

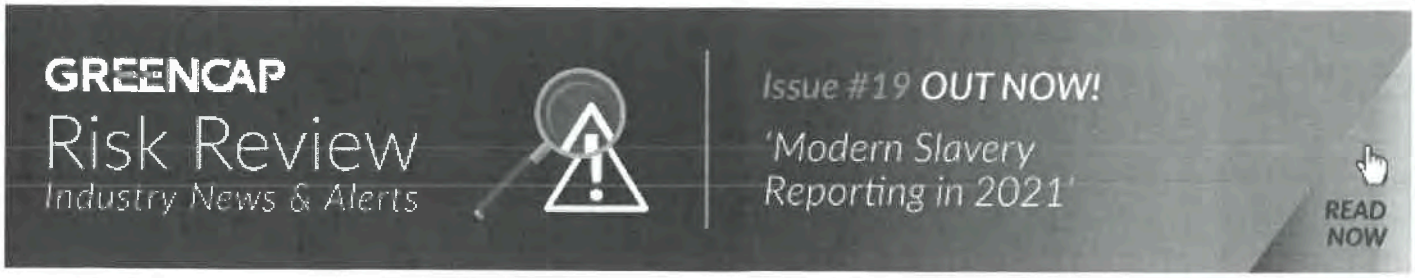
Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

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IANZ # 1327

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Feb 19, 2021 5:13 PM
Eurofins reference	775472

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Varun**

Report **775472-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Feb 19, 2021

Client Sample ID			SW01	SW02	SW03	SW04
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Fe41718	M21-Fe41719	M21-Fe41720	M21-Fe41721
Date Sampled			Feb 19, 2021	Feb 19, 2021	Feb 19, 2021	Feb 19, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	67	78	80	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			RBO1	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Fe41722	M21-Fe41723
Date Sampled			Feb 19, 2021	Feb 19, 2021
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-

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Client Sample ID			RBO1	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Fe41722	M21-Fe41723
Date Sampled			Feb 19, 2021	Feb 19, 2021
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	72	73
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 22, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Feb 22, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 22, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 22, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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Australia

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6 Monterey Road
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Site # 1254 & 14271

Sydney
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16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO283549
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	775472
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Feb 19, 2021 5:13 PM
Due:	Feb 23, 2021
Priority:	2 Day
Contact Name:	Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW01	Feb 19, 2021		Water	M21-Fe41718			X
2	SW02	Feb 19, 2021		Water	M21-Fe41719			X
3	SW03	Feb 19, 2021		Water	M21-Fe41720			X
4	SW04	Feb 19, 2021		Water	M21-Fe41721			X
5	RBO1	Feb 19, 2021		Water	M21-Fe41722			X
6	TB01	Feb 19, 2021		Water	M21-Fe41723		X	
7	SED 1	Feb 19, 2021		Soil	M21-Fe41724	X		
8	SED 2	Feb 19, 2021		Soil	M21-Fe41725	X		
9	SED 3	Feb 19, 2021		Soil	M21-Fe41726	X		

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		Phone:	61 8 8984 4244	**Priority:**	2 Day
		Fax:	61 8 8984 3105	**Contact Name:**	Varun
Project Name:	SP MANAGEMENT				
Project ID:	J168829				

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail	HOLD	BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271	X	X	X
Sydney Laboratory - NATA Site # 18217			
Brisbane Laboratory - NATA Site # 20794			
Perth Laboratory - NATA Site # 23736			
Mayfield Laboratory			
External Laboratory			
Test Counts	3	1	5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	101			70-130	Pass	
TRH C10-C14	%	81			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	108			70-130	Pass	
Toluene	%	108			70-130	Pass	
Ethylbenzene	%	107			70-130	Pass	
m&p-Xylenes	%	115			70-130	Pass	
Xylenes - Total*	%	111			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	86			70-130	Pass	
TRH C6-C10	%	100			70-130	Pass	
TRH >C10-C16	%	82			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-Fe39446	NCP	%	91			70-130	Pass	
TRH C10-C14	M21-Fe38484	NCP	%	112			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Fe39446	NCP	%	82			70-130	Pass	
Toluene	M21-Fe39446	NCP	%	115			70-130	Pass	
Ethylbenzene	M21-Fe39446	NCP	%	113			70-130	Pass	
m&p-Xylenes	M21-Fe39446	NCP	%	120			70-130	Pass	
o-Xylene	M21-Fe39446	NCP	%	109			70-130	Pass	
Xylenes - Total*	M21-Fe39446	NCP	%	116			70-130	Pass	
Spike - % Recovery									

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-Fe39446	NCP	%	96			70-130	Pass	
TRH C6-C10	M21-Fe39446	NCP	%	93			70-130	Pass	
TRH >C10-C16	M21-Fe38484	NCP	%	116			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Fe39433	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-Fe38483	NCP	mg/L	0.65	0.62	5.0	30%	Pass	
TRH C15-C28	M21-Fe38483	NCP	mg/L	0.3	0.3	9.0	30%	Pass	
TRH C29-C36	M21-Fe38483	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Fe39433	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Fe39433	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Fe39433	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Fe39433	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Fe39433	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Fe39433	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Fe39433	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Fe39433	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-Fe38483	NCP	mg/L	0.53	0.51	4.0	30%	Pass	
TRH >C16-C34	M21-Fe38483	NCP	mg/L	0.3	0.3	9.0	30%	Pass	
TRH >C34-C40	M21-Fe38483	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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

Authorised by:

Michael Cassidy	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP
Going Further in Managing Risk

Client	:	ORA	Date	:	26/02/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J188829	Purchase Order	:	PO283807
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 26/2/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

				Sample Containers									Testing											
Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (H_2SO_4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW01		26/02/2021	W		2	1							X											
SW02		26/02/2021	W		2	1							X											
SW03		26/02/2021	W		2	1							X											
SW04		26/02/2021	W		2	1							X											
SED 1		26/02/2021	S	1																				
SED 2		26/02/2021	S	1																				
SED 3		26/02/2021	S	1																				
RB01		26/02/2021	W		2	1							X											
TB01		26/02/2021	W		2																	X		
Totals				3	12	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0

777332

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#AU_CAU001_EnviroSampleVic

From: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Sent: Friday, 26 February 2021 6:04 PM
To: Michael Morrison; Michael Cassidy
Cc: #AU_CAU001_EnviroSampleVic; #AU09_EnviroSampleDRW; Dylan Burford
Subject: J168829 - COC with Testing
Attachments: J168829 - EFCOC.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Michael,

Attached is the COC with testing for water and soil samples collected on 26/2/2021 for the project: **J168829**

The samples were delivered to the Darwin Eurofins drop off point on 26/2/2021.

Please contact me if you have any questions/queries.

Thank you.

Cheers,

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | **E:** Varun.Bhagwat@greencap.com.au | **in:** LinkedIn

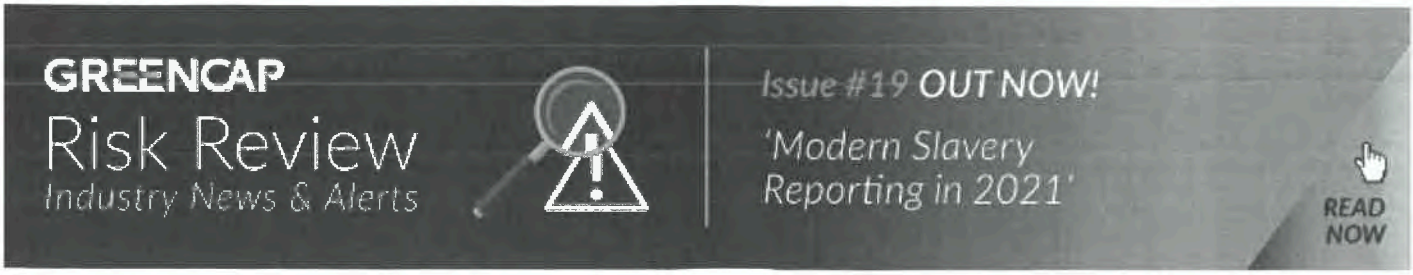
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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
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Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Mar 2, 2021 10:30 AM
Eurofins reference	777332

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Dylan Burford**

Report **777332-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Mar 02, 2021

Client Sample ID			SW01	SW02	SW03	SW04
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Ma02745	M21-Ma02746	M21-Ma02747	M21-Ma02748
Date Sampled			Feb 26, 2021	Feb 26, 2021	Feb 26, 2021	Feb 26, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	88	93	89	87
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			RB01	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Ma02749	M21-Ma02750
Date Sampled			Feb 26, 2021	Feb 26, 2021
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-

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Client Sample ID			RB01	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Ma02749	M21-Ma02750
Date Sampled			Feb 26, 2021	Feb 26, 2021
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	90	82
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 02, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Mar 02, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 02, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 02, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Site # 1254 & 14271

Sydney
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NATA # 1261 Site # 18217

Brisbane
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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO283807
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	777332
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Mar 2, 2021 10:30 AM	
Due:	Mar 4, 2021	
Priority:	2 Day	
Contact Name:	Dylan Burford	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW01	Feb 26, 2021		Water	M21-Ma02745			X
2	SW02	Feb 26, 2021		Water	M21-Ma02746			X
3	SW03	Feb 26, 2021		Water	M21-Ma02747			X
4	SW04	Feb 26, 2021		Water	M21-Ma02748			X
5	RB01	Feb 26, 2021		Water	M21-Ma02749			X
6	TB01	Feb 26, 2021		Water	M21-Ma02750		X	
7	SED1	Feb 26, 2021		Soil	M21-Ma02751	X		
8	SED2	Feb 26, 2021		Soil	M21-Ma02752	X		
9	SED3	Feb 26, 2021		Soil	M21-Ma02753	X		

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO283807	**Received:**	Mar 2, 2021 10:30 AM
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	777332	**Due:**	Mar 4, 2021
		Phone:	61 8 8984 4244	**Priority:**	2 Day
		Fax:	61 8 8984 3105	**Contact Name:**	Dylan Burford
Project Name:	SP MANAGEMENT				
Project ID:	J168829				

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail	HOLD	BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271	X	X	X
Sydney Laboratory - NATA Site # 18217			
Brisbane Laboratory - NATA Site # 20794			
Perth Laboratory - NATA Site # 23736			
Mayfield Laboratory			
External Laboratory			
Test Counts	3	1	5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions									
TRH C6-C9			mg/L	< 0.02			0.02	Pass	
TRH C10-C14			mg/L	< 0.05			0.05	Pass	
TRH C15-C28			mg/L	< 0.1			0.1	Pass	
TRH C29-C36			mg/L	< 0.1			0.1	Pass	
Method Blank									
BTEX									
Benzene			mg/L	< 0.001			0.001	Pass	
Toluene			mg/L	< 0.001			0.001	Pass	
Ethylbenzene			mg/L	< 0.001			0.001	Pass	
m&p-Xylenes			mg/L	< 0.002			0.002	Pass	
o-Xylene			mg/L	< 0.001			0.001	Pass	
Xylenes - Total*			mg/L	< 0.003			0.003	Pass	
Method Blank									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions									
Naphthalene			mg/L	< 0.01			0.01	Pass	
TRH C6-C10			mg/L	< 0.02			0.02	Pass	
TRH >C10-C16			mg/L	< 0.05			0.05	Pass	
TRH >C16-C34			mg/L	< 0.1			0.1	Pass	
TRH >C34-C40			mg/L	< 0.1			0.1	Pass	
LCS - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions									
TRH C6-C9			%	94			70-130	Pass	
TRH C10-C14			%	95			70-130	Pass	
LCS - % Recovery									
BTEX									
Benzene			%	90			70-130	Pass	
Toluene			%	88			70-130	Pass	
Ethylbenzene			%	82			70-130	Pass	
m&p-Xylenes			%	79			70-130	Pass	
Xylenes - Total*			%	79			70-130	Pass	
LCS - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions									
Naphthalene			%	94			70-130	Pass	
TRH C6-C10			%	91			70-130	Pass	
TRH >C10-C16			%	94			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-Fe54429	NCP	%	99			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Fe54429	NCP	%	101			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Fe54427	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-Ma02745	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Ma02745	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Ma02745	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Fe54427	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Fe54427	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Fe54427	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Fe54427	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Fe54427	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Fe54427	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Fe54427	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Fe54427	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-Ma02745	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Ma02745	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Ma02745	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

DRAFT

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	:	ORA	Date	:	5/03/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO284140
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au
Relinquished by: VB 26/2/21 *Signature & date*		Recieved by: *Signature & date*	Relinquished by: *Signature & date*		Received by: *Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (H_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21 : NEPM Screen for Soil Classification Screen	Hold
SW01		5/03/2021	W		2	1							X											
SW02		5/03/2021	W		2	1							X											
SW03		5/03/2021	W		2	1							X											
SW04		5/03/2021	W		2	1							X											
SED 1		5/03/2021	S	1																				
SED 2		5/03/2021	S	1																				
RB01		5/03/2021	W		2	1							X											
TB01		5/03/2021	W		2																	X		
Totals				2	12	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0

779962

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43 Detroit Drive
Rolleston, Christchurch 7675
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IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	ONERAIL BERRIMAH NT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Mar 9, 2021 10:30 AM
Eurofins reference	778962

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Varun**

Report **778962-W-V2**
Project name ONERAIL BERRIMAH NT
Project ID J168829
Received Date Mar 09, 2021

Client Sample ID			SW01	SW02	SW03	SW04
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Ma16335	M21-Ma16336	M21-Ma16337	M21-Ma16338
Date Sampled			Mar 05, 2021	Mar 05, 2021	Mar 05, 2021	Mar 05, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	0.4	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	0.4	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	143	138	139	140
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	0.06	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	0.06	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	0.3	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	0.36	< 0.1	< 0.1

Client Sample ID			RB01	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Ma16341	M21-Ma16342
Date Sampled			Mar 05, 2021	Mar 05, 2021
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-

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Client Sample ID			RB01	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Ma16341	M21-Ma16342
Date Sampled			Mar 05, 2021	Mar 05, 2021
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	88	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 15, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Mar 09, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 09, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 15, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO284140
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	778962
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	ONERAIL BERRIMAH NT		
Project ID:	J168829		

Received:	Mar 9, 2021 10:30 AM
Due:	Mar 11, 2021
Priority:	2 Day
Contact Name:	Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW01	Mar 05, 2021		Water	M21-Ma16335			X
2	SW02	Mar 05, 2021		Water	M21-Ma16336			X
3	SW03	Mar 05, 2021		Water	M21-Ma16337			X
4	SW04	Mar 05, 2021		Water	M21-Ma16338			X
5	SED 1	Mar 05, 2021		Soil	M21-Ma16339	X		
6	SED 2	Mar 05, 2021		Soil	M21-Ma16340	X		
7	RB01	Mar 05, 2021		Water	M21-Ma16341			X
8	TB01	Mar 05, 2021		Water	M21-Ma16342		X	
Test Counts						2	1	5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	109			70-130	Pass	
TRH C10-C14	%	79			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	76			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	97			70-130	Pass	
Xylenes - Total*	%	96			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	90			70-130	Pass	
TRH C6-C10	%	98			70-130	Pass	
TRH >C10-C16	%	81			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-Ma16336	CP	%	120			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Ma16336	CP	%	125			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-Ma16335	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Ma16335	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Ma16335	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-Ma16335	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Ma16335	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Ma16335	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Ma13344	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Ma13344	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Ma13344	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Ma13344	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Ma13344	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Ma13344	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Ma13344	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Ma13344	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Ma13344	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	

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Comments

This report has been revised (V2) following repeat analysis. TRH results for samples SW03, SW04 and RB01 have now been replaced by the repeat results.

Note SW02 was repeated and the results were confirmed.

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	:	ORA	Date	:	12/03/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO284444
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au
Relinquished by: VB 15/3/21 *Signature & date*		Recieved by: *Signature & date*	Relinquished by: *Signature & date*		Received by: *Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (H_2SO_4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21 : NEPM Screen for Soil Classification Screen	Hold
SW01		12/03/2021	W		2	1							X											
SW02		12/03/2021	W		2	1							X											
SW03		12/03/2021	W		2	1							X											
SW04		12/03/2021	W		2	1							X											
SED 1		12/03/2021	S	1																				
SED 2		12/03/2021	S	1																				
RB01		12/03/2021	W		2	1							X											
TB01		12/03/2021	W		2																	X		
Totals				2	12	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0

780606
CofC

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PROJECT INFORMATION

Date Received: 15/3/2021 12:15pm.

Company: Greencap NT

Contact person: Varun

Contact Number:

Contact E-mail: Varun.Bhagwat@greencap.com.au

Project Name/site:

Project Number: J168829

ice 4.0
-1.3
2.7°C

COC: **Attached** ☒
E-mailed ☒ COC emailed to
Not received ☐ Michael M.

Soil SED1
SED2

water SW01 SW02
RB01 SW03
TB01 SW04

DRAFT

RE: [EXT]:Eurofins Sample Receipt Advice - Report 780606 : Site SP MANAGEMENT (J166829)

Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Tue 16/03/2021 11:29 AM

To: Michael Morrison <MichaelMorrison@eurofins.com>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; Dylan Burford <Dylan.Burford@greencap.com.au>

Thanks Michael/Cahn.

Cheers,

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

780606

GREENCAP
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From: Michael Morrison <MichaelMorrison@eurofins.com>
Sent: Tuesday, 16 March 2021 9:58 AM
To: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; Dylan Burford <Dylan.Burford@greencap.com.au>
Subject: RE: [EXT]:Eurofins Sample Receipt Advice - Report 780606 : Site SP MANAGEMENT (J166829)

Thanks Varun I'll get this updated for you

Cahn please update as requested

Kind Regards,

Michael Morrison
Analytical Services Manager
Phone: 03 8564 5933
Mobile: 0499 201 025
Email : michaelmorrison@eurofins.com

From: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Sent: Tuesday, 16 March 2021 11:25 AM
To: Michael Morrison <MichaelMorrison@eurofins.com>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; Dylan Burford <Dylan.Burford@greencap.com.au>
Subject: RE: [EXT]:Eurofins Sample Receipt Advice - Report 780606 : Site SP MANAGEMENT (J166829)

EXTERNAL EMAIL*

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	:	ORA	Date		12/03/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO284444
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 15/3/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW01		12/03/2021	W		2	1							X											
SW02		12/03/2021	W		2	1							X											
SW03		12/03/2021	W		2	1							X											
SW04		12/03/2021	W		2	1							X											
SED 1		12/03/2021	S	1																				
SED 2		12/03/2021	S	1																				
RB01		12/03/2021	W		2	1							X											
TB01		12/03/2021	W		2																	X		
Totals				2	12	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0

780606
GG

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ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

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NATA # 1261 Site # 20794

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Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMENT
Project ID:	J166829
Turnaround time:	2 Day
Date/Time received	Mar 15, 2021 12:15 PM
Eurofins reference	780606

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Dylan Burford**

Report **780606-W**
Project name SP MANAGEMENT
Project ID J166829
Received Date Mar 15, 2021

Client Sample ID			**SW01**	**SW02**	**SW03**	**SW04**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Ma29079**	**M21-Ma29080**	**M21-Ma29081**	**M21-Ma29082**
Date Sampled			**Mar 12, 2021**	**Mar 12, 2021**	**Mar 12, 2021**	**Mar 12, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	79	73	91	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			**RB01**	**TB01**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M21-Ma29085**	**M21-Ma29086**
Date Sampled			**Mar 12, 2021**	**Mar 12, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-

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Client Sample ID			RB01	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Ma29085	M21-Ma29086
Date Sampled			Mar 12, 2021	Mar 12, 2021
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	95	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Mar 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Site # 1254 & 14271

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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO28444
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	780606
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J166829		

Received:	Mar 15, 2021 12:15 PM	
Due:	Mar 17, 2021	
Priority:	2 Day	
Contact Name:	Dylan Burford	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW01	Mar 12, 2021		Water	M21-Ma29079			X
2	SW02	Mar 12, 2021		Water	M21-Ma29080			X
3	SW03	Mar 12, 2021		Water	M21-Ma29081			X
4	SW04	Mar 12, 2021		Water	M21-Ma29082			X
5	SED 1	Mar 12, 2021		Soil	M21-Ma29083	X		
6	SED 2	Mar 12, 2021		Soil	M21-Ma29084	X		
7	RB01	Mar 12, 2021		Water	M21-Ma29085			X
8	TB01	Mar 12, 2021		Water	M21-Ma29086		X	
Test Counts						2	1	5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	102			70-130	Pass	
TRH C10-C14	%	89			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	103			70-130	Pass	
Ethylbenzene	%	89			70-130	Pass	
m&p-Xylenes	%	86			70-130	Pass	
Xylenes - Total*	%	86			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	89			70-130	Pass	
TRH C6-C10	%	101			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-Ma29079	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Ma29079	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Ma29079	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-Ma29079	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Ma29079	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Ma29079	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

DRAFT

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	ORA	Date	19/03/2021
Project	SP Management	Sampled by	Varun Bhagwat
Project Manager	Dylan Burford	Sampler Mobile	0428 829 444
Job No.	J168829	Purchase Order	PO284592
Location	One Rail, Berrimah NT	T/Around	*** 2 DAY TAT ***
Please email results to:	Dylan.Burford@greencap.com.au		Varun.Bhagwat@greencap.com.au

Relinquished by: VB 19/3/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (H_2SO_4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW01		19/03/2021	W		2	1							X											
SW02		19/03/2021	W		2	1							X											
SW03		19/03/2021	W		2	1							X											
SW04		19/03/2021	W		2	1							X											
SW05		19/03/2021	W		2	1																		
SW06		19/03/2021	W		2	1																		
SED 1		19/03/2021	S	1																				
SED 2		19/03/2021	S	1																				
RB01		19/03/2021	W		2	1							X											
TB01		19/03/2021	W		2																	X		
Totals				2	16	7	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0

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782057
Nik

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Do Not
29.6
+6.8/30.4

PROJECT INFORMATION

Date Received: 19/03/21 1:10pm

Company: Greencap NT

Contact person: Varun

Contact Number:

Contact E-mail:

Project Name/site: J16829

Project Number:

Soil - SED 1.

COC: **Attached** ☐
TO BE **E-mailed** ☒
Not received ☐

782057
N.L

DRAFT

RE: J168829 - COC with Testing

Michael Morrison <MichaelMorrison@eurofins.com>

Fri 19/03/2021 5:24 PM

To: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; #AU09_EnviroSampleDRW <EnviroSampleDRW@eurofins.com>; Dylan Burford <Dylan.Burford@greencap.com.au>

Thanks Varun!

Kind Regards,

Michael Morrison
Analytical Services Manager
Phone: 03 8564 5933
Mobile: 0499 201 025
Email : michaelmorrison@eurofins.com

From: Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Sent: Friday, 19 March 2021 5:15 PM
To: Michael Morrison <MichaelMorrison@eurofins.com>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; #AU09_EnviroSampleDRW <EnviroSampleDRW@eurofins.com>; Dylan Burford <Dylan.Burford@greencap.com.au>
Subject: J168829 - COC with Testing

EXTERNAL EMAIL*

Hi Michael,

Attached is the COC with testing for water and soil samples collected on 19/3/2021 for the project: **J168829**

The samples were delivered to the Darwin Eurofins drop off point on 19/3/2021.

Please contact me if you have any questions/queries.

Thank you.

Cheers,

782057
Nil

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

GREENCAP
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Environmental Management | Contaminated Land | Emergency Management
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IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Mar 19, 2021 5:15 PM
Eurofins reference	782057

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Did not receive sample SED 2.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Dylan Burford**

Report **782057-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Mar 19, 2021

Client Sample ID			**SW01**	**SW02**	**SW03**	**SW04**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Ma40249**	**M21-Ma40250**	**M21-Ma40251**	**M21-Ma40252**
Date Sampled			**Mar 19, 2021**	**Mar 19, 2021**	**Mar 19, 2021**	**Mar 19, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.07	< 0.05	0.09	< 0.05
TRH C15-C28	0.1	mg/L	0.5	0.3	0.7	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	0.3	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.57	0.3	1.09	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	80	72	88	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.13	0.07	0.12	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.13	0.07	0.12	< 0.05
TRH >C16-C34	0.1	mg/L	0.5	0.3	0.9	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	0.2	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.63	0.37	1.22	< 0.1

Client Sample ID			**RB01**	**TB01**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M21-Ma40253**	**M21-Ma40254**
Date Sampled			**Mar 19, 2021**	**Mar 19, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-

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Client Sample ID			RB01	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Ma40253	M21-Ma40254
Date Sampled			Mar 19, 2021	Mar 19, 2021
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	81	81
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 22, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Mar 22, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 22, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 22, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO284692
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	782057
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Mar 19, 2021 5:15 PM	
Due:	Mar 23, 2021	
Priority:	2 Day	
Contact Name:	Dylan Burford	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						HOLD	BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW01	Mar 19, 2021		Water	M21-Ma40249			X
2	SW02	Mar 19, 2021		Water	M21-Ma40250			X
3	SW03	Mar 19, 2021		Water	M21-Ma40251			X
4	SW04	Mar 19, 2021		Water	M21-Ma40252			X
5	RB01	Mar 19, 2021		Water	M21-Ma40253			X
6	TB01	Mar 19, 2021		Water	M21-Ma40254		X	
7	SW05	Mar 19, 2021		Water	M21-Ma40255	X		
8	SW06	Mar 19, 2021		Water	M21-Ma40256	X		
9	SED1	Mar 19, 2021		Soil	M21-Ma40257	X		

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Company Name:	Greencap NT P/L	**Order No.:**	PO284692	**Received:**	Mar 19, 2021 5:15 PM
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	782057	**Due:**	Mar 23, 2021
		Phone:	61 8 8984 4244	**Priority:**	2 Day
		Fax:	61 8 8984 3105	**Contact Name:**	Dylan Burford
Project Name:	SP MANAGEMENT				
Project ID:	J168829				

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail	HOLD	BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271	X	X	X
Sydney Laboratory - NATA Site # 18217			
Brisbane Laboratory - NATA Site # 20794			
Perth Laboratory - NATA Site # 23736			
Mayfield Laboratory			
External Laboratory			
Test Counts	3	1	5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	115			70-130	Pass	
TRH C10-C14	%	120			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	104			70-130	Pass	
Toluene	%	107			70-130	Pass	
Ethylbenzene	%	94			70-130	Pass	
m&p-Xylenes	%	99			70-130	Pass	
Xylenes - Total*	%	97			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	111			70-130	Pass	
TRH C6-C10	%	112			70-130	Pass	
TRH >C10-C16	%	120			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-Ma37873	NCP	%	127			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Ma37873	NCP	%	118			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Ma36219	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-Ma33854	NCP	mg/L	0.10	0.11	6.0	30%	Pass	
TRH C15-C28	M21-Ma33854	NCP	mg/L	0.4	0.3	7.0	30%	Pass	
TRH C29-C36	M21-Ma33854	NCP	mg/L	0.3	0.3	4.0	30%	Pass	

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Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Ma36219	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Ma36219	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Ma36219	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Ma36219	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Ma36219	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Ma36219	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Ma36219	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Ma36219	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-Ma33854	NCP	mg/L	0.13	0.13	4.0	30%	Pass	
TRH >C16-C34	M21-Ma33854	NCP	mg/L	0.5	0.5	4.0	30%	Pass	
TRH >C34-C40	M21-Ma33854	NCP	mg/L	0.2	0.2	7.0	30%	Pass	

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	ORA	Date	26/03/2021
Project	SP Management	Sampled by	Varun Bhagwat
Project Manager	Dylan Burford	Sampler Mobile	0428 829 444
Job No.	J168829	Purchase Order	PO285036
Location	One Rail, Berrimah NT	T/Around	*** 2 DAY TAT ***
Please email results to:	Dylan.Burford@greencap.com.au		Varun.Bhagwat@greencap.com.au
Relinquished by: VB 26/3/21 *Signature & date*	Recieved by: S.Ounsworth 29/3/21 *Signature & date*	Relinquished by: *Signature & date*	Received by: *Signature & date*

3°C
In Fridge

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nutrients (H_2SO_4)	50ml Plastic (Unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW01		26/03/2021	W						1				X											
SW02		26/03/2021	W						1				X											
SW03		26/03/2021	W						1				X											
SW04		26/03/2021	W						1				X											
RB01		26/03/2002	W		2	1							X											
Totals				0	2	1	0	0	4	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0

DRAFT

Bryce Logan
783910 Eurofins
29/3 12:55

Reply all | Delete | Junk | Block

J168829 - COC with Testing

Varun Bhagwat <Varun.Bhagwat@greencap.com.au>
Mon 3/29/2021 12:55 PM
To: Michael Morrison; Michael Cassidy
Cc: #AU_CAU001_EnviroSampleVic; #AU09_EnviroSampleDRW

J168829 - EF COC 26.03.202...
16 KB

Hi Michael,

Attached is the COC with testing for water samples collected on 26/3/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point after hours on 26/3/2021.

Apologies, I was in a rush so didn't have time to transfer the samples into the relevant sampling bottles for TRH/BTEXN. Hope that's ok.

Thank you.

Cheers,

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820

M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

DRAFT

Bryce Logan
78 3910
29/3
Eurofins 12:55pm

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Mar 29, 2021 12:55 PM
Eurofins reference	783910

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
N/A	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.
X	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Dylan Burford**

Report **783910-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Mar 29, 2021

Client Sample ID			**SW01**	**SW02**	**SW03**	**SW04**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Ma54569**	**M21-Ma54570**	**M21-Ma54571**	**M21-Ma54572**
Date Sampled			**Mar 26, 2021**	**Mar 26, 2021**	**Mar 26, 2021**	**Mar 26, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	92	93	93	91
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			**RB01**
Sample Matrix			**Water**
Eurofins Sample No.			**M21-Ma54573**
Date Sampled			**Mar 26, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1

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Client Sample ID			RB01
Sample Matrix			Water
Eurofins Sample No.			M21-Ma54573
Date Sampled			Mar 26, 2021
Test/Reference	LOR	Unit	
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.01	mg/L	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1

DRAFT

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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 30, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Mar 30, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 30, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 30, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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IANZ # 1327

Christchurch
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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO285036
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	783910
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Mar 29, 2021 12:55 PM	
Due:	Mar 31, 2021	
Priority:	2 Day	
Contact Name:	Dylan Burford	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X
Sydney Laboratory - NATA Site # 18217						
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	SW01	Mar 26, 2021		Water	M21-Ma54569	X
2	SW02	Mar 26, 2021		Water	M21-Ma54570	X
3	SW03	Mar 26, 2021		Water	M21-Ma54571	X
4	SW04	Mar 26, 2021		Water	M21-Ma54572	X
5	RB01	Mar 26, 2021		Water	M21-Ma54573	X
Test Counts						5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	76			70-130	Pass	
TRH C10-C14	%	97			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	105			70-130	Pass	
Toluene	%	110			70-130	Pass	
Ethylbenzene	%	94			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total*	%	96			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	108			70-130	Pass	
TRH C6-C10	%	76			70-130	Pass	
TRH >C10-C16	%	98			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-Ma46600	NCP	%	113			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Ma46600	NCP	%	117			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	B21-Ma44607	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	B21-Ma44607	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	B21-Ma44607	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	B21-Ma44607	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	B21-Ma44607	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	B21-Ma44607	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	No
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
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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DRAFT

J168829 - COC with Testing

Varun Bhagwat <Varun.Bhagwat@greencap.com.au>

Fri 2/04/2021 11:55 PM

To: Michael Morrison <MichaelMorrison@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; #AU09_EnviroSampleDRW <EnviroSampleDRW@eurofins.com>

1 attachments (16 KB)
J168829 - EFCOC 01.04.2021.pdf;

Hi Michael,

Attached is the COC with testing for water samples collected on 1/4/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point on 1/4/2021.

Thank you.

785284
L Bygas E.P
1/4

Cheers,

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | **E:** Varun.Bhagwat@greencap.com.au | **in:** LinkedIn

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Chain of Custody - Greencap Adelaide
Ph. 8299 9955

Client	ORA	Date	2/04/2021
Project	SP Management	Sampled by	Varun Bhagwat
Project Manager	Dylan Burford	Sampler Mobile	0428 829 444
Job No.	J168829	Purchase Order	PO285210
Location	One Rail, Berrimah NT	T/Around	*** 2 DAY TAT ***
Please email results to:	Varun.Bhagwat@greencap.com.au		

Relinquished by: VB 1/4/21	Recieved by: S.Goonsworth 1/4/21	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h2SO4)	60ml Plastic (unpreserved)	500ml Plastic (unpreserved)	60ml Ferrous Iron (HCl)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW01		1/04/2021	W		2	1								X											
SW02		1/04/2021	W		2	1								X											
SW03		1/04/2021	W		2	1								X											
SW04		1/04/2021	W		2	1								X											
RB01		1/04/2021	W		2	1								X											
TB01		1/04/2021	W		2																		X		
Totals				0	12	5	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0

TEMP = 29.2°

785284
L. Byers E.P
1/4

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IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	3 Day
Date/Time received	Apr 1, 2021 2:00 PM
Eurofins reference	785284

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Varun**

Report **785284-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Apr 01, 2021

Client Sample ID			**SW01**	**SW02**	**SW03**	**SW04**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Ap06942**	**M21-Ap06943**	**M21-Ap06944**	**M21-Ap06945**
Date Sampled			**Apr 01, 2021**	**Apr 01, 2021**	**Apr 01, 2021**	**Apr 01, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	144	140	144	144
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			**RB01**	**TB01**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M21-Ap06946**	**M21-Ap06947**
Date Sampled			**Apr 01, 2021**	**Apr 01, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-

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Client Sample ID			RB01	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Ap06946	M21-Ap06947
Date Sampled			Apr 01, 2021	Apr 01, 2021
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	83	86
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Apr 07, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Apr 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 07, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 07, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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Penrose, Auckland 1061
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Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO285210
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	785284
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Apr 1, 2021 2:00 PM	
Due:	Apr 7, 2021	
Priority:	2 Day	
Contact Name:	Varun	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SW01	Apr 01, 2021		Water	M21-Ap06942		X
2	SW02	Apr 01, 2021		Water	M21-Ap06943		X
3	SW03	Apr 01, 2021		Water	M21-Ap06944		X
4	SW04	Apr 01, 2021		Water	M21-Ap06945		X
5	RB01	Apr 01, 2021		Water	M21-Ap06946		X
6	TB01	Apr 01, 2021		Water	M21-Ap06947	X	
Test Counts						1	5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	%	72			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	73			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	N21-Ap00657	NCP	%	86			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	N21-Ap00657	NCP	%	90			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	N21-Ap00670	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	N21-Ap00670	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	N21-Ap00670	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	N21-Ap00670	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	N21-Ap00670	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	N21-Ap00670	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
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
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP
Going Further in Managing Risk

Client	:	ORA	Date	:	9/04/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO285473
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Varun.Bhagwat@greencap.com.au			

Relinquished by: VB 9/4/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	500ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW01		9/04/2021	W		2	1							X											
SW02		9/04/2021	W		2	1							X											
SW03		9/04/2021	W		2	1							X											
SW04		9/04/2021	W		2	1							X											
RB01		9/04/2021	W		2	1							X											
TB01		9/04/2021	W		2																	X		
Totals				0	12	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0

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J168829 - COC with Testing

Varun Bhagwat <Varun.Bhagwat@greencap.com.au>

Fri 9/04/2021 4:03 PM

To: Michael Morrison <MichaelMorrison@eurofins.com>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; #AU09_EnviroSampleDRW <EnviroSampleDRW@eurofins.com>

1 attachments (16 KB)
J168829 - EF COC 09.04.2021.pdf;

Hi Michael,

Attached is the COC with testing for water samples collected on 9/4/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point on 9/4/2021.

Thank you.

Cheers,

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820

M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

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PROJECT INFORMATION

Date Received: 9/4

Company: GC

Contact person: VB

Contact Number: 0428829444

Contact E-mail:

Project Name/site: ORA/BERRIMAH

Project Number: J168829

COC: **Attached** ☐
E-mailed ☑
Not received ☐

Received: 9/4/21
@ 1240
Temp: 29.9 - 0.2
29.7°

SW01
↓
SW04
RB01
TB01

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New Zealand

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Phone : +64 9 526 45 51
IANZ # 1327

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Apr 9, 2021 4:03 PM
Eurofins reference	786269

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Varun**

Report **786269-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Apr 09, 2021

Client Sample ID			**SW01**	**SW02**	**SW03**	**SW04**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Ap14455**	**M21-Ap14456**	**M21-Ap14457**	**M21-Ap14458**
Date Sampled			**Apr 09, 2021**	**Apr 09, 2021**	**Apr 09, 2021**	**Apr 09, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	92	90	90	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			**RB01**	**TB01**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M21-Ap14459**	**M21-Ap14460**
Date Sampled			**Apr 09, 2021**	**Apr 09, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-

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Client Sample ID			RB01	TB01
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Ap14459	M21-Ap14460
Date Sampled			Apr 09, 2021	Apr 09, 2021
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	90	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-

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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.

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Apr 12, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Apr 12, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 12, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 12, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO285473
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	786269
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Apr 9, 2021 4:03 PM	
Due:	Apr 13, 2021	
Priority:	2 Day	
Contact Name:	Varun	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SW01	Apr 09, 2021		Water	M21-Ap14455		X
2	SW02	Apr 09, 2021		Water	M21-Ap14456		X
3	SW03	Apr 09, 2021		Water	M21-Ap14457		X
4	SW04	Apr 09, 2021		Water	M21-Ap14458		X
5	RB01	Apr 09, 2021		Water	M21-Ap14459		X
6	TB01	Apr 09, 2021		Water	M21-Ap14460	X	
Test Counts						1	5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	121			70-130	Pass	
TRH C10-C14	%	115			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	114			70-130	Pass	
Toluene	%	124			70-130	Pass	
Ethylbenzene	%	116			70-130	Pass	
m&p-Xylenes	%	120			70-130	Pass	
Xylenes - Total*	%	119			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	121			70-130	Pass	
TRH C6-C10	%	118			70-130	Pass	
TRH >C10-C16	%	118			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	B21-Ap04486	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	B21-Ap04486	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-Ap10542	NCP	%	97			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Ap10542	NCP	%	112			70-130	Pass	
Toluene	M21-Ap10542	NCP	%	104			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	M21-Ap10542	NCP	%	101			70-130	Pass	
m&p-Xylenes	M21-Ap10542	NCP	%	102			70-130	Pass	
o-Xylene	M21-Ap10542	NCP	%	99			70-130	Pass	
Xylenes - Total*	M21-Ap10542	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-Ap10542	NCP	%	96			70-130	Pass	
TRH C6-C10	M21-Ap10542	NCP	%	89			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	B21-Ap03940	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	B21-Ap03940	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	B21-Ap03940	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	B21-Ap03940	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	B21-Ap03940	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	B21-Ap03940	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Ap13389	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Ap13389	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Ap13389	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Ap13389	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Ap13389	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Ap13389	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Ap13389	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Ap13389	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Ap13389	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP
Going Further in Managing Risk

Client	:	ORA	Date	:	16/04/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO285768
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 16/4/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21 : NEPM Screen for Soil Classification Screen	Hold
SW02		16/04/2021	W		2	1							X											
SW03		16/04/2021	W		2	1							X											
SW04		16/04/2021	W		2	1							X											
SED 2		16/04/2021	S	1																				
RB01		16/04/2021	W		2	1							X											
TB01		16/04/2021	W		2																	X		
Totals				1	10	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0

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J168829 - COC with Testing

Varun Bhagwat <Varun.Bhagwat@greencap.com.au>

Fri 16/04/2021 11:56 AM

To: Michael Morrison <MichaelMorrison@eurofins.com>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; #AU09_EnviroSampleDRW <EnviroSampleDRW@eurofins.com>

1 attachments (16 KB)
J168829 - EF COC 16.04.2021.pdf;

Hi Michael,

Attached is the COC with testing for soil and water samples collected on 16/4/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point on 16/4/2021.

Thank you.

Cheers

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

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788411

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IANZ # 1327

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Apr 16, 2021 11:56 AM
Eurofins reference	788411

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Dylan Burford**

Report **788411-S**
Project name SP MANAGEMENT
Project ID J168829
Received Date Apr 16, 2021

Client Sample ID			**SED 2**
Sample Matrix			**Sediment**
Eurofins Sample No.			**M21-Ap31127**
Date Sampled			**Apr 16, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	98
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
% Moisture	1	%	37

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Apr 20, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Apr 20, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 20, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 20, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Apr 20, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO285766
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	788411
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Apr 16, 2021 11:56 AM	
Due:	Apr 20, 2021	
Priority:	2 Day	
Contact Name:	Dylan Burford	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW02	Apr 16, 2021		Water	M21-Ap31124			X
2	SW03	Apr 16, 2021		Water	M21-Ap31125			X
3	SW04	Apr 16, 2021		Water	M21-Ap31126			X
4	SED 2	Apr 16, 2021		Sediment	M21-Ap31127		X	X
5	RB01	Apr 16, 2021		Water	M21-Ap31128			X
6	TB01	Apr 16, 2021		Water	M21-Ap31129	X		
Test Counts						1	1	5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	81			70-130	Pass	
TRH C10-C14	%	85			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	79			70-130	Pass	
m&p-Xylenes	%	86			70-130	Pass	
Xylenes - Total*	%	84			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	78			70-130	Pass	
TRH C6-C10	%	75			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-Ap28377	NCP	%	92			70-130	Pass	
TRH C10-C14	M21-Ap25518	NCP	%	116			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Ap28377	NCP	%	93			70-130	Pass	
Toluene	M21-Ap28377	NCP	%	93			70-130	Pass	
Ethylbenzene	M21-Ap28377	NCP	%	86			70-130	Pass	
m&p-Xylenes	M21-Ap28377	NCP	%	94			70-130	Pass	
o-Xylene	M21-Ap28377	NCP	%	88			70-130	Pass	
Xylenes - Total*	M21-Ap28377	NCP	%	92			70-130	Pass	
Spike - % Recovery									

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-Ap28377	NCP	%	78			70-130	Pass	
TRH C6-C10	M21-Ap28377	NCP	%	85			70-130	Pass	
TRH >C10-C16	M21-Ap25518	NCP	%	118			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Ap28921	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M21-Ap25496	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M21-Ap25496	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M21-Ap25496	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Ap28921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M21-Ap28921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M21-Ap28921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M21-Ap28921	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M21-Ap28921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M21-Ap28921	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Ap28921	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-Ap28921	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M21-Ap25496	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M21-Ap25496	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M21-Ap25496	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M21-Ap31127	CP	%	37	35	4.0	30%	Pass	

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

Authorised by:

Emily Daos	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Dylan Burford**

Report **788411-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Apr 16, 2021

Client Sample ID			**SW02**	**SW03**	**SW04**	**RB01**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Ap31124**	**M21-Ap31125**	**M21-Ap31126**	**M21-Ap31128**
Date Sampled			**Apr 16, 2021**	**Apr 16, 2021**	**Apr 16, 2021**	**Apr 16, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	78	90	93	97
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	0.16	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	0.16	< 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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	0.16	< 0.1

Client Sample ID			**TB01**
Sample Matrix			**Water**
Eurofins Sample No.			**M21-Ap31129**
Date Sampled			**Apr 16, 2021**
Test/Reference	LOR	Unit	
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001

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Client Sample ID			TB01
Sample Matrix			**Water**
Eurofins Sample No.			**M21-Ap31129**
Date Sampled			**Apr 16, 2021**
Test/Reference	LOR	Unit	
BTEX			
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	90

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Apr 20, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Apr 20, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 20, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 20, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO285766
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	788411
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Apr 16, 2021 11:56 AM	
Due:	Apr 20, 2021	
Priority:	2 Day	
Contact Name:	Dylan Burford	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW02	Apr 16, 2021		Water	M21-Ap31124			X
2	SW03	Apr 16, 2021		Water	M21-Ap31125			X
3	SW04	Apr 16, 2021		Water	M21-Ap31126			X
4	SED 2	Apr 16, 2021		Sediment	M21-Ap31127		X	X
5	RB01	Apr 16, 2021		Water	M21-Ap31128			X
6	TB01	Apr 16, 2021		Water	M21-Ap31129	X		
Test Counts						1	1	5

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	96			70-130	Pass	
TRH C10-C14	%	104			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	94			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	94			70-130	Pass	
Xylenes - Total*	%	92			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	90			70-130	Pass	
TRH C6-C10	%	92			70-130	Pass	
TRH >C10-C16	%	106			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-Ap25849	NCP	%	123			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Ap25849	NCP	%	127			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-Ap24040	NCP	mg/L	13	13	3.0	30%	Pass	
TRH C15-C28	M21-Ap24040	NCP	mg/L	0.5	0.6	16	30%	Pass	
TRH C29-C36	M21-Ap24040	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-Ap24040	NCP	mg/L	5.0	4.9	2.0	30%	Pass	
TRH >C16-C34	M21-Ap24040	NCP	mg/L	0.3	0.4	28	30%	Pass	
TRH >C34-C40	M21-Ap24040	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

DRAFT

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

Authorised by:

Emily Daos	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	:	ORA	Date	:	23/04/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO286156
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 16/4/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (H_2SO_4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW03		23/04/2021	W		2	1							X											
SW04		23/04/2021	W		2	1							X											
RB01		23/04/2021	W		2	1							X											
TB01		23/04/2021	W		2																	X		
Totals				0	8	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0

790052
Jake

DRAFT

J168829 - COC Testing

Varun Bhagwat <Varun.Bhagwat@greencap.com.au>

Fri 23/04/2021 3:37 PM

To: Michael Morrison <MichaelMorrison@eurofins.com>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; #AU09_EnviroSampleDRW <EnviroSampleDRW@eurofins.com>

1 attachments (15 KB)
J168829 - EF COC 23.04.2021.pdf;

Hi Michael,

Attached is the COC with testing for water samples collected on 23/4/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point on 23/4/2021.

Thank you.

Cheers,

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

DRAFT

GREENCAP
Asbestos / Hazardous Materials | Occupational Hygiene | Property Risk | Health & Safety
Environmental Management | Contaminated Land | Emergency Management
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2 DAY TAT

eurofins

Environment Testing

PROJECT INFORMATION

Date Received: 23/4/21

Company: Greencap

Contact person: Varun

Contact Number: 0428 829 444

Contact E-mail:

Project Name/site: SP MANAGEMENT / ORA

Project Number: J168829

DRAFT

COC: **Attached** ☐
E-mailed ☑
Not received ☐

S.Oonsawat
Received:
23/4/21 @ 1400 ICE
Temp: 28.4-0.2
=28.2°C

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ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Apr 23, 2021 3:37 PM
Eurofins reference	790052

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Dylan Burford**

Report **790052-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Apr 23, 2021

Client Sample ID			**SW03**	**SW04**	**RB01**	**TB01**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Ap43807**	**M21-Ap43808**	**M21-Ap43809**	**M21-Ap43810**
Date Sampled			**Apr 23, 2021**	**Apr 23, 2021**	**Apr 23, 2021**	**Apr 23, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	79	84	89	103
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Apr 26, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Apr 26, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 26, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Apr 26, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

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Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

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35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO286156
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	790052
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Apr 23, 2021 3:37 PM	
Due:	Apr 27, 2021	
Priority:	2 Day	
Contact Name:	Dylan Burford	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SW03	Apr 23, 2021		Water	M21-Ap43807		X
2	SW04	Apr 23, 2021		Water	M21-Ap43808		X
3	RB01	Apr 23, 2021		Water	M21-Ap43809		X
4	TB01	Apr 23, 2021		Water	M21-Ap43810	X	
Test Counts						1	3

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	119			70-130	Pass	
TRH C10-C14	%	98			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	107			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	89			70-130	Pass	
m&p-Xylenes	%	110			70-130	Pass	
Xylenes - Total*	%	103			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	94			70-130	Pass	
TRH C6-C10	%	110			70-130	Pass	
TRH >C10-C16	%	98			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-Ap30738	NCP	%	120			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Ap30738	NCP	%	117			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Ap42799	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	P21-Ap28746	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	P21-Ap28746	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	P21-Ap28746	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

DRAFT

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Ap42799	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Ap42799	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Ap42799	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Ap42799	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Ap42799	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Ap42799	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Ap42799	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Ap42799	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	P21-Ap28746	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	P21-Ap28746	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	P21-Ap28746	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

DRAFT

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP

Client	:	ORA	Date	:	30/04/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO288447
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 30/4/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix *(Soil, Water, Vapour, etc)*	Sample Containers									Testing											
				250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (Including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21 : NEPM Screen for Soil Classification Screen	Hold
SW02		30/04/2021	W	2	1								X											
SW03		30/04/2021	W	2	1								X											
SW04		30/04/2021	W	2	1								X											
SED 2		30/04/2021	S	1																				
Totals				1	6	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0

DRAFT

29/8/10
L. Byers

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PROJECT INFORMATION

Date Received: 30/4/21

Company: GC

Contact person: VB

Contact Number: 0428 829 444

Contact E-mail:

Project Name/site: ~~OPEX~~ DIESEL SPILL | ORA

Project Number: J168829

DRAFT

79810
C. Burgess

COC: **Attached** ☐
E-mailed ☑
Not received ☐

Received:
30/4/21 @ 1410
Temp 33.3 - 0.2
= 33.1°C

Last modified on: 16 October 2019	Approved on: 16 October 2019	Version: QS1039_R2
Last modified by: H. Le	Approver: M. Makarios	Page 1 of 1
Editorial Committee: T. Lakeland, F. Sanjaya, H. Le, M. Makarios		Next required review date: 16 October 2022

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ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

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Phone : +61 3 8564 5000
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Site # 1254 & 14271

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NATA # 1261 Site # 18217

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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	-- ALL INVOICES (pdf only)
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	May 1, 2021 2:10 PM
Eurofins reference	791810

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to -- ALL INVOICES (pdf only) - ap@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Varun**

Report **791810-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date May 01, 2021

Client Sample ID			**SW02**	**SW03**	**SW04**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-My00819**	**M21-My00820**	**M21-My00821**
Date Sampled			**Apr 30, 2021**	**Apr 30, 2021**	**Apr 30, 2021**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1
BTEX					
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	123	122	122
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1

DRAFT

Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 01, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	May 01, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 01, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 01, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

Brisbane
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NATA # 1261 Site # 20794

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Site # 23736

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Phone : +64 9 526 45 51
IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap VIC P/L
Address: Level 1, 677 High St
Kew East
VIC 3102

Project Name: SP MANAGEMENT
Project ID: J168829

Order No.:
Report #: 791810
Phone: 9890 8811
Fax: 9890 8911

Received: May 1, 2021 2:10 PM
Due: May 5, 2021
Priority: 2 Day
Contact Name: Dylan Burford

Eurofins Analytical Services Manager : Michael Morrison

DRAFT

Sample Detail						HOLD	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW02	Apr 30, 2021		Water	M21-My00819			X
2	SW03	Apr 30, 2021		Water	M21-My00820			X
3	SW04	Apr 30, 2021		Water	M21-My00821			X
4	SED 2	Apr 30, 2021		Soil	M21-My00822	X	X	
Test Counts						1	1	3

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	124			70-130	Pass	
TRH C10-C14	%	110			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	106			70-130	Pass	
Toluene	%	100			70-130	Pass	
Ethylbenzene	%	109			70-130	Pass	
m&p-Xylenes	%	116			70-130	Pass	
Xylenes - Total*	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	123			70-130	Pass	
TRH C6-C10	%	119			70-130	Pass	
TRH >C10-C16	%	108			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-Ap51859	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-Ap51859	NCP	%	88			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-My00720	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-My00720	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-My00720	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

DRAFT

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-My00720	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-My00720	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-My00720	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

DRAFT

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
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
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP
Giving Further to Managing Risk

Client	:	ORA	Date	:	7/05/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO286803
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 7/5/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers									Testing											
				250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (H_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (Including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21: NEPM Screen for Soil Classification Screen	Hold
SW03		7/05/2021	W		2	1							X											
SW04		7/05/2021	W		2	1							X											
RB01		7/05/2021	W		2	1							X											
TB01		7/05/2021	W		2																X			
Totals				0	8	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0

DRAFT

793630

J168829 - COC with Testing

Varun Bhagwat <Varun.Bhagwat@greencap.com.au>

Sun 9/05/2021 2:38 PM

To: Michael Morrison <MichaelMorrison@eurofins.com>; Michael Cassidy <MichaelCassidy@eurofins.com>
Cc: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>; #AU09_EnviroSampleDRW <EnviroSampleDRW@eurofins.com>

1 attachments (15 KB)
J168829 - EF COC 07.05.2021.pdf;

Hi Michael,

Attached is the COC with testing for water samples collected on 7/5/2021 for the project: **J168829.**

The samples were delivered to the Darwin Eurofins drop off point on 7/5/2021.

Thank you.

Cheers,

Varun Bhagwat

Environmental Consultant | Greencap

Unit 11 / 14 Winnellie Road Winnellie, NT 0820
M: 0428 829 444 | E: Varun.Bhagwat@greencap.com.au | in: LinkedIn

DRAFT

793630

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eurofins | Environment Testing

ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

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Site # 1254 & 14271

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16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	May 9, 2021 2:38 PM
Eurofins reference	793630

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

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Certificate of Analysis

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Dylan Burford**

Report **793630-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date May 09, 2021

Client Sample ID			**SW03**	**SW04**	**RB01**	**TB01**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-My15021**	**M21-My15022**	**M21-My15023**	**M21-My15024**
Date Sampled			**May 07, 2021**	**May 07, 2021**	**May 07, 2021**	**May 07, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	81	96	84	105
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-

DRAFT

Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 10, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	May 10, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 10, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 10, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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NATA # 1261
Site # 23736

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NATA # 1261 Site # 25079

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap NT P/L
Address: 11/14 Winnellie Road
Winnellie
NT 0800

Project Name: SP MANAGEMENT
Project ID: J168829

Order No.:
Report #: 793630
Phone: 61 8 8984 4244
Fax: 61 8 8984 3105

Received: May 9, 2021 2:38 PM
Due: May 12, 2021
Priority: 2 Day
Contact Name: Dylan Burford

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SW03	May 07, 2021		Water	M21-My15021		X
2	SW04	May 07, 2021		Water	M21-My15022		X
3	RB01	May 07, 2021		Water	M21-My15023		X
4	TB01	May 07, 2021		Water	M21-My15024	X	
Test Counts						1	3

DRAFT

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	118			70-130	Pass	
TRH C10-C14	%	103			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	107			70-130	Pass	
Toluene	%	109			70-130	Pass	
Ethylbenzene	%	98			70-130	Pass	
m&p-Xylenes	%	106			70-130	Pass	
Xylenes - Total*	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	107			70-130	Pass	
TRH C6-C10	%	116			70-130	Pass	
TRH >C10-C16	%	105			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M21-My11531	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M21-My11531	NCP	%	94			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M21-My11550	NCP	mg/L	0.52	0.51	2.0	30%	Pass	
TRH C15-C28	M21-My11550	NCP	mg/L	1.2	1.1	14	30%	Pass	
TRH C29-C36	M21-My11550	NCP	mg/L	0.2	0.2	11	30%	Pass	

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Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M21-My11550	NCP	mg/L	0.53	0.51	4.0	30%	Pass	
TRH >C16-C34	M21-My11550	NCP	mg/L	1.3	1.1	14	30%	Pass	
TRH >C34-C40	M21-My11550	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

DRAFT

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

DRAFT

Chain of Custody - Greencap Adelaide
Ph. 8299 9955

GREENCAP
Going Further in Managing Risk

Client	:	ORA	Date	:	14/05/2021
Project	:	SP Management	Sampled by	:	Varun Bhagwat
Project Manager	:	Dylan Burford	Sampler Mobile	:	0428 829 444
Job No.	:	J168829	Purchase Order	:	PO267078
Location	:	One Rail, Berrimah NT	T/Around		*** 2 DAY TAT ***
Please email results to:		Dylan.Burford@greencap.com.au			Varun.Bhagwat@greencap.com.au

Relinquished by: VB 14/5/21	Recieved by:	Relinquished by:	Received by:
Signature & date	*Signature & date*	*Signature & date*	*Signature & date*

Field ID	Depth	Sampled	Matrix (Soil, Water, Vapour, etc)	Sample Containers: 250ml Soil Jar	40ml Vials (HCL preserved)	100ml Glass Amber (semi-volatile)	60ml Plastic (Nitric Acid Preserved)	60ml Plastic Nturients (h_2SO4)	250ml Plastic (unpreserved)	60ml Ferrous Iron (HCL)	60ml Plastic - Cyanide/Hex Cr (NaOH)	250ml Plastic (PFOS/PFOA)	Testing: B1 : TRH, BTEXN	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	B6 TRH/ BTEXN/ Metals (8)	B7 TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	SA Waste Screen (including phenolics - Greencap)	SVV : SVOC, VOC	B14 : OCP, OPP	TRH (C6-C10) & BTEX	BTEXN	R21 : NEPM Screen for Soil Classification Screen	Hold
SW03		14/05/2021	W		2	1							X											
SW04		14/05/2021	W		2	1							X											
SED 2		14/05/2021	S	1									X											
QC01		14/05/2021	W		2	1							X											
QC01		14/05/2021	S	1									X											
RB01		14/05/2021	W		2	1							X											
TB01		14/05/2021	W		2																	X		
Totals				2	10	4	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	1	0	0

795567
Jake

DRAFT

eurofins

Environment Testing

PROJECT INFORMATION

Date Received: 14/5/21

Company: Greencap

Contact person: Varun

Contact Number: 0428 829 444

Contact E-mail:

Project Name/site: SP ~~FE~~ MANAGEMENT / ORA

Project Number: J168829

DRAFT

COC: Attached ☐
E-mailed ☑
Not received ☐

S. Ounsworth
received: 14/5/21 @ 1440
Temp: 26.1 - 0.2
25.9°C

2 day TAT

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IANZ # 1327

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Dylan Burford
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	May 14, 2021 2:40 PM
Eurofins reference	795567

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Dylan Burford - dylan.burford@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
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Attention: **Dylan Burford**

Report **795567-S**
Project name SP MANAGEMENT
Project ID J168829
Received Date May 14, 2021

Client Sample ID			**SED2**	**QC01 (S)**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**M21-My30592**	**M21-My30594**
Date Sampled			**May 14, 2021**	**May 14, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	200	160
TRH C29-C36	50	mg/kg	230	180
TRH C10-C36 (Total)	50	mg/kg	430	340
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	89	98
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	340	270
TRH >C34-C40	100	mg/kg	190	150
TRH >C10-C40 (total)*	100	mg/kg	530	420
% Moisture	1	%	30	26

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 17, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	May 17, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 17, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 17, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	May 17, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

Brisbane
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NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

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IANZ # 1327

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO287078
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	795567
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	May 14, 2021 2:40 PM
Due:	May 18, 2021
Priority:	2 Day
Contact Name:	Dylan Burford

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW03	May 14, 2021		Water	M21-My30590			X
2	SW04	May 14, 2021		Water	M21-My30591			X
3	SED2	May 14, 2021		Soil	M21-My30592		X	X
4	QC01 (W)	May 14, 2021		Water	M21-My30593			X
5	QC01 (S)	May 14, 2021		Soil	M21-My30594		X	X
6	RB01	May 14, 2021		Water	M21-My30595			X
7	TB01	May 14, 2021		Water	M21-My30596	X		
Test Counts						1	2	6

DRAFT

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	91			70-130	Pass	
TRH C10-C14	%	124			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	94			70-130	Pass	
Toluene	%	100			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	89			70-130	Pass	
Xylenes - Total*	%	88			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	97			70-130	Pass	
TRH C6-C10	%	86			70-130	Pass	
TRH >C10-C16	%	128			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-My26564	NCP	%	106			70-130	Pass	
TRH C10-C14	M21-My23560	NCP	%	110			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-My26564	NCP	%	104			70-130	Pass	
Toluene	M21-My26564	NCP	%	92			70-130	Pass	
Ethylbenzene	M21-My26564	NCP	%	127			70-130	Pass	
m&p-Xylenes	M21-My26564	NCP	%	101			70-130	Pass	
o-Xylene	M21-My26564	NCP	%	129			70-130	Pass	
Xylenes - Total*	M21-My26564	NCP	%	111			70-130	Pass	
Spike - % Recovery									

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-My26564	NCP	%	103			70-130	Pass	
TRH C6-C10	M21-My26564	NCP	%	101			70-130	Pass	
TRH >C10-C16	M21-My23560	NCP	%	112			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-My26539	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M21-My21413	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M21-My21413	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M21-My21413	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-My26539	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M21-My26539	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M21-My26539	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M21-My26539	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M21-My26539	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M21-My26539	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-My26539	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-My26539	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M21-My21413	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M21-My21413	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M21-My21413	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M21-My30562	NCP	%	5.9	6.7	13	30%	Pass	

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

DRAFT

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Dylan Burford**

Report **795567-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date May 14, 2021

Client Sample ID			**SW03**	**SW04**	**QC01 (W)**	**RB01**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-My30590**	**M21-My30591**	**M21-My30593**	**M21-My30595**
Date Sampled			**May 14, 2021**	**May 14, 2021**	**May 14, 2021**	**May 14, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 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-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	87	89	88	89
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	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
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			**TB01**
Sample Matrix			**Water**
Eurofins Sample No.			**M21-My30596**
Date Sampled			**May 14, 2021**
Test/Reference	LOR	Unit	
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001

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Client Sample ID			TB01
Sample Matrix			Water
Eurofins Sample No.			M21-My30596
Date Sampled			May 14, 2021
Test/Reference	LOR	Unit	
BTEX			
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	89
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.01	mg/L	< 0.01

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 17, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	May 17, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 17, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 17, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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NATA # 1261 Site # 18217

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Site # 23736

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Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap NT P/L
Address: 11/14 Winnellie Road
Winnellie
NT 0800

Project Name: SP MANAGEMENT
Project ID: J168829

Order No.: PO287078
Report #: 795567
Phone: 61 8 8984 4244
Fax: 61 8 8984 3105

Received: May 14, 2021 2:40 PM
Due: May 18, 2021
Priority: 2 Day
Contact Name: Dylan Burford

Eurofins Analytical Services Manager : Michael Morrison

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Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW03	May 14, 2021		Water	M21-My30590			X
2	SW04	May 14, 2021		Water	M21-My30591			X
3	SED2	May 14, 2021		Soil	M21-My30592		X	X
4	QC01 (W)	May 14, 2021		Water	M21-My30593			X
5	QC01 (S)	May 14, 2021		Soil	M21-My30594		X	X
6	RB01	May 14, 2021		Water	M21-My30595			X
7	TB01	May 14, 2021		Water	M21-My30596	X		
Test Counts						1	2	6

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	112			70-130	Pass	
TRH C10-C14	%	108			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	118			70-130	Pass	
Ethylbenzene	%	111			70-130	Pass	
m&p-Xylenes	%	113			70-130	Pass	
Xylenes - Total*	%	111			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	118			70-130	Pass	
TRH C6-C10	%	107			70-130	Pass	
TRH >C10-C16	%	110			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-My24708	NCP	%	124			70-130	Pass	
TRH C10-C14	M21-My26688	NCP	%	125			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-My24708	NCP	%	108			70-130	Pass	
Toluene	M21-My24708	NCP	%	100			70-130	Pass	
Ethylbenzene	M21-My24708	NCP	%	114			70-130	Pass	
m&p-Xylenes	M21-My24708	NCP	%	116			70-130	Pass	
o-Xylene	M21-My24708	NCP	%	111			70-130	Pass	
Xylenes - Total*	M21-My24708	NCP	%	114			70-130	Pass	
Spike - % Recovery									

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-My24708	NCP	%	99			70-130	Pass	
TRH C6-C10	M21-My24708	NCP	%	115			70-130	Pass	
TRH >C10-C16	M21-My26688	NCP	%	126			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-My24707	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-My28139	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-My28139	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-My28139	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-My24707	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-My24707	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-My24707	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-My24707	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-My24707	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-My24707	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-My24707	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-My24707	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-My28139	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-My28139	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-My28139	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

Sydney Laboratory
Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066

Brisbane Laboratory
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Greencap NT P/L	Project No	J168829	Project Manager	Varun Bhagwat
Address	Unit 11 / 14 Winnellie Road Winnellie, NT 0820	Project Name	Sediment Investigation	EDD Format (Esdat, EQuIS etc)	Esdat
Contact Name	Varun Bhagwat			Facility Code	
Phone No	0428 829 444				
Special Directions					
Purchase Order	PO288212				
Quote ID No					

Sampler(s)	VB
Handed over by	VB on 9/6/21
Email for Invoice	Varun.Bhagwat@greencap.com.au
Email for Results	Varun.Bhagwat@greencap.com.au

Analyses (Where metals are required, please specify "Total" or "Filtered". *NATA accredited for dried sample testing only.)

No	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	B1 : TRH, BTEXN	B6: TRH BTEXN/ Metals (8)	B7: TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	B14 : OCP, OPP TRH (C6-C10) & BTEX	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	SVV : SVOC, VOC	NSW DECC Waste Classification Table 1	R21: NEPM Screen for Soil Classification Screen	BTEXN	Containers: 500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	SED 2 (UP)	9/06/21	Solid	X																1		
2	SED 2 (DOWN)	9/06/21	Solid	X																1		
3	SED 2	9/06/21	Solid	X																1		
4	RB01	9/06/21	Water										X					2				
5	00040 (Trip Blank)	26/7/21	Water										X					2				
6																						
7																						
8																						
9																						
10																						
			Total Counts	3									2					4		3		

Required Turnaround Time (TAT) — Default will be 5 days if not stated

*Surcharge will apply
Overnight (reporting by 9am)*
Same day ◆ 1 day ◆
2 days ◆ 3 days ◆
5 days (Standard)
Other( )

Method of Shipment	Courier (#	Hand Delivered	Postal	Name		Signature		Date	Time
Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time	Temperature
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time	Report No

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802076

Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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Environment Testing

PROJECT INFORMATION

Date Received: 9/6/24

Company: ~~VB~~ GC

Contact person: VB

Contact Number: 0428829444

Contact E-mail:

Project Name/site: ~~Re~~ SEDIMENT INVESTIGATION/ORA

Project Number: J168829

DRAFT

COC: Attached ☐
E-mailed ☑
Not received ☐

S. Ovnsworth
Received: 9/6/24 @ 1345

Water
Trip blank
RB01

Soil
SE02 UP
SE02 Down
SE02

Temp: 31.6 - 0.2
= 31.4°C ICE

802076

2 Day TAT

Last modified on: 16 October 2019	Approved on: 16 October 2019	Version: QS1039_R2
Last modified by: H. Le	Approver: M. Makarios	Page 1 of 1
Editorial Committee: T. Lakeland, F. Sanjaya, H. Le, M. Makarios		Next required review date: 16 October 2022

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Site # 23736

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New Zealand

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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	SEDIMENT INVESTIGATION
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Jun 9, 2021 1:45 PM
Eurofins reference	802076

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Varun**

Report **802076-S**
Project name SEDIMENT INVESTIGATION
Project ID J168829
Received Date Jun 09, 2021

Client Sample ID			**SED 2 (UP)**	**SED 2 (DOWN)**	**SED 2**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M21-Jn21334**	**M21-Jn21335**	**M21-Jn21336**
Date Sampled			**Jun 09, 2021**	**Jun 09, 2021**	**Jun 09, 2021**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	73	< 50	130
TRH C29-C36	50	mg/kg	92	< 50	160
TRH C10-C36 (Total)	50	mg/kg	165	< 50	290
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	130	< 100	220
TRH >C34-C40	100	mg/kg	< 100	< 100	130
TRH >C10-C40 (total)*	100	mg/kg	130	< 100	350
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	91	85
% Moisture	1	%	1.0	3.6	7.5

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 10, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 10, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 10, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 10, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Jun 10, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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IANZ # 1327

Christchurch
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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO288212
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	802076
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SEDIMENT INVESTIGATION		
Project ID:	J168829		

Received:	Jun 9, 2021 1:45 PM
Due:	Jun 11, 2021
Priority:	2 Day
Contact Name:	Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SED 2 (UP)	Jun 09, 2021		Soil	M21-Jn21334		X	X
2	SED 2 (DOWN)	Jun 09, 2021		Soil	M21-Jn21335		X	X
3	SED 2	Jun 09, 2021		Soil	M21-Jn21336		X	X
4	RB01	Jun 09, 2021		Water	M21-Jn21337	X		
5	0040 (TRIP BLANK)	Jun 09, 2021		Water	M21-Jn21338	X		
Test Counts						2	3	3

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	96			70-130	Pass	
TRH C10-C14	%	113			70-130	Pass	
Naphthalene	%	105			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
TRH >C10-C16	%	112			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	98			70-130	Pass	
Toluene	%	97			70-130	Pass	
Ethylbenzene	%	103			70-130	Pass	
m&p-Xylenes	%	111			70-130	Pass	
Xylenes - Total*	%	109			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M21-Jn19661	NCP	%	75			70-130	Pass	
TRH C10-C14	M21-Jn19980	NCP	%	105			70-130	Pass	
Naphthalene	M21-Jn19661	NCP	%	96			70-130	Pass	
TRH C6-C10	M21-Jn19661	NCP	%	74			70-130	Pass	
TRH >C10-C16	M21-Jn19980	NCP	%	101			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Jn19661	NCP	%	76			70-130	Pass	
Toluene	M21-Jn19661	NCP	%	77			70-130	Pass	
Ethylbenzene	M21-Jn19661	NCP	%	82			70-130	Pass	
m&p-Xylenes	M21-Jn19661	NCP	%	89			70-130	Pass	
o-Xylene	M21-Jn19661	NCP	%	84			70-130	Pass	
Xylenes - Total*	M21-Jn19661	NCP	%	88			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-Jn14735	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M21-Jn19979	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M21-Jn19979	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M21-Jn19979	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Naphthalene	M21-Jn14735	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-Jn14735	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M21-Jn19979	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M21-Jn19979	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M21-Jn19979	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Jn14735	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M21-Jn14735	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M21-Jn14735	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M21-Jn14735	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M21-Jn14735	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M21-Jn14735	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M21-Jn21334	CP	%	1.0	1.2	17	30%	Pass	

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

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Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Varun**

Report **802076-W**
Project name SEDIMENT INVESTIGATION
Project ID J168829
Received Date Jun 09, 2021

Client Sample ID			**RB01**	**0040 (TRIP BLANK)**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M21-Jn21337**	**M21-Jn21338**
Date Sampled			**Jun 09, 2021**	**Jun 09, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	92	91

DRAFT

Sample History

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

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
Eurofins Suite B1			
BTEX	Melbourne	Jun 10, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

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Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap NT P/L
Address: 11/14 Winnellie Road
Winnellie
NT 0800

Project Name: SEDIMENT INVESTIGATION
Project ID: J168829

Order No.: PO288212
Report #: 802076
Phone: 61 8 8984 4244
Fax: 61 8 8984 3105

Received: Jun 9, 2021 1:45 PM
Due: Jun 11, 2021
Priority: 2 Day
Contact Name: Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SED 2 (UP)	Jun 09, 2021		Soil	M21-Jn21334		X	X
2	SED 2 (DOWN)	Jun 09, 2021		Soil	M21-Jn21335		X	X
3	SED 2	Jun 09, 2021		Soil	M21-Jn21336		X	X
4	RB01	Jun 09, 2021		Water	M21-Jn21337	X		
5	0040 (TRIP BLANK)	Jun 09, 2021		Water	M21-Jn21338	X		
Test Counts						2	3	3

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
Naphthalene	%	91			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	87			70-130	Pass	
Toluene	%	103			70-130	Pass	
Ethylbenzene	%	95			70-130	Pass	
m&p-Xylenes	%	94			70-130	Pass	
Xylenes - Total*	%	93			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	M21-Jn11711	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Jn11711	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Jn11711	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Jn11711	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Jn11711	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Jn11711	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Jn11711	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

DRAFT

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
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.

Authorised by:

Michael Morrison	Analytical Services Manager
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☐ Sydney Laboratory
Unit F3 Bld F, 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
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07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Greencap NT P/L	Project No	J168829	Project Manager	Varun Bhagwat	Sampler(s)	VB
Address	Unit 11 / 14 Winnellie Road Winnellie, NT 0820	Project Name	Sediment Investigation	EDD Format (Excel Default)	Esdat	Facility Code	
Contact Name	Varun Bhagwat					Handed over by	VB on 21/6/21
Phone No	0428 829 444					Email for Invoice	Varun.Bhagwat@greencap.com.au
Special Directions						Email for Results	Varun.Bhagwat@greencap.com.au
Eurofins Quote	PO288679						

Analyses (Please tick as required; "CoC" to TRH/BTEX; Suite codes must be listed to ensure testing)

No	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	B1: TRH, BTEXN	B6: TRH/ BTEXN/ Metals (8)	B7: TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	B14 : OCP, OPP TRH (C6-C10) & BTEX	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	SVW : SVOC, VOC	NSW DECC Waste Classification Table 1	R21: NEPM Screen for Soil Classification Screen	BTEXN	Containers: 500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964 WA Guidelines)	Sample Comments (Temperature Blanks, Hazard Warnings)
1	SW03	18/06/21	Water	X													1	2				
2	SW04	18/06/21	Water	X													1	2				
3	SED 2	18/06/21	Solid	X																1		
4	RB01	18/06/21	Water										X					2				
5	TB01	18/06/21	Water										X					2				
6																						
7																						
8																						
9																						
10																						
	Add Rows		Total Counts	3									2				2	6		1		

Container Turnaround Time (TAT) (Select one per Container)
♦Surcharges will apply
☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☑ 2 days♦ ☐ 3 days♦
☐ 5 days (Standard)
☐ Other( )

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal | Name | Signature | Date | Time

Laboratory Use Only

Received By	K. Hood	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date 21/6/21	Time 2:50pm	Temperature 9.6 9.4 2:00pm
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report No 304067 23/6/21 11:55

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Submission of samples to the Laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions which are accessible at www.eurofins.com/au/terms-and-conditions.pdf

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Site # 1254

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NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
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NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

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New Zealand

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35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	SEDIMENT INVESTIGATION
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Jun 21, 2021 2:00 PM
Eurofins reference	804967

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

Attention: **Varun**

Report **804967-S**
Project name SEDIMENT INVESTIGATION
Project ID J168829
Received Date Jun 21, 2021

Client Sample ID			**SED 2**
Sample Matrix			**Soil**
Eurofins Sample No.			**M21-Jn44475**
Date Sampled			**Jun 18, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	200
TRH C29-C36	50	mg/kg	270
TRH C10-C36 (Total)	50	mg/kg	470
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	370
TRH >C34-C40	100	mg/kg	180
TRH >C10-C40 (total)*	100	mg/kg	550
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	57
% Moisture	1	%	5.8

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 23, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 23, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Jun 23, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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NATA # 1261 Site # 18217

Brisbane
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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap NT P/L
Address: 11/14 Winnellie Road
Winnellie
NT 0800

Project Name: SEDIMENT INVESTIGATION
Project ID: J168829

Order No.: PO288679
Report #: 804967
Phone: 61 8 8984 4244
Fax: 61 8 8984 3105

Received: Jun 21, 2021 2:00 PM
Due: Jun 23, 2021
Priority: 2 Day
Contact Name: Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW03	Jun 18, 2021		Water	M21-Jn44473			X
2	SW04	Jun 18, 2021		Water	M21-Jn44474			X
3	SED 2	Jun 18, 2021		Soil	M21-Jn44475		X	X
4	RB01	Jun 18, 2021		Water	M21-Jn44476	X		
5	TB01	Jun 18, 2021		Water	M21-Jn44477	X		
Test Counts						2	1	3

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	105			70-130	Pass	
TRH C10-C14	%	117			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
TRH C6-C10	%	88			70-130	Pass	
TRH >C10-C16	%	117			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	79			70-130	Pass	
Toluene	%	83			70-130	Pass	
Ethylbenzene	%	85			70-130	Pass	
m&p-Xylenes	%	84			70-130	Pass	
Xylenes - Total*	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	B21-Jn40269	NCP	%	94			70-130	Pass	
TRH C10-C14	M21-Jn37733	NCP	%	125			70-130	Pass	
Naphthalene	B21-Jn40269	NCP	%	94			70-130	Pass	
TRH C6-C10	B21-Jn40269	NCP	%	77			70-130	Pass	
TRH >C10-C16	M21-Jn37733	NCP	%	123			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B21-Jn40269	NCP	%	72			70-130	Pass	
Toluene	B21-Jn40269	NCP	%	78			70-130	Pass	
Ethylbenzene	B21-Jn40269	NCP	%	80			70-130	Pass	
m&p-Xylenes	B21-Jn40269	NCP	%	80			70-130	Pass	
o-Xylene	B21-Jn40269	NCP	%	82			70-130	Pass	
Xylenes - Total*	B21-Jn40269	NCP	%	80			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	B21-Jn40268	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M21-Jn38062	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M21-Jn38062	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M21-Jn38062	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Naphthalene	B21-Jn40268	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	B21-Jn40268	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M21-Jn38062	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M21-Jn38062	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M21-Jn38062	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B21-Jn40268	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	B21-Jn40268	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	B21-Jn40268	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	B21-Jn40268	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	B21-Jn40268	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	B21-Jn40268	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

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

Authorised by:

Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)

Glenn Jackson
General Manager

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- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

Attention: **Varun**

Report **804967-W**
Project name SEDIMENT INVESTIGATION
Project ID J168829
Received Date Jun 21, 2021

Client Sample ID			**SW03**	**SW04**	**RB01**	**TB01**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Jn44473**	**M21-Jn44474**	**M21-Jn44476**	**M21-Jn44477**
Date Sampled			**Jun 18, 2021**	**Jun 18, 2021**	**Jun 18, 2021**	**Jun 18, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	-	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	-	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	-	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	-	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	95	96	99	95

DRAFT

Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 23, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 23, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			

DRAFT

eurofins | Environment Testing

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NATA # 1261
Site # 1254

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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Greencap NT P/L
Address: 11/14 Winnellie Road
Winnellie
NT 0800

Project Name: SEDIMENT INVESTIGATION
Project ID: J168829

Order No.: PO288679
Report #: 804967
Phone: 61 8 8984 4244
Fax: 61 8 8984 3105

Received: Jun 21, 2021 2:00 PM
Due: Jun 23, 2021
Priority: 2 Day
Contact Name: Varun

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW03	Jun 18, 2021		Water	M21-Jn44473			X
2	SW04	Jun 18, 2021		Water	M21-Jn44474			X
3	SED 2	Jun 18, 2021		Soil	M21-Jn44475		X	X
4	RB01	Jun 18, 2021		Water	M21-Jn44476	X		
5	TB01	Jun 18, 2021		Water	M21-Jn44477	X		
Test Counts						2	1	3

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
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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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-Jn36188	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	

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

Authorised by:

Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)

Glenn Jackson
General Manager

DRAFT

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☐ Sydney Laboratory
Unit 2 2-8 Buffalo Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleBR@eurofins.com

☐ Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Greencap NT P/L	Project No	J168829	Project Manager	Varun Bhagwat
Address	Unit 11 / 14 Winnellie Road Winnellie, NT 0820	Project Name	SP Management	EDD Format (Excel Default)	Esdat
Contact Name	Varun Bhagwat			Facility Code	
Phone No	0428 829 444				
Special Directions					
Purchase Order	PO288936				
Quote ID No					

Sampler(s)	VB
Handed over by	VB on 25/6/21
Email for Invoice	Varun.Bhagwat@greencap.com.au
Email for Results	Varun.Bhagwat@greencap.com.au

Analyses (Please mark an 'X' in the box to indicate the analysis required. Fill in the number of containers for each analysis type.)

No	Client Sample ID	Sampled Date/Time	Matrix (Solid / Water / Air)	B1 : TRH, BTEXN	B6: TRH/ BTEXN/ Metals (8)	B7 : TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	B14 : OCP, OPP TRH (C6-C10) & BTEX	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	SVW : SVOC, VOC	NSW DECC Waste Classification Table 1	R21: NEPM Screen for Soil Classification Screen	BTEXN	Containers: 500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	SW03	18/06/21	Water	X													1	2				
2	SW04	18/06/21	Water	X													1	2				
3	SED 2	18/06/21	Solid	X																1		
4	RB01	18/06/21	Water										X					2				
5	TB01	18/06/21	Water										X					2				
6																						
7																						
8																						
9																						
10																						
	Add Rows		Total Counts	3									2				2	6		1		

Turnaround Time (TAT) (Please write in days or hours)

- ☐ Overnight (reporting by 9am)*
- ☐ Same day*
- ☐ 1 day*
- ☑ [illegible]*
- ☐ [illegible]*
- ☐ 3 days (standard)
- ☐ Other( )

*Surcharge will apply

Method of Shipment							
☐ Courier (#)	☐ Hand Delivered	☐ Postal	Name		Signature	Date	Time

Laboratory Use Only										
Received By	K. HOOD	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	25/06/21	Time	4:10 PM	Temperature	27.8°C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report No	804486

4:10PM
29/6/21
11:01

DRAFT

Each sample submitted to Eurofins will be deemed to accept the Terms & Conditions which are available at www.eurofins.com.au/terms-and-conditions.pdf

eurofins | Environment Testing

ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
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Mayfield East NSW 2304
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NATA # 1261 Site # 25079

New Zealand

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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Jun 29, 2021 4:10 PM
Eurofins reference	806486

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Varun**

Report **806486-S**
Project name SP MANAGEMENT
Project ID J168829
Received Date Jun 29, 2021

Client Sample ID			**SED 2**
Sample Matrix			**Soil**
Eurofins Sample No.			**M21-Jn57795**
Date Sampled			**Jun 18, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	36
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	120
TRH C10-C36 (Total)	50	mg/kg	156
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	190
TRH >C10-C40 (total)*	100	mg/kg	190
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77
% Moisture	1	%	28

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Jun 29, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

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Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO288936	**Received:**	Jun 29, 2021 4:10 PM
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	806486	**Due:**	Jul 1, 2021
		Phone:	61 8 8984 4244	**Priority:**	2 Day
		Fax:	61 8 8984 3105	**Contact Name:**	Varun
Project Name:	SP MANAGEMENT				
Project ID:	J168829				

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
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Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
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2	SW04	Jun 18, 2021		Water	M21-Jn57794			X
3	SED 2	Jun 18, 2021		Soil	M21-Jn57795		X	X
4	RB01	Jun 18, 2021		Water	M21-Jn57796	X		
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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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	88			70-130	Pass	
TRH C10-C14	%	75			70-130	Pass	
Naphthalene	%	81			70-130	Pass	
TRH C6-C10	%	76			70-130	Pass	
TRH >C10-C16	%	75			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	78			70-130	Pass	
Toluene	%	78			70-130	Pass	
Ethylbenzene	%	87			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total*	%	93			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M21-Jn52022	NCP	%	106			70-130	Pass	
TRH C10-C14	M21-Jn53761	NCP	%	102			70-130	Pass	
Naphthalene	M21-Jn52022	NCP	%	109			70-130	Pass	
TRH C6-C10	M21-Jn52022	NCP	%	93			70-130	Pass	
TRH >C10-C16	M21-Jn53761	NCP	%	103			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Jn52022	NCP	%	77			70-130	Pass	
Toluene	M21-Jn52022	NCP	%	88			70-130	Pass	
Ethylbenzene	M21-Jn52022	NCP	%	90			70-130	Pass	
m&p-Xylenes	M21-Jn52022	NCP	%	118			70-130	Pass	
o-Xylene	M21-Jn52022	NCP	%	102			70-130	Pass	
Xylenes - Total*	M21-Jn52022	NCP	%	113			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-Jn47494	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M21-Jn55103	NCP	mg/kg	21	< 20	14	30%	Pass	
TRH C15-C28	M21-Jn55103	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M21-Jn55103	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Naphthalene	M21-Jn47494	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-Jn47494	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M21-Jn55103	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M21-Jn55103	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M21-Jn55103	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Jn47494	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M21-Jn47494	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M21-Jn47494	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M21-Jn47494	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M21-Jn47494	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M21-Jn47494	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M21-Jn57795	CP	%	28	28	1.0	30%	Pass	

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Varun**

Report **806486-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Jun 29, 2021

Client Sample ID			**SW03**	**SW04**	**RB01**	**TB01**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Jn57793**	**M21-Jn57794**	**M21-Jn57796**	**M21-Jn57797**
Date Sampled			**Jun 18, 2021**	**Jun 18, 2021**	**Jun 18, 2021**	**Jun 18, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	-	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	-	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	-	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	-	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	92	90	91	89

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 29, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 29, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 29, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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Site # 1254

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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO288936	**Received:**	Jun 29, 2021 4:10 PM
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	806486	**Due:**	Jul 1, 2021
		Phone:	61 8 8984 4244	**Priority:**	2 Day
		Fax:	61 8 8984 3105	**Contact Name:**	Varun
Project Name:	SP MANAGEMENT				
Project ID:	J168829				

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX and Naphthalene	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW03	Jun 18, 2021		Water	M21-Jn57793			X
2	SW04	Jun 18, 2021		Water	M21-Jn57794			X
3	SED 2	Jun 18, 2021		Soil	M21-Jn57795		X	X
4	RB01	Jun 18, 2021		Water	M21-Jn57796	X		
5	TB01	Jun 18, 2021		Water	M21-Jn57797	X		
Test Counts						2	1	3

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	93			70-130	Pass	
TRH C10-C14	%	121			70-130	Pass	
Naphthalene	%	75			70-130	Pass	
TRH C6-C10	%	89			70-130	Pass	
TRH >C10-C16	%	120			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	81			70-130	Pass	
Toluene	%	78			70-130	Pass	
Ethylbenzene	%	77			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total*	%	95			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M21-Jn57794	CP	%	114			70-130	Pass	
TRH >C10-C16	M21-Jn57794	CP	%	113			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-Jn51523	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-Jn57793	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Jn57793	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Jn57793	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Naphthalene	M21-Jn51523	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Jn51523	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-Jn57793	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Jn57793	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Jn57793	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Jn51523	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Jn51523	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Jn51523	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Jn51523	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Jn51523	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Jn51523	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

DRAFT

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

☐ Sydney Laboratory ☐ Brisbane Laboratory ☐ Perth Laboratory ☐ Melbourne Laboratory

Company	Greencap NT P/L	Project No	J168829
Address	Unit 11 / 14 Winnellie Road Winnellie, NT 0820	Project Name	SP Management
Contact Name	Varun Bhagwat	Project Manager	Varun Bhagwat
Phone No	0428 829 444	EDD Format	Esdat
Special Directions		Facility Code	
Purchase Order	PO290182	Sampler(s)	VB
Quote ID No		Handed over by	VB on 23/7/21
		Email for Invoice	Varun.Bhagwat@greencap.com.au
		Email for Results	Varun.Bhagwat@greencap.com.au

Analyses (Additional analytes can be added if required)

No	Client Sample ID	Sampled Date/Time	Matrix	B1: TRH, BTEXN	B6: TRH/ BTEXN/ Metals (8)	B7: TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	B14 : OCP, OPP TRH (C6-C10) & BTEX	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	SVV : SVOC, VOC	NSW DECC Waste Classification Table 1	R21: NEPM Screen for Soil Classification Screen	BTEXN	Containers: 500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Required Turnaround Time (TAT)	Sample Comments / Dangerous Goods Hazard Warning
1	SW03	18/06/21	Water	X													1	2					
2	SW04	18/06/21	Water	X													1	2					
3	SED 2	18/06/21	Solid	X																1			
4																							
5																							
6																							
7																							
8																							
9																							
10																							
	Add Rows		Total Counts	3													2	4		1			

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal Name Signature Date Time

Laboratory Use Only

Received By	K. HOOD	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date 26/7/21	Time 3.25 PM	Temperature	23.3 - .2 = 23.1
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report No	817399

Dispatch 27/7/21

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ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Jul 26, 2021 3:25 PM
Eurofins reference	813399

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

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Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Varun**

Report **813399-S**
Project name SP MANAGEMENT
Project ID J168829
Received Date Jul 26, 2021

Client Sample ID			**SED 2**
Sample Matrix			**Solid**
Eurofins Sample No.			**M21-JI51649**
Date Sampled			**Jul 22, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	79
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	79
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	110
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	110
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	51
% Moisture	1	%	8.6

DRAFT

Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jul 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Jul 29, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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Australia

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6 Monterey Road
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Site # 1254

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NATA # 1261 Site # 18217

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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
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Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
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Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO290182
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	813399
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Jul 26, 2021 3:25 PM	
Due:	Jul 29, 2021	
Priority:	2 Day	
Contact Name:	Varun	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SW03	Jul 22, 2021		Water	M21-Jl51647		X
2	SW04	Jul 22, 2021		Water	M21-Jl51648		X
3	SED 2	Jul 22, 2021		Solid	M21-Jl51649	X	X
Test Counts						1	3

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	117			70-130	Pass	
TRH C10-C14	%	119			70-130	Pass	
Naphthalene	%	104			70-130	Pass	
TRH C6-C10	%	103			70-130	Pass	
TRH >C10-C16	%	122			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	106			70-130	Pass	
Toluene	%	103			70-130	Pass	
Ethylbenzene	%	105			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
Xylenes - Total*	%	102			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M21-Jl46974	NCP	%	100			70-130	Pass	
TRH C10-C14	M21-Jl51392	NCP	%	98			70-130	Pass	
Naphthalene	M21-Jl50771	NCP	%	124			70-130	Pass	
TRH C6-C10	M21-Jl46974	NCP	%	93			70-130	Pass	
TRH >C10-C16	M21-Jl51392	NCP	%	100			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Jl50771	NCP	%	105			70-130	Pass	
Toluene	M21-Jl50771	NCP	%	101			70-130	Pass	
Ethylbenzene	M21-Jl50771	NCP	%	113			70-130	Pass	
m&p-Xylenes	M21-Jl50771	NCP	%	97			70-130	Pass	
o-Xylene	M21-Jl50771	NCP	%	102			70-130	Pass	
Xylenes - Total*	M21-Jl50771	NCP	%	99			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	P21-JI45936	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M21-JI51391	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M21-JI51391	NCP	mg/kg	62	52	18	30%	Pass	
TRH C29-C36	M21-JI51391	NCP	mg/kg	63	77	21	30%	Pass	
Naphthalene	M21-JI50770	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-JI50770	NCP	mg/kg	20	24	17	30%	Pass	
TRH >C10-C16	M21-JI51391	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M21-JI51391	NCP	mg/kg	100	100	3.0	30%	Pass	
TRH >C34-C40	M21-JI51391	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-JI50770	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M21-JI50770	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M21-JI50770	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M21-JI50770	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M21-JI50770	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M21-JI50770	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M21-JI51649	CP	%	8.6	8.4	2.0	30%	Pass	

DRAFT

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

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Attention: **Varun**

Report **813399-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Jul 26, 2021

Client Sample ID			**SW03**	**SW04**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M21-JI51647**	**M21-JI51648**
Date Sampled			**Jul 22, 2021**	**Jul 22, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.09	< 0.05
TRH C15-C28	0.1	mg/L	0.2	< 0.1
TRH C29-C36	0.1	mg/L	0.2	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.49	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.10	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.1	< 0.05
TRH >C16-C34	0.1	mg/L	0.3	< 0.1
TRH >C34-C40	0.1	mg/L	0.2	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.6	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	89	91

DRAFT

Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 29, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 29, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 29, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jul 29, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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Site # 1254

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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NATA # 1261 Site # 25079

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Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO290182
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	813399
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Jul 26, 2021 3:25 PM	
Due:	Jul 29, 2021	
Priority:	2 Day	
Contact Name:	Varun	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	SW03	Jul 22, 2021		Water	M21-Jl51647		X
2	SW04	Jul 22, 2021		Water	M21-Jl51648		X
3	SED 2	Jul 22, 2021		Solid	M21-Jl51649	X	X
Test Counts						1	3

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	98			70-130	Pass	
TRH C10-C14	%	120			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
TRH C6-C10	%	117			70-130	Pass	
TRH >C10-C16	%	118			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	100			70-130	Pass	
Toluene	%	97			70-130	Pass	
Ethylbenzene	%	95			70-130	Pass	
m&p-Xylenes	%	94			70-130	Pass	
Xylenes - Total*	%	94			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M21-Jl46578	NCP	%	118			70-130	Pass	
TRH C10-C14	M21-Jl44227	NCP	%	118			70-130	Pass	
Naphthalene	M21-Jl46578	NCP	%	82			70-130	Pass	
TRH C6-C10	M21-Jl46578	NCP	%	107			70-130	Pass	
TRH >C10-C16	M21-Jl44227	NCP	%	116			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Jl46578	NCP	%	88			70-130	Pass	
Toluene	M21-Jl46578	NCP	%	102			70-130	Pass	
Ethylbenzene	M21-Jl46578	NCP	%	96			70-130	Pass	
m&p-Xylenes	M21-Jl46578	NCP	%	94			70-130	Pass	
o-Xylene	M21-Jl46578	NCP	%	95			70-130	Pass	
Xylenes - Total*	M21-Jl46578	NCP	%	94			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-JI46062	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-JI46939	NCP	mg/L	< 0.05	0.07	200	30%	Fail	Q15
TRH C15-C28	M21-JI46939	NCP	mg/L	0.1	0.2	48	30%	Fail	Q15
TRH C29-C36	M21-JI46939	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Naphthalene	M21-JI46062	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-JI46062	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-JI46939	NCP	mg/L	< 0.05	0.08	200	30%	Fail	Q15
TRH >C16-C34	M21-JI46939	NCP	mg/L	0.1	0.2	47	30%	Fail	Q15
TRH >C34-C40	M21-JI46939	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-JI46062	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-JI46062	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-JI46062	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-JI46062	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-JI46062	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-JI46062	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

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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
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☐ Sydney Laboratory
Unit F3 Bld F, 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Greencap NT P/L	Project №	J168829	Project Manager	Varun Bhagwat	Sampler(s)	VB
Address	Unit 11 / 14 Winnellie Road Winnellie, NT 0820	Project Name	SP Management	EDD Format (Esdat, EQuIS, etc)	Esdat	Handed over by	VB on 24/8/21
Contact Name	Varun Bhagwat			Facility Code		Email for Invoice	Varun.Bhagwat@greencap.com.au
Phone №	0428 829 444					Email for Results	Varun.Bhagwat@greencap.com.au
Special Directions							
Purchase Order	PO291275						
Quote ID №							

Required Turnaround Time (TAT): ☐ Overnight (reporting by 9am)◆ ☐ Same day◆ ☐ 1 day◆ ☑ 2 days◆ ☐ 3 days◆ ☐ 5 days (Standard) ☐ Other ( )
◆Surcharge will apply

№	Client Sample ID	Sampled Date/Time	Matrix	B1 : TRH, BTEXN	B6: TRH/ BTEXN/ Metals (8)	B7. TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	B14 : OCP, OPP TRH (C6-C10) & BTEX	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	SVV · SVOC, VOC	NSW DECC Waste Classification Table 1	R21: NEPM Screen for Soil Classification Screen	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
3	SW03	20/08/21	Water	X												1	2				
4	SW04	20/08/21	Water	X												1	2				
	Add Rows		Total Counts	2												2	4				

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal Name Signature Date Time

Laboratory Use Only								
Received By	K. HOOD	SYD | BNE | MEL | PER | ADL | NTL | DRW (circled: DRW)	Signature	[signature]	Date 24/08	Time 10:20AM	Temperature	23.4 - .2 = 23.2
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Report №	819720 26/8/21

Eurofins Environment Testing Australia Pty Ltd

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Greencap NT P/L
Contact name:	Varun
Project name:	SP MANAGEMENT
Project ID:	J168829
Turnaround time:	2 Day
Date/Time received	Aug 24, 2021 10:20 AM
Eurofins reference	819720

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	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.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

DRAFT

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Morrison on phone : 03 8564 5933 or by email: MichaelMorrison@eurofins.com

Results will be delivered electronically via email to Varun - varun.bhagwat@greencap.com.au.

Note: A copy of these results will also be delivered to the general Greencap NT P/L email address.

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Varun**

Report **819720-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Aug 24, 2021

Client Sample ID			**SW03**	**SW04**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**M21-Au48417**	**M21-Au48418**
Date Sampled			**Aug 20, 2021**	**Aug 20, 2021**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	96	98

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Aug 26, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 26, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 26, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Aug 26, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

Newcastle
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Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO291275
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	819720
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Aug 24, 2021 10:20 AM	
Due:	Aug 26, 2021	
Priority:	2 Day	
Contact Name:	Varun	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254						X
Sydney Laboratory - NATA Site # 18217						
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory - NATA Site # 25079						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	SW03	Aug 20, 2021		Water	M21-Au48417	X
2	SW04	Aug 20, 2021		Water	M21-Au48418	X
Test Counts						2

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eurofins | Environment Testing

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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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	101			70-130	Pass	
TRH C10-C14	%	76			70-130	Pass	
Naphthalene	%	81			70-130	Pass	
TRH C6-C10	%	98			70-130	Pass	
TRH >C10-C16	%	78			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	82			70-130	Pass	
Toluene	%	81			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	83			70-130	Pass	
Xylenes - Total*	%	82			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M21-Au44982	NCP	%	118			70-130	Pass	
TRH >C10-C16	M21-Au44982	NCP	%	121			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-Au44492	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-Au37572	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Au37572	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Au37572	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Naphthalene	M21-Au44492	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Au44492	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-Au37572	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Au37572	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Au37572	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Au44492	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Au44492	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Au44492	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Au44492	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Au44492	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Au44492	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

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

Authorised by:

Emily Daos	Analytical Services Manager
Vivian Wang	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

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CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☐ Sydney Laboratory
Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Greencap NT P/L	Project Nr	J168829	Project Manager	Varun Bhagwat
Address	Unit 11 / 14 Winnellie Road Winnellie, NT 0820	Project Name	SP Management	EDD Format (Excel, Esdat, etc)	Esdat
Contact Name	Varun Bhagwat			Facility Code	
Phone Nr	0428 829 444				
Special Directions					
Purchase Order	PO291462				
Quote ID Nr					

Sampler(s)	VB	
Handed over by	VB on 27/8/21	
Email for Invoice	Varun.Bhagwat@greencap.com.au	
Email for Results	Varun.Bhagwat@greencap.com.au	

Analytes (Please number in the box below each Analyte you require. Total number of containers used for each sample must match the numbers listed under Containers)

Nr	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix Soil (S) Water (W)	B1 : TRH, BTEXN	B5 : TRH, BTEXN, Metals (8)	B7 : TRH, BTEXN, PAH, Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	B14 : OCP, OPP, TPH (C6-C10) & BTEX	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	SVV : SVOC, VOC	NSW DECC Waste Classification Table 1	R2H : NEPM Screen for Soil Class/Ashton Screen	Containers: 500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods, Hazard Warning
1	SW02	27/08/21	Water	X												1	2				
2																					
3																					
4																					
	Add Rows		Total Counts	1												1	2				

Required Turnaround Time (TAT) (Default will be 5 days if not stated)

- ☐ Overnight (no surcharge) (no surcharge will apply for orders by 9am)
- ☐ Same day (surcharge will apply)
- ☐ 1 day (surcharge will apply)
- ☑ 2 days (surcharge will apply)
- ☐ 3 days (surcharge will apply)
- ☐ 5 days (Standard TAT)
- ☐ Other

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Posted

Signature | Date | Time

Laboratory Use Only

Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time	Temperature	
Received By	Jake	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	27/8	Time	Report Nr	820390

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Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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PROJECT INFORMATION

Company: Greencap

Contact person: Varun Bagwat

Contact Number:

Contact E-mail:

Project Name/site:

Project Number: UK68829

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COC will be sent through

E-MAIL or **FAX**

27/08/2021 12:20 PM
temp: 34.0 - -2 = 38.8
K HOD

CHAIN OF CUSTODY RECORD

Sydney Laboratory
Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066

Brisbane Laboratory
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

Perth Laboratory
Unit 2 51 Leach Highway Kewdale WA 6105
EnviroSampleWA@eurofins.com

Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Greencap NT P/L	Project No	J168829	Project Manager	Varun Bhagwat	Sampler(s)	VB
Address	Unit 11 / 14 Winnellie Road Winnellie, NT 0820	Project Name	SP Management	EDD Format ESdat, EQuIS etc	Esdat	Facility Code	Handed over by	VB on 3/9/21
Contact Name	Varun Bhagwat						Email for Invoice	Varun.Bhagwat@greenca*.com.au
Phone No	0428 629 444						Email for Results	Varun.Bhagwat@greenca*.com.au
Special Directions								
Purchase Order	PO291770							
Quote ID No								

Analytes
Where metals are required, please specify "Total" or "Dissolved"
SUITE codes must be used to select SUITE groups

No	Client Sample ID	Sampled Date/Time dd/mm/yyyy hh:mm	Matrix Solid (S) Water (W)	B1 : TRH, BTEXN	B6: TRH/ BTEXN/ Metals (8)	B7: TRH/ BTEXN/ PAH/ Metals (8)	B10 : TRH, BTEXN, PAH, OCP, OPP, Metals (8)	B14 : OCP, OPP TRH (C6-C10) & BTEX	M8 : Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	SVV : SVOC, VOC	NSW DECC Waste Classification Table 1	R21: NEPM Screen for Soil Classification Screen	BTEX														Sample Comments / Dangerous Goods Hazard Warning
																								500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA Vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	
1	SW03	3/09/21	Water	X																					1	2				
2	SW04	3/09/21	Water	X																					1	2				
3	SED 2	3/9/21	Soil	X																								1		
	RB01	3/09/21	Water	X																					1	2				
	TB01	3/09/21	Water										X													2				
4																														
	Add Rows		Total Counts	4									1												3	8		1		

Containers
Change container type & size if necessary.

Required Turnaround Time (TAT)
Default will be 5 days if not ticked

*Surcharge will apply
Overnight (reporting by 9am)*
Same day
1 day
2 days
3 days
5 days (Standard)
Other( )

Method of Shipment	Courier (#	Hand Delivered	Postal	Name	Signature	Date	Time	Temperature
Laboratory Use Only	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report No	822097 G19121
	Received By	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time		

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Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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PROJECT INFORMATION

Company: Greencap

Contact person: Varun

Contact Number:

Contact E-mail:

Project Name/site:

Project Number: J168829

DRAFT

COC will be sent through

E-MAIL or **FAX**

received : 3:00 PM
03/09/2021

temp 33·3 - ·2 = 33·1

K. Hon

Q22097
6/9/21

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Varun**

Report **822097-S**
Project name SP MANAGEMENT
Project ID J168829
Received Date Sep 03, 2021

Client Sample ID			**SED 2**
Sample Matrix			**Soil**
Eurofins Sample No.			**M21-Se08812**
Date Sampled			**Sep 03, 2021**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	57
TRH C29-C36	50	mg/kg	58
TRH C10-C36 (Total)	50	mg/kg	115
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	83
% Moisture	1	%	15

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Sep 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Sep 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
% Moisture	Melbourne	Sep 06, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO291770
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	822097
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Sep 3, 2021 3:00 PM	
Due:	Sep 10, 2021	
Priority:	5 Day	
Contact Name:	Varun	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW03	Sep 03, 2021		Water	M21-Se08810			X
2	SW04	Sep 03, 2021		Water	M21-Se08811			X
3	SED 2	Sep 03, 2021		Soil	M21-Se08812		X	X
4	RB01	Sep 03, 2021		Water	M21-Se08813			X
5	TB01	Sep 03, 2021		Water	M21-Se08814	X		
Test Counts						1	1	4

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
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CP	Client Parent - QC was performed on samples pertaining to this report
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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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	87			70-130	Pass	
TRH C10-C14	%	100			70-130	Pass	
Naphthalene	%	115			70-130	Pass	
TRH C6-C10	%	80			70-130	Pass	
TRH >C10-C16	%	101			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	82			70-130	Pass	
m&p-Xylenes	%	82			70-130	Pass	
Xylenes - Total*	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	B21-Se05254	NCP	%	85			70-130	Pass	
TRH C10-C14	M21-Se10504	NCP	%	93			70-130	Pass	
Naphthalene	B21-Se05254	NCP	%	107			70-130	Pass	
TRH C6-C10	B21-Se05254	NCP	%	77			70-130	Pass	
TRH >C10-C16	M21-Se10504	NCP	%	93			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B21-Se05254	NCP	%	84			70-130	Pass	
Toluene	B21-Se05254	NCP	%	85			70-130	Pass	
Ethylbenzene	B21-Se05254	NCP	%	84			70-130	Pass	
m&p-Xylenes	B21-Se05254	NCP	%	84			70-130	Pass	
o-Xylene	B21-Se05254	NCP	%	84			70-130	Pass	
Xylenes - Total*	B21-Se05254	NCP	%	84			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-Se09620	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M21-Se10503	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M21-Se10503	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M21-Se10503	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Naphthalene	M21-Se09620	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-Se09620	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M21-Se10503	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M21-Se10503	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M21-Se10503	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Se09620	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M21-Se09620	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M21-Se09620	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M21-Se09620	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M21-Se09620	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	M21-Se09620	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M21-Se09524	NCP	%	9.9	10	5.0	30%	Pass	

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

Eurofins 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 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.

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Certificate of Analysis

Greencap NT P/L
11/14 Winnellie Road
Winnellie
NT 0800

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Varun**

Report **822097-W**
Project name SP MANAGEMENT
Project ID J168829
Received Date Sep 03, 2021

Client Sample ID			**SW03**	**SW04**	**RB01**	**TB01**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Se08810**	**M21-Se08811**	**M21-Se08813**	**M21-Se08814**
Date Sampled			**Sep 03, 2021**	**Sep 03, 2021**	**Sep 03, 2021**	**Sep 03, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	103	97	90	106

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Sample History

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

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Sep 06, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 06, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Sep 06, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Sep 06, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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NATA # 1261 Site # 20794

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NATA # 1261 Site # 23736

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NATA # 1261 Site # 25079

New Zealand

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Phone : +64 9 526 45 51
IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Greencap NT P/L	**Order No.:**	PO291770
Address:	11/14 Winnellie Road Winnellie NT 0800	**Report #:**	822097
		Phone:	61 8 8984 4244
		Fax:	61 8 8984 3105
Project Name:	SP MANAGEMENT		
Project ID:	J168829		

Received:	Sep 3, 2021 3:00 PM	
Due:	Sep 10, 2021	
Priority:	5 Day	
Contact Name:	Varun	

Eurofins Analytical Services Manager : Michael Morrison

Sample Detail						BTEX	Moisture Set	Eurofins Suite B1
Melbourne Laboratory - NATA Site # 1254						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	SW03	Sep 03, 2021		Water	M21-Se08810			X
2	SW04	Sep 03, 2021		Water	M21-Se08811			X
3	SED 2	Sep 03, 2021		Soil	M21-Se08812		X	X
4	RB01	Sep 03, 2021		Water	M21-Se08813			X
5	TB01	Sep 03, 2021		Water	M21-Se08814	X		
Test Counts						1	1	4

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. 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 SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****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 and 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.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
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 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	95			70-130	Pass	
TRH C10-C14	%	91			70-130	Pass	
Naphthalene	%	75			70-130	Pass	
TRH C6-C10	%	98			70-130	Pass	
TRH >C10-C16	%	80			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	73			70-130	Pass	
Ethylbenzene	%	98			70-130	Pass	
m&p-Xylenes	%	90			70-130	Pass	
Xylenes - Total*	%	90			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M21-Se08927	NCP	%	110			70-130	Pass	
TRH C10-C14	B21-Se03893	NCP	%	78			70-130	Pass	
Naphthalene	M21-Se08927	NCP	%	103			70-130	Pass	
TRH C6-C10	M21-Se08927	NCP	%	111			70-130	Pass	
TRH >C10-C16	B21-Se03893	NCP	%	81			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Se08927	NCP	%	101			70-130	Pass	
Toluene	M21-Se08927	NCP	%	119			70-130	Pass	
Ethylbenzene	M21-Se08927	NCP	%	110			70-130	Pass	
m&p-Xylenes	M21-Se08927	NCP	%	121			70-130	Pass	
o-Xylene	M21-Se08927	NCP	%	117			70-130	Pass	
Xylenes - Total*	M21-Se08927	NCP	%	120			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-Se08952	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-Se09109	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Se09109	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Se09109	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Naphthalene	M21-Se08952	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Se08952	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-Se09109	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Se09109	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Se09109	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Se08952	NCP	mg/L	0.002	0.002	4.0	30%	Pass	
Toluene	M21-Se08952	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Se08952	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Se08952	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Se08952	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Se08952	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

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

Authorised by:

Michael Morrison	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

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GREENCAP
Going Further in Managing Risk

11/14 Winnellie Road
Winnellie NT 0820

SAMPLING, ANALYTICAL AND QUALITY PLAN

February 2022
J168829

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One Rail Australia

Berrimah Terminal

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