

# **LORIS H HASSALL TRADING PTY LTD – FORBES**



**LABORATORY RESULTS FROM MONITORING DATA**

**EPL # 12765**

**REPORTING PERIOD:**

**12-NOV-2017 to 12-NOV-2018**

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TAKEN**

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**LITRES IRRIGATED**

**POINT 2,5,6, LITRES TO DAMS**

**ANNUAL ANALYSIS: R1.8 2017/2018**

**AERIAL PHOTO + MAP OF 6 MONITORING POINTS**

**EPA MONITORING FREQUENCY**

<b>POINT 1,2,5,6</b>				
	Pollutant	Units of measure	Frequency	Sampling Method
<u>1</u>	BOD	milligrams per litre	Quarterly	Grab Sample
<u>2</u>	Calcium	milligrams per litre	Quarterly	Grab Sample
<u>3</u>	Chloride	milligrams per litre	Quarterly	Grab Sample
<u>4</u>	CONDUCTIVITY	microsiemens per centimetre	Quarterly	In situ
<u>5</u>	MAGNESIUM	milligrams per litre	Quarterly	Grab Sample
<u>6</u>	NITROGEN (total)	milligrams per litre	Quarterly	Grab Sample
<u>7</u>	OIL AND GREASE	milligrams per litre	Quarterly	Grab Sample
<u>8</u>	p H	p H	Quarterly	In situ
<u>9</u>	PHOSPHORUS (total)	milligrams per litre	Quarterly	Grab Sample
<u>10</u>	POTASSIUM	milligrams per litre	Quarterly	Grab Sample
<u>11</u>	SODIUM	milligrams per litre	Quarterly	Grab Sample
<u>12</u>	SODIUM ABSORPTION RATIO	sodium absorption ratio	Quarterly	Grab Sample

<b>POINT 3</b>				
	Pollutant	Units of measure	Frequency	Sampling Method
<u>1</u>	CONDUCTIVITY	microsiemens per centimetre	Quarterly	In situ
<u>2</u>	NITROGEN (total)	milligrams per litre	Quarterly	Grab Sample
<u>3</u>	p H	p H	Quarterly	In situ
<u>4</u>	PHOSPHORUS (total)	milligrams per litre	Quarterly	Grab Sample
<u>5</u>	STANDING WATER LEVEL	metres	Quarterly	In situ

<b>POINT 4</b>				
	Pollutant	Units of measure	Frequency	Sampling Method
<u>1</u>	AVAILABLE PHOSPHORUS	milligrams per kilogram	Yearly	Speical Method 1
<u>2</u>	CALCIUM	milligrams per litre	Yearly	Speical Method 1
<u>3</u>	CONDUCTIVITY	microsiemens per centimetre	Yearly	Speical Method 1
<u>4</u>	Exchangeable sodium %	percent	Yearly	Speical Method 1
<u>5</u>	MAGNESIUM	milligrams per litre	Yearly	Speical Method 1
<u>6</u>	NITRATE	milligrams per litre	Yearly	Speical Method 1
<u>7</u>	NITROGEN (total)	milligrams per kilogram	Yearly	Speical Method 1
<u>8</u>	p H	p H	Yearly	Speical Method 1
<u>9</u>	SODIUM ABSORPTION RATIO	sodium absorption ratio	Yearly	Speical Method 1

**POINT 1 =- IRRIGATION PIT**

TURN ON AND SAMPLE IS COLLECTED AT BOTTOM OF PIT. TIP PART INTO EACH BOTTLE.  
 REPEAT EVERY 1/2 HOUR UNTIL SESL BOTTLES ARE FULL

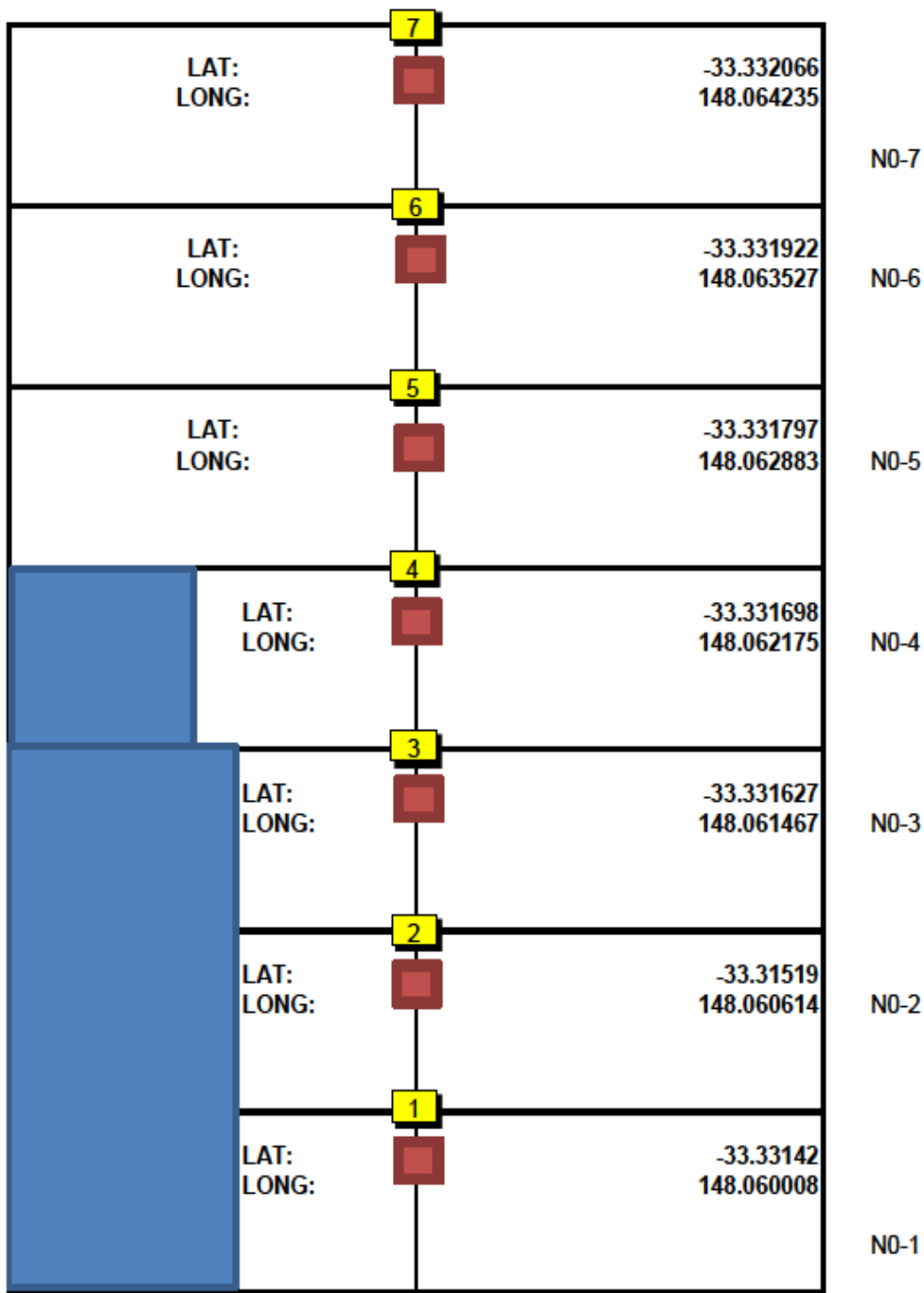
**POINT 2 & 5 & 6 = EVAP DAMS.**

TAKE SAMPLE FROM DEEP AS POSSIBLE , TIP PART INTO EACH BOTTLE.  
 REPEAT AT HALF DEPTH AND THEN JUST BELOW SURFACE UNTIL SESL BOTTLES ARE FULL, SEAL AND LABEL

**COMPOSITE SOIL POINT 4**

5 SAMPLES TO BE TAKEN  
 25m2 AREA x 7 BAYS AT  
 DEPTHS OF 0>10 CM +  
 10>40CM  
 SEAL AND LABEL

### GPS SOIL SAMPLING SITES



LH HASSALL TRADING P/L 812 PARKES RD. FORBES NSW

EPA REGISTER LINK:

<https://apps.epa.nsw.gov.au/eproc0000>

EFFLUENT ANALYSIS RECORD SHEET

LICENCE # 12765

REVISION:0

Refer NEW POINTS FOR TESTING SITE PLAN AUG-18



DATE: 12-Oct PUBLISHED: 10/12/2018

POINT 1 - IRRIGATION PIT							
UNIT OF MEASURE	27/02/2018	17/04/2018	23/08/2018	13/11/2018	HIGH	LOW	AVE
BOD - mg/L	2980	3690	1880	2840	3690	1880	2848
Chloride - mg/L	5460	12797	6900	5150	12797	5460	7577
Total Kjeldahl Nitrogen - mg/L	639	1100	1060	726	1100	639	881
Oil & Grease (LLE) - mg/L	57	39	73	44	73	39	53
Total Phosphorus - mg/L	19.7	32.7	16.7	20.8	32.7	16.7	22
Potassium mg/L	64.4	223	95.4	87.6	223	64.4	118
Conductivity -microsiemens/per cm	20300	56400	27300	12800	56400	12800	29200
Sodium - mg/L	3850	6453	4610	2870	6453	2870	4446
(Ph)	12.1	12.33	9.38	12	12.33	9.38	11
Calcium - mg/L	218	175	19.1	131	218	19.1	136
Magnesium - mg/L	0.105	0.4	4.97	1.47	4.97	.105	2
Sodium Absorption Ratio	72	134	243	68	243	68	129

DATE TAKEN:  
 TIME TAKE:  
 TAKEN BY:  
 SESL REPORT:

27/02/2018	17/04/2018	21/08/2018	13/11/2018
7:00 AM	7:00 AM	7:00 AM	8:30 am
MARK	MARK	BRENDAN	MARK
8/03/2018	3/05/2018	6/09/2018	29/11/2018

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EPA REGISTER LINK: <https://apps.epa.nsw.gov.au/prpoeoapp>

EVAPORATION DAM MONITORING RECORD

LICENCE #: LICENCE # 12765

REVISIONS

Refer NEW POINTS FOR TESTING SITE PLAN AUG-18

DATE: 12/10/2018 PUBLISHED: 10/12/2018

APPENDIX C



POINT 2 - EVAPORATION DAM 1							
UNIT OF MEASURE					1st sml		
	27/02/2018	17/04/2018	21/08/2018	13/11/2018	HIGH	LOW	AVE
BOD - mg/L	3610	20900	4630	EMPTY	20900	3610	9713
Chloride - mg/L	182000	196869	190000	EMPTY	196869	182000	189623
Total Kjeldahl Nitrogen - mg/L	1650	2360	1950	EMPTY	2360	1650	1987
Oil & Grease (LLE) - mg/L	18	32	22	EMPTY	32	18	24
Total Phosphorus - mg/L	155	211	174	EMPTY	211	155	180
Potassium mg/L	2720	4460	3970	EMPTY	4460	2720	3717
Conductivity -microsiemens/per cm	577000	623000	622000	EMPTY	623000	577000	607333
Sodium - mg/L	108000	104084	104000	EMPTY	108000	104000	105361
(Ph)	7.25	6.82	6.75	EMPTY	7.47	6.75	7
Calcium - mg/L	28.8	162	68.1	EMPTY	162	28.8	86
Magnesium - mg/L	41.8	166	87.1	EMPTY	166	41.8	98
Sodium Absorption Ratio	3008	1372	1962	EMPTY	3008	1372	2114

DATE TAKEN:

27/02/2018	17/04/2018	21/08/2018	13/11/2018
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TIME TAKE:

7.30 am	7.30 am	7.30 am	9.00 AM
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TAKEN BY:

MARK	MARK	MARK	MARK
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SESL REPORT:

8/03/2018	3/05/2018	6/09/2018	29/11/2018
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POINT 5 - EVAPORATION DAM 2							
UNIT OF MEASURE					2nd sml		
	27/02/2018	17/04/2018	21/08/2018	13/11/2018	HIGH	LOW	AVE
BOD - mg/L	10800	17200	2800	3710	17200	2800	8628
Chloride - mg/L	208000	192846	167000	189000	208000	167000	189212
Total Kjeldahl Nitrogen - mg/L	1180	1690	564	543	1690	543	994
Oil & Grease (LLE) - mg/L	13	14	16	6	16	6	12
Total Phosphorus - mg/L	89.2	134	15.5	20.6	134	15.5	65
Potassium mg/L	2230	3240	930	1010	3240	930	1853
Conductivity -microsiemens/per cm	592000	574000	494000	408000	592000	408000	517000
Sodium - mg/L	112000	108018	96300	106000	112000	96300	105580
(Ph)	7.29	7.03	7.12	7.47	7.29	7.03	7
Calcium - mg/L	55.5	131	40.7	139	131	40.7	92
Magnesium - mg/L	60.8	131	45.8	78.1	131	45.8	79
Sodium Absorption Ratio	2478	1597	2461	1789	2478	1597	2081

DATE TAKEN:

27/02/2018	17/04/2018	21/08/2018	13/11/2018
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TIME TAKE:

8:00 AM	8:00 AM	8:00 AM	9:00 AM
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TAKEN BY:

MARK	MARK	MARK	MARK
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SESL REPORT:

8/03/2018	3/05/2018	6/09/2018	29/11/2018
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POINT 6 - EVAPORATION DAM 3							
UNIT OF MEASURE					Big dam		
	27/02/2018	17/04/2018	21/08/2018	13/11/2018	HIGH	LOW	AVE
BOD - mg/L			9960	11400	11400	9960	10680
Chloride - mg/L		EMPTY	190000	190000	190000	190000	190000
Total Kjeldahl Nitrogen - mg/L			1430	1220	1430	1220	1325
Oil & Grease (LLE) - mg/L			22	19	22	19	21
Total Phosphorus - mg/L			96.4	104	104	96.4	100
Potassium mg/L			2120	1580	2120	1580	1850
Conductivity -microsiemens/per cm			555000	385000	555000	385000	470000
Sodium - mg/L			105000	113000	113000	105000	109000
(Ph)			7.03	7.15	7.15	7.03	7
Calcium - mg/L			61.9	134	134	61.9	98
Magnesium - mg/L			63.9	96.1	96.1	63.9	80
Sodium Absorption Ratio			2230	1816	2230	1816	2023

DATE TAKEN:

		21/08/2018	13/11/2018
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TIME TAKE:

		8.30 AM	9.15 AM
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TAKEN BY:

		MARK	MARK
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SESL REPORT:

		6/09/2018	29/11/2018
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LH HASSALL TRADING P/L 812 PARKES RD. FORBES NSW

EPA REGISTER LINK: <https://apps.epa.nsw.gov.au/020000000>

PIEZOMETER ANALYSIS RECORD LICENCE # 12765

REVISION 0 PUBLISHED: 12/10/2018



POINT 3 - PIEZOMETERS

ANALYSIS	PIEZOMETER 1					PIEZOMETER 2				
	Mar-18	Sep-18	HIGH	LOW	AVE	Mar-18	Sep-18	HIGH	LOW	AVE
Chromium Total - mg/L										
Electrical Conductivity - µS/m										
Nitrogen Total - mg/L										
pH - pH units										
Phosphorus Total - mg/L										
Redox Potential										
Standing Water Level - m										
Sulphide - mg/L										
ANALYSIS	PIEZOMETER 3					PIEZOMETER 4				
	Mar-18	Sep-18	HIGH	LOW	AVE	Mar-18	Sep-18	HIGH	LOW	AVE
Chromium Total - mg/L										
Electrical Conductivity - µS/m										
Nitrogen Total - mg/L										
pH - pH units										
Phosphorus Total - mg/L										
Redox Potential										
Standing Water Level - m										
Sulphide Total - mg/L										
ANALYSIS	PIEZOMETER 5					PIEZOMETER 6				
	Mar-18	Sep-18	HIGH	LOW	AVE	Mar-18	Sep-18	HIGH	LOW	AVE
Chromium Total - mg/L										
Electrical Conductivity - µS/m										
Nitrogen Total - mg/L										
pH - pH units										
Phosphorus Total - mg/L										
Redox Potential										
Standing Water Level - m										
Sulphide Total - mg/L										

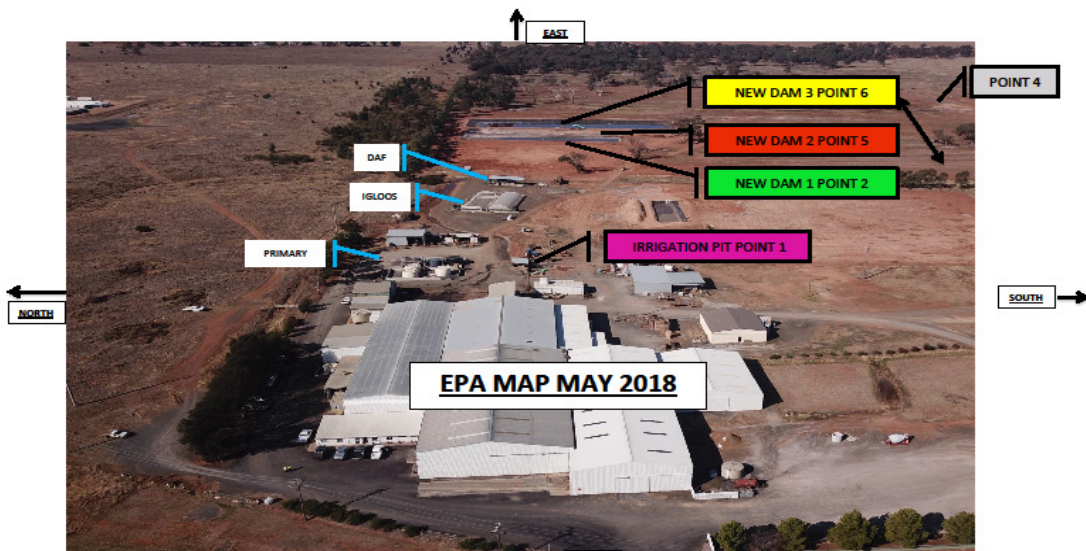
DATE TAKEN:	15/03/2018	19/09/2018
TIME TAKE:	10:00 AM	11:00 AM
TAKEN BY:	MARK	MARK
SESL REPORT:	NA	NA











AS PER PHOTO: (DOES NOT INCLUDE PIZOMETERS= POINT 3)

- |          |                                       |          |                         |
|----------|---------------------------------------|----------|-------------------------|
| #POINT 1 | IRRIGATION PIT                        | #POINT 2 | NEW DAM 1               |
| #POINT 3 | PIEZOMETERS x 6 = POINT 3 (NOT SHOWN) | #POINT 4 | IRRIGATION BLOCK = SOIL |
| #POINT 5 | NEW DAM 2                             | #POINT 6 | NEW DAM 3               |

Council Lot Numbers

LORIS. H. HASSALLS TRADING - FORBES

APPENDIX: 1

