

HUNTER WATER LABORATORIES

A CONSULTING DIVISION OF HUNTER WATER AUSTRALIA PTY LIMITED
ABN 19 080 869 905

23 Rosegum Drive
WARABROOK NSW 2304
Tele: (02) 4935 0500
Fax: (02) 4935 0505

PO Box 317
Hunter Regional Mail Centre
NSW 2310



REPORT OF ANALYSIS

Customer: Oberon Council
PO Box 84, Oberon, NSW 2787

Contact: Ken Robinson

Sample Date: 7 January 2013

Date Received: 8 January 2013 at 09:20 - Sample Temperature 20°C
1 Water sample sampled and submitted by customer and tested as received

Testing Commenced: 8 January 2013 at 11:30

Order Number: 47515

Report Number: HWA-0141/13

Note: Interim Report Number HWL-1300029 sent by email on the 10 January 2013.

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1300546	7/01/2013	14:00	Ex-Pond Works Discharge EMP1

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
Confirmed Thermotolerant Coliforms	HWC002 (Thermotolerant coliforms)	<4	CFU/100mL

Rob Woodward

Robin Woodward
Principal Microbiologist
10 January 2013

When testing cannot be performed within 6 hours of collection, samples may be examined up to 24 hours after collection provided samples are kept cool (2°C to 10°C) and in the dark.

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< less than

~ approximately

est = estimated

ND = not detected

Thursday, 10 January 2013

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NSW 2310



REPORT OF ANALYSIS

Customer: Oberon Council
PO Box 84, Oberon, NSW 2787

Contact: Ken Robinson

Sample Date: 7 January 2013

Date Received: 8 January 2013

3 Water samples sampled and submitted by customer and tested as received

Order Number: 47515

Report Number: HWA-0184/13

Note: This report replaces Preliminary Report Number PR-1300121

<i>Sample ID</i>	<i>Date</i>	<i>Description</i>
H1300546	7/01/2013	Ex-Pond Works Discharge EMP1

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)	0.09	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)	4	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)	21.4	ug/L
pH	APHA (2012) 4500-H+ B (pH)	8.40	-
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)	9	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	2.5	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)	<2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.06	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.60	mg/L P

<i>Sample ID</i>	<i>Date</i>	<i>Description</i>
H1300547	7/01/2013	Up-Stream EMP3

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)	6.79	-
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.02	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.06	mg/L P

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Tuesday, 15 January 2013

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REPORT OF ANALYSIS

Number: 0184/13

<i>Sample ID</i>	<i>Date</i>	<i>Description</i>
H1300548	7/01/2013	Down-Stream EMP4

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)	6.98	-
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.6	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.02	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.08	mg/L P



Neil Martin
Chem Team Leader
15 January 2013

INTERIM REPORT OF ANALYSIS

Report HWL - 1300314

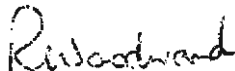
To:

Oberon Council
PO Box 84
Oberon, NSW 2787
Fax Number: (02) 6336 2061
For Attention: Ken Robinson
Order Number: 47517

From:

Robin Woodward
Principal Microbiologist
Hunter Water Laboratories
Telephone: (02) 4935 0500
Facsimile: (02) 4935 0505
No. of Pages: 1

<i>Sample ID</i>	<i>Date</i>	<i>Time Description</i>		
H1304561	11/02/2013	14:00 Ex-Pond Works Discharge EMP1		
<i>Analysis</i>	<i>Method / Category</i>		<i>Result</i>	<i>Unit</i>
Confirmed Thermotolerant Coliforms	HWC002 (Thermotolerant coliforms)		est. 8	CFU/100mL



Signed: _____

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< less than

~ approximately

est = estimated

ND = not detected

Friday, 15 February 2013

Page 1 of 1

PRELIMINARY REPORT

Report PR - 1300415

To:

Oberon Council
PO Box 84
Oberon, NSW 2787
Fax Number: (02) 6336 2061
For Attention: Ken Robinson
Order Number: 47517

From:

Kim Smith
Customer Liaison Officer
Hunter Water Laboratories
Telephone: (02) 4935 0500
Facsimile: (02) 4935 0505
No. of Pages: 2

<i>Sample ID</i>	<i>Date</i>	<i>Description</i>		
H1304561	11/02/2013	Ex-Pond Works Discharge EMP1		
<i>Analysis</i>	<i>Method / Category</i>		<i>Result</i>	<i>Unit</i>
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)		0.08	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)		3	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)		32.6	ug/L
pH	APHA (2012) 4500-H+ B (pH)		8.30	
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)		21	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)		3.6	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)		<2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)		0.70	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)		0.73	mg/L P

<i>Sample ID</i>	<i>Date</i>	<i>Description</i>		
H1304562	11/02/2013	Up-Stream EMP3		
<i>Analysis</i>	<i>Method / Category</i>		<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)		6.78	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)		1.4	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)		0.05	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)		0.07	mg/L P

<i>Sample ID</i>	<i>Date</i>	<i>Description</i>		
H1304563	11/02/2013	Downstream EMP4		
<i>Analysis</i>	<i>Method / Category</i>		<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)		6.80	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)		0.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)		0.21	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)		0.12	mg/L P

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Tuesday, 19 February 2013

Page 1 of 2

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PO Box 317
Hunter Regional Mail Centre
NSW 2310



REPORT OF ANALYSIS

Customer: Oberon Council
PO Box 84, Oberon, NSW 2787

Contact: Ken Robinson

Sample Date: 5 March 2013

Date Received: 8 March 2013

3 Water samples sampled and submitted by customer and tested as received

Order Number: 47523

Report Number: HWA-1267/13

Note: This report replaces Preliminary Report Number PR-1300680

<i>Sample ID</i>	<i>Date</i>	<i>Description</i>
H1307372	5/03/2013	Ex-Pond Works Discharge EMP1

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)	0.06	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)	3	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)	6.2	ug/L
pH	APHA (2012) 4500-H+ B (pH)	7.56	
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)	6	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	2.0	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)	2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	3.0	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.54	mg/L P

<i>Sample ID</i>	<i>Date</i>	<i>Description</i>
H1307373	5/03/2013	Up-Stream EMP3

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)	6.72	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.04	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	<0.05	mg/L P

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Tuesday, 19 March 2013

Page 1 of 2

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ABN 19 080 869 905

23 Rosegum Drive
WARABROOK NSW 2304
Tele: (02) 4935 0500
Fax: (02) 4935 0505

PO Box 317
Hunter Regional Mail Centre
NSW 2310



REPORT OF ANALYSIS

Customer: Oberon Council
PO Box 84, Oberon, NSW 2787

Contact: Ken Robinson

Sample Date: 5 March 2013

Date Received: 8 March 2013 at 09:20 - Sample Temperature 22°C
1 Water sample sampled and submitted by customer and tested as received

Testing Commenced: 8 March 2013 at 11:00

Order Number: 47523

Report Number: HWA-1129/13

Note: Interim Report Number HWL-1300495 sent by email on the 11 March 2013.

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>		
H1307372	5/03/2013	14:00	Ex-Pond Works Discharge EMP1		
<i>Analysis</i>	<i>Method / Category</i>			<i>Result</i>	<i>Unit</i>
Confirmed Thermotolerant Coliforms	HWCC02 (Thermotolerant coliforms)			est. 2	CFU/100mL

Robin Woodward
Principal Microbiologist
12 March 2013

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~ approximately

est = estimated

ND = not detected

Tuesday, 12 March 2013

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REPORT OF ANALYSIS

Number: 1267/13

<i>Sample ID</i>	<i>Date</i>	<i>Description</i>		
H1307374	5/03/2013	Down-Stream EMP4		
<i>Analysis</i>	<i>Method / Category</i>		<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)		6.92	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)		1.1	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)		0.30	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)		0.08	mg/L P



Neil Martin
Chem Team Leader
19 March 2013

Preliminary Report

Report HWA-13/01921

To:

Ken Robinson
Oberon Council
PO Box 84
Oberon
NSW 2787
Order Number: 47530

From:

Kim Smith
Customer Liaison Officer
Hunter Water Laboratories
Telephone: (02) 4935 0500
Facsimilie: (02) 4935 0505

No. of Pages: 2

Sample ID	Date	Time	Description
H1310436	8/04/2013	8:30 AM	Ex Pond Works Discharge EMP1

Analysis	Method / Category	Result	Unit
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)	0.54	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)	<2	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)	7.5	ug/L
pH	APHA (2012) 4500-H+ B (pH)	7.80	
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)	6	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	2.8	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)	<2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	3.0	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.40	mg/L P

Sample ID	Date	Time	Description
H1310437	8/04/2013	8:30 AM	Up Stream EMP3

Analysis	Method / Category	Result	Unit
pH	APHA (2012) 4500-H+ B (pH)	6.82	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	<0.5	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.06	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	<0.05	mg/L P

Sample ID	Date	Time	Description
H1310438	8/04/2013	8:30 AM	Down Stream EMP4

Analysis	Method / Category	Result	Unit
pH	APHA (2012) 4500-H+ B (pH)	7.00	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	<0.5	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.18	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.06	mg/L P

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A handwritten signature in black ink that reads "Neil Martin". The signature is written in a cursive style with a large, stylized "N" and "M".

Neil Martin

Chemical Team Leader

16 April 2013

To:
 Ken Robinson
 Oberon Council
 PO Box 84
 Oberon
 NSW 2787

From:
 Kim Smith
 Customer Liaison Officer
 Hunter Water Laboratories
 Telephone: (02) 4935 0500
 Facsimilie: (02) 4935 0505

Order Number: 47532

No. of Pages: 2

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1312762	6/05/2013	8:00 AM	Ex Pond Works Discharge EMP 1

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)	0.85	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)	2	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)	12.7	ug/L
pH	APHA (2012) 4500-H+ B (pH)	8.08	
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)	7	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	2.2	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)	<2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	5.9	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.38	mg/L P

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1312763	6/05/2013	8:00 AM	Up Stream EMP3

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)	6.79	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.07	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	<0.05	mg/L P

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1312764	6/05/2013	8:00 AM	Down Stream EMP4

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)	6.91	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.32	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.07	mg/L P

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A handwritten signature in black ink, appearing to read "Neil Martin". The signature is written in a cursive style with a large initial "N" and "M".

Neil Martin

Chemical Team Leader

14 May 2013

Interim Report of Analysis

Report HWA-13/03435

To:

Ken Robinson
Oberon Council
PO Box 84
Oberon
NSW 2787

From:

Robin Woodward
Principal Microbiologist
Hunter Water Laboratories
Telephone: (02) 4935 0500
Facsimilie: (02) 4935 0505

Order Number: 47538

No. of Pages: 1

Sample ID	Date	Time	Description
H1315174	3/06/2013	2:00 PM	Ex-Pond Works Discharge EMP1
Analysis	Method / Category	Result	Unit
Confirmed Thermotolerant Coliforms	HWC002 (Thermotolerant coliforms)	est 18	CFU/100mL



Robin Woodward
Principal Microbiologist
7 June 2013

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< = less than > = greater than ~ = approximately est = estimated ND = not detected

Preliminary Report

Report HWA-13/04332

To:

Ken Robinson
Oberon Council
PO Box 84
Oberon
NSW 2787

From:

Kim Smith
Customer Liaison Officer
Hunter Water Laboratories
Telephone: (02) 4935 0500
Fascimilie: (02) 4935 0505

Order Number: 47545

No. of Pages: 2

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1317733	3/07/2013	8:00 AM	Ex Pond Works Discharge EMP1

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)	2.1	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)	<2	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)	3.3	ug/L
pH	APHA (2012) 4500-H+ B (pH)	7.42	-
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)	4	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	4.2	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)	<2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	7.8	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.44	mg/L P

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1317734	3/07/2013	8:00 AM	Upstream EMP3

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)	6.92	-
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	<0.5	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.17	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	<0.05	mg/L P

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1317735	3/07/2013	8:00 AM	Downstream EMP4

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)	7.00	-
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	1.3	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.07	mg/L P

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A handwritten signature in black ink that reads "Neil Martin". The signature is written in a cursive style with a large, stylized 'N' and 'M'.

Neil Martin

Chemical Team Leader

10 July 2013

HUNTER WATER LABORATORIES

A CONSULTING DIVISION OF HUNTER WATER AUSTRALIA PTY LIMITED

ABN 19 080 869 905

23 Rosegum Drive
WARABROOK NSW 2304
Tele: (02) 4935 0500
Fax: (02) 4935 0505

PO Box 317
Hunter Regional Mail Centre
NSW 2310



Report of Analysis

Customer: Oberon Council
PO Box 84, Oberon, NSW 2787

Contact: Ken Robinson

Sample Date: 5 August 2013

Date Received: 7 August 2013

3 samples sampled and submitted by customer and tested as received.

Order Number: 47553

Report Number: HWA-13/05355

Note: This report replaces Preliminary Report Number HWA-13/05336

Sample ID	Date	Time	Description
H1320709	5/08/2013	8:30 AM	Ex-Pond Works Discharge EMP1

Analysis	Method / Category	Result	Unit
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)	1.3	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)	<2	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)	10.7	ug/L
pH	APHA (2012) 4500-H+ B (pH)	7.51	
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)	4	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	3.9	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)	<2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	6.7	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.41	mg/L P

Sample ID	Date	Time	Description
H1320710	5/08/2013	8:30 AM	Up-Stream EMP3

Analysis	Method / Category	Result	Unit
pH	APHA (2012) 4500-H+ B (pH)	6.85	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	1.7	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.09	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	<0.05	mg/L P

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<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1320711	5/08/2013	8:30 AM	Down-Stream EMP4

<i>Analysis</i>	<i>Method / Category</i>	<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)	7.04	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	1.7	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.76	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.06	mg/L P



Bob Manevski
Senior Technical Officer
12 August 2013

Preliminary Report

Report HWA-13/06277

To:

Ken Robinson
Oberon Council
PO Box 84
Oberon
NSW 2787

From:

Kim Smith
Customer Liaison Officer
Hunter Water Laboratories
Telephone: (02) 4935 0500
Facsimile: (02) 4935 0505

Order Number: 47556

No. of Pages: 2

Sample ID	Date	Time	Description
H1323224	2/09/2013	8:00 AM	Ex-Pond Works Discharge EMP1

Analysis	Method / Category	Result	Unit
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)	0.53	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)	3	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)	30.5	ug/L
pH	APHA (2012) 4500-H+ B (pH)	8.38	-
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)	6	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	1.7	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)	<2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	5.6	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.47	mg/L P

Sample ID	Date	Time	Description
H1323225	2/09/2013	8:00 AM	Up-Stream EMP3

Analysis	Method / Category	Result	Unit
pH	APHA (2012) 4500-H+ B (pH)	6.92	-
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.09	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	<0.05	mg/L P

Sample ID	Date	Time	Description
H1323226	2/09/2013	8:00 AM	Down-Stream EMP4

Analysis	Method / Category	Result	Unit
pH	APHA (2012) 4500-H+ B (pH)	7.04	-
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.6	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.62	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	<0.05	mg/L P

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A handwritten signature in black ink, appearing to read "Neil Martin". The signature is written in a cursive style with a large, stylized "N" and "M".

Neil Martin

Chemical Team Leader

10 September 2013

HUNTER WATER LABORATORIES

A CONSULTING DIVISION OF HUNTER WATER AUSTRALIA PTY LIMITED

ABN 19 080 869 905

23 Rosegum Drive
WARABROOK NSW 2304
Tele: (02) 4935 0500
Fax: (02) 4935 0505

PO Box 317
Hunter Regional Mail Centre
NSW 2310



Report of Analysis

Customer: Oberon Council
PO Box 84, Oberon, NSW 2787

Contact: Ken Robinson

Sample Date: 2 October 2013

Date Received: 4 October 2013 at 9:30 AM - Sample Temperature 18°C
1 sample sampled and submitted by customer and tested as received.

Testing Commenced: 4 October 2013 at 10:30 AM

Order Number: 47562

Report Number: HWA-13/07156

Note: This report replaces Interim Report Number HWA-13/07127

Sample ID	Date	Time	Description
H1326123	2/10/2013	2:00 PM	Ex-Pond Works Discharge EMP1

Analysis	Method / Category	Result	Unit
Confirmed Thermotolerant Coliforme	HWC002 (Thermotolerant coliforme)	<9	CFU/100mL

Robin Woodward
Principal Microbiologist
8 October 2013

When testing cannot be performed within 6 hours of collection, samples may be examined up to 24 hours after collection provided samples are kept cool (2°C to 10°C) and in the dark.

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< = less than

> = greater than

~ = approximately

est = estimated

ND = not detected

DE(A)

Tuesday, 8 October, 2013

Page 1 of 1

Wat Sup/Insp/Rep/

HUNTER WATER LABORATORIES

A CONSULTING DIVISION OF HUNTER WATER AUSTRALIA PTY LIMITED

ABN 19 080 869 905

23 Rosegum Drive
WARABROOK NSW 2304
Tele: (02) 4935 0500
Fax: (02) 4935 0505

PO Box 317
Hunter Regional Mail Centre
NSW 2310



Report of Analysis

Customer: Oberon Council
PO Box 84, Oberon, NSW 2787
Contact: Ken Robinson
Sample Date: 2 October 2013
Date Received: 4 October 2013

3 samples sampled and submitted by customer and tested as received.

Order Number: 47562

Report Number: HWA-13/07331

Note: This report replaces Preliminary Report Number HWA-13/07300

Sample ID	Date	Time	Description
H1326120	2/10/2013	9:30 AM	Ex-Pond Works Discharge EMP1
Analysis	Method / Category	Result	Unit
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)	0.51	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)	<2	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)	4.7	ug/L
pH	APHA (2012) 4500-H+ B (pH)	7.60	-
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)	22	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	7.3	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)	2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	4.0	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.60	mg/L P
Sample ID	Date	Time	Description
H1326121	2/10/2013	9:30 AM	Up-Stream EMP3
Analysis	Method / Category	Result	Unit
pH	APHA (2012) 4500-H+ B (pH)	6.77	-
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	7.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.05	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	<0.05	mg/L P

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Report of Analysis

Report: HWA-13/07331

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>	
H1328122	2/10/2013	9:30 AM	Down-Stream EMP4	
<i>Analysis</i>	<i>Method / Category</i>		<i>Result</i>	<i>Unit</i>
pH	APHA (2012) 4500-H+ B (pH)		8.97	
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)		3.1	mg/L N
Total Oxidized Nitrogen	APHA (2012) 4500 - NO3 I (TON)		0.35	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)		0.06	mg/L P



Neil Martin

Chemical Team Leader

14 October 2013

Hunter Water Australia Pty Ltd

ABN 19 080 869 905
PO Box 5007
HUNTER REGION MC NSW 2310

Tax Invoice

OBERON COUNCIL

23 OCT 2013

RECEIVED



COPY

Oberon Council
PO Box 84
OBERON NSW 2787

Inv No 1051318
Invoice Date 17/10/2013
Due for Payment 7/11/2013
Page 1

	Qty	Unit Price	Disc %	Disc Amt	AUD
Attention Ken Robinson					
Customer Order Number 47562					
HWA Report Number 13/07156,13/07331					
SOR31267					
Fee For Services					
Faecal Coliforms	1.00EA	25.96			25.96
Ammonia	1.00EA	15.19			15.19
BOD - Total	1.00EA	29.49			29.49
Chlorophyll_a	1.00EA	37.75			37.75
pH	3.00EA	5.90			37.75
Suspended Solids	1.00EA	17.71			17.70
Total Kjeldahl Nitrogen	3.00EA	29.49			17.71
Total Oil & Grease	1.00EA	35.38			88.47
Total Oxidised Nitrogen	3.00EA	16.52			35.38
Total Phosphorus	3.00EA	21.24			49.56
Sampling Bottles	1.00EA	2.47			63.72
Courier Charges	1.00EA	23.50			2.47
Weekend Surcharge	1.00EA	35.00			23.50
					35.00

TOTAL INVOICE AMOUNT (excluding GST)

TOTAL GST (at 10 %)

441.90

44.19

TOTAL AMOUNT PAYABLE

(GST INCLUSIVE)

486.09

Payment per 7/11/2013

Direct deposit to: Commonwealth Bank, Newcastle West BSB 062 816 Account No. 1004 3642
and remittances to: Email accounts@hwa.com.au Fax 02 4941 5011 Enquires: Phone 02 4941 5000

For any enquiries please contact the Laboratories on (02) 4935 0500

Preliminary Report

Report HWA-13/08245

To:

Ken Robinson
Oberon Council
PO Box 84
Oberon
NSW 2787

From:

Kim Smith
Customer Liaison Officer
Hunter Water Laboratories
Telephone: (02) 4935 0500
Facsimile: (02) 4935 0505

Order Number: 47567

No. of Pages: 2

Sample ID	Date	Time	Description
H1329134	4/11/2013	8:30 AM	Ex-Pond Works Discharge EMP1

Analysis	Method / Category	Result	Unit
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)	1.8	mg/L N
BOD5 - Total	APHA (2012) 5210 B (BOD5)	<2	mg/L
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)	3.5	ug/L
pH	APHA (2012) 4500-H+ B (pH)	7.72	-
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)	8	mg/L
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	3.6	mg/L N
Total Oil and Grease	APHA (2012) 5520 D (Grease)	<2	mg/L
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	1.5	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.62	mg/L P

Sample ID	Date	Time	Description
H1329135	4/11/2013	8:30 AM	Up-Stream EMP3

Analysis	Method / Category	Result	Unit
pH	APHA (2012) 4500-H+ B (pH)	6.84	-
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.10	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	<0.05	mg/L P

Sample ID	Date	Time	Description
H1329136	4/11/2013	8:30 AM	Down-Stream EMP4

Analysis	Method / Category	Result	Unit
pH	APHA (2012) 4500-H+ B (pH)	7.02	-
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)	0.8	mg/L N
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)	0.19	mg/L N
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)	0.12	mg/L P

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A handwritten signature in black ink that reads "Neil Martin". The signature is written in a cursive style with a large, stylized 'N' and 'M'.

Neil Martin

Chemical Team Leader

12 November 2013

To:
 Ken Robinson
 Oberon Council
 PO Box 84
 Oberon
 NSW 2787

From:
 Neil Martin
 Chemical Team Leader
 Hunter Water Laboratories
 Telephone: (02) 4935 0500
 Facsimilie: (02) 4935 0505

Order Number: 47568

No. of Pages: 2

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1331887	3/12/2013	8:00 AM	Ex-Pond Works Discharge EMP1
<i>Analysis</i>	<i>Method / Category</i>		<i>Result</i>
Ammonia	APHA (2012) 4500 - NH3 H (Ammonia)		1.5
BOD5 - Total	APHA (2012) 5210 B (BOD5)		<2
Chlorophyll_a	APHA (2012) 10200 H (Chlorophyll_a)		2.9
pH	APHA (2012) 4500-H+ B (pH)		7.83
Suspended Solids	APHA (2012) 2540 D (Suspended Solids)		7
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)		4.2
Total Oil and Grease	APHA (2012) 5520 D (Grease)		<2
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)		2.0
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)		0.76

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1331888	3/12/2013	8:00 AM	Up-Stream EMP3
<i>Analysis</i>	<i>Method / Category</i>		<i>Result</i>
pH	APHA (2012) 4500-H+ B (pH)		6.79
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)		1.4
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)		0.10
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)		<0.05

<i>Sample ID</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
H1331889	3/12/2013	8:00 AM	Down-Stream EMP4
<i>Analysis</i>	<i>Method / Category</i>		<i>Result</i>
pH	APHA (2012) 4500-H+ B (pH)		6.92
Total Kjeldahl Nitrogen	Inhouse 2 based on APHA (2012) 4500-Norg B (TKN)		0.8
Total Oxidised Nitrogen	APHA (2012) 4500 - NO3 I (TON)		0.16
Total Phosphorus	APHA (2012) 4500 - P H (Phosphorus)		0.09

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A handwritten signature in black ink that reads "Neil Martin". The signature is written in a cursive style with a large, stylized "N" and "M".

Neil Martin

Chemical Team Leader

9 December 2013