Groundwater and Wastewater Monitoring Report - January 2020

Cargill Australia Limited

22 January 2020

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1 Introduction

Cargill Australia Limited, herein referred to as Cargill, owns and operates an Oilseed Processing Facility located at 51 Raven Street, Kooragang Island, NSW 2300. The Cargill Newcastle facility operates 24 hours per day, 7 days per week.

Cargill holds NSW Environmental Protection Authority (EPA) Environmental Protection Licence (EPL) 5810. The Scheduled Activities in the EPL are Agricultural Processing and Shipping in Bulk.

MJM Environmental (MJM) was commissioned by Cargill to complete groundwater and wastewater sampling on 8 January 2020. The sampling was performed as stipulated by Cargill's EPL 5810 requirements.

This report outlines the results of the groundwater and wastewater monitoring for January 2020.

2 Site Identification

Cargill operates an Oilseed Processing Facility located at 51 Raven Street, Kooragang Island, NSW 2300. The site layout and location of the monitoring points and irrigation areas are presented in Figure 2-1.

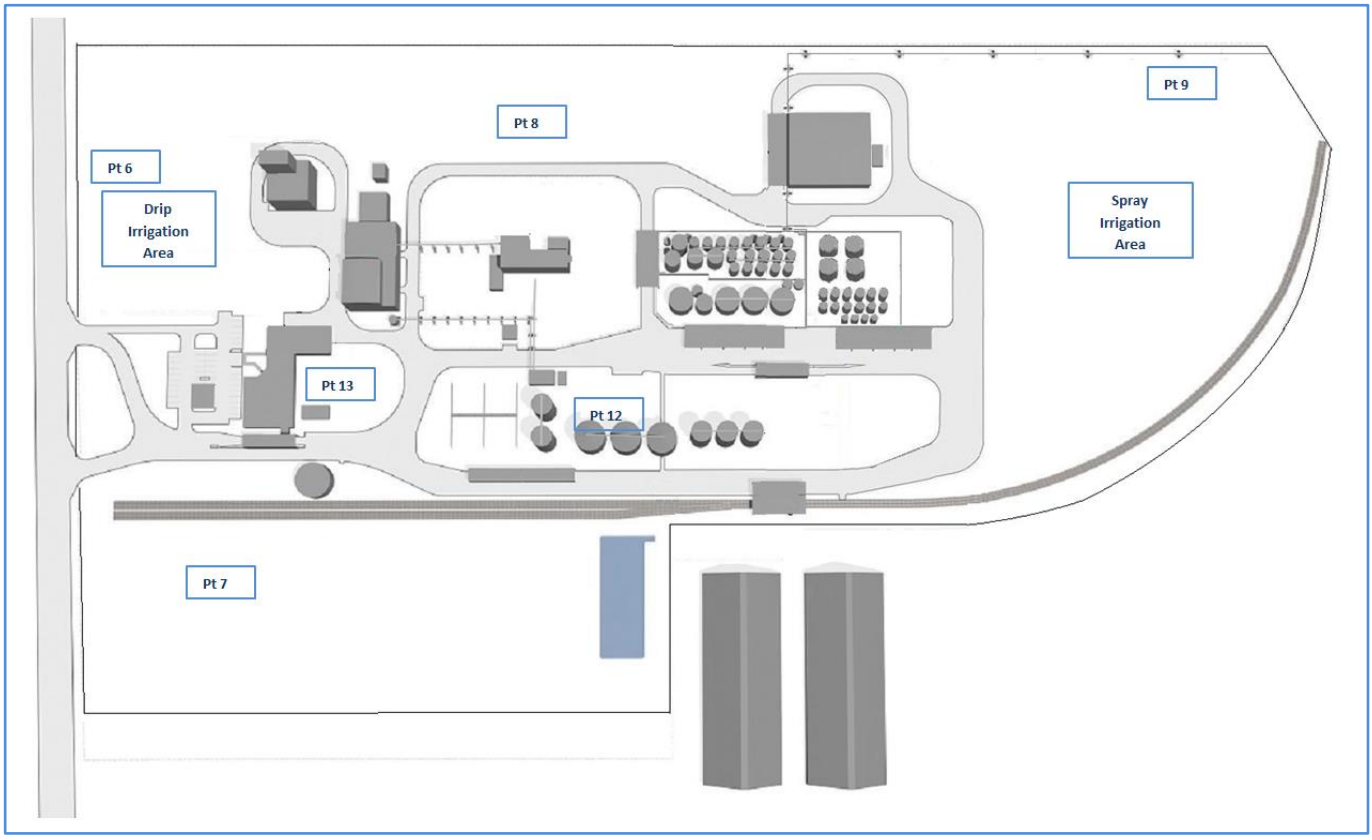

Figure 2-1: Cargill site layout and location of monitoring points and irrigation locations

3 Monitoring Locations

3.1 Groundwater

Groundwater monitoring at Cargill is performed twice a year and is scheduled every six months. The objectives of Cargill's groundwater monitoring are to identify and understand the movement of pollutants in order to assess their impact on groundwater quality, and to collect data to be incorporated into the yearly compliance report. Groundwater monitoring points described as EPL points 6, 7, 8, and 9 are shown in Figure 2-1 above.

3.2 Wastewater

Cargill irrigates areas onsite using treated wastewater from site processes and amenities. Effluent from the wastewater treatment plant originates at Point 12 and is used to irrigate the southern area of Cargill's site described in the EPL as the 'spray irrigation area'.

Effluent from the sewage water treatment plant originates at Point 13 and is used to irrigate the northern area of Cargill's site, which is described in the EPL as the 'drip irrigation area'.

Monitoring of points 12 and 13 is performed quarterly and annually. Quarterly water quality analytes were analysed during the January 2020 sampling event.

4 Sampling Methodology

The sampling was done in accordance with ANZECC monitoring standards (AS/NZS 5667.11:1998 and AS/NZS 5667.1:1998). These procedures include the name and location of the sample point, date and time of sample collection, the type of sample point, method of sample collection, depth of sampling and sample appearance at the time of collection. At the conclusion of sampling all individual, marked sealed containers were transferred to a local NATA approved laboratory. A certificate of analysis is presented in Appendix A and the field notes for the sampling work completed are presented in Appendix B.

Groundwater and wastewater sampling was undertaken by taking grab samples with appropriate bottles provided by a NATA accredited laboratory. Disposable bailers were used to collect samples from all boreholes, and samples were taken from valves or bailers at Point 12 and Point 13. Samples were put immediately into an esky to avoid heat and sunlight, and taken directly to the laboratory.

5 Results

5.1 Groundwater Monitoring Results

The analytical results for the 5 January 2020 groundwater monitoring event are presented in the following table.

Table 5-1: Cargill Newcastle Groundwater Results – 8 January 2020

Analyte	Units	BH1 (EPA Pt 6)	BH2 (EPA Pt 7)	BH3 (EPA Pt 8)	BH4 (EPA Pt 9)
pH	pH	7.26	7.36	7.58	7.63
Calcium	mg/L	73	84	69	66
Conductivity	µS/cm	2,990	1,890	2,510	2,310
Magnesium	mg/L	38	13	36	45
Nitrate	mg/L	<0.01	0.66	<0.01	0.02
Nitrogen (total)	mg/L	16.6	27.4	5.5	14.5
Total Kjeldahl Nitrogen	mg/L	16.6	26.6	5.5	14.5
Phosphorus (total)	mg/L	54.2	2.10	3.42	12.7
Sodium	mg/L	540	279	422	386
Sulfate	mg/L	<10	<1	124	62
Total Dissolved Solids	mg/L	1,880	1,010	1,330	1,400
Standing Water Level	m	2	1.2	4	4
Hexane	mg/L	<0.01	<0.01	<0.01	<0.01
Total Recoverable Hydrocarbons (C10-C40 sum)*	mg/L	<0.1	0.71	0.97	<0.1

ND: concentration of the analyte was Non-Detectable

*Total Recoverable Hydrocarbons (TRH) is equivalent to the previously used Total Petroleum Hydrocarbons (TPH) according to the *National Environment Protection (Assessment of Site Contamination) Measure 1999 Amendment Measure 2013*.

Figure 5-1 to Figure 5-13 show the historical water quality data for the boreholes since July 2012.

Hexane has been non-detectable since sampling for the analyte commenced in July 2011; therefore a trend for Hexane in the figures has not been completed.

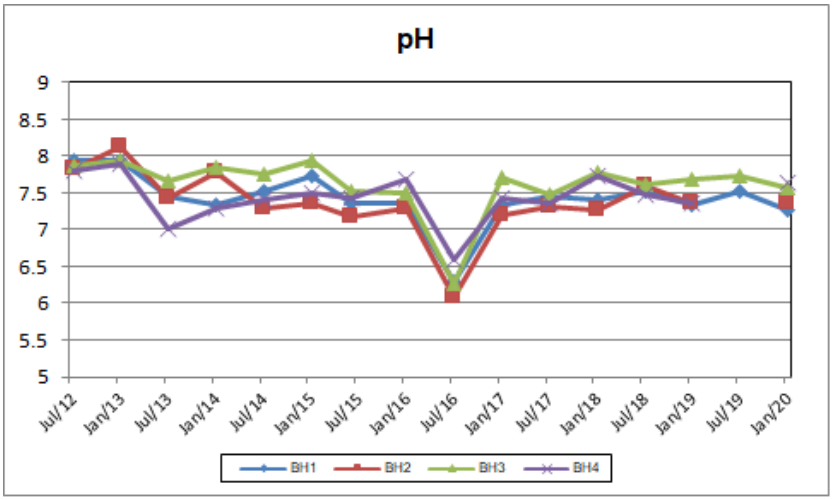

Figure 5-1: pH Results for Boreholes 1 to 4

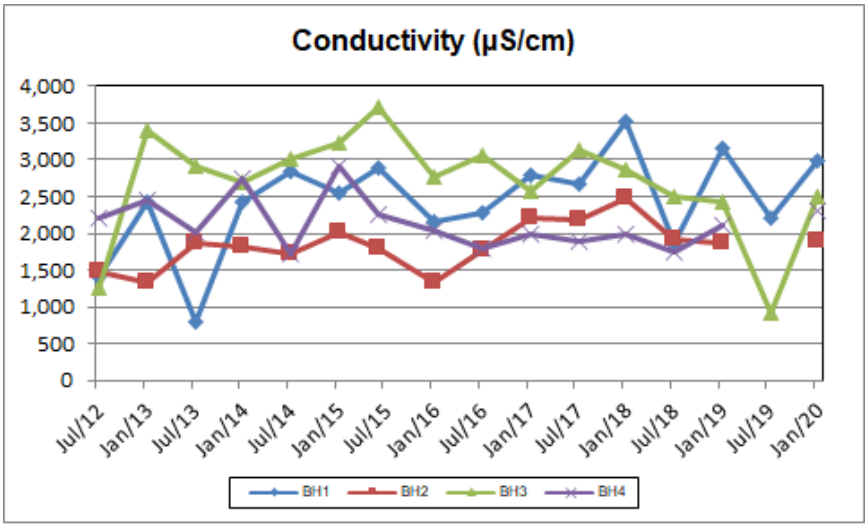

Figure 5-2: Conductivity Results for Boreholes 1 to 4

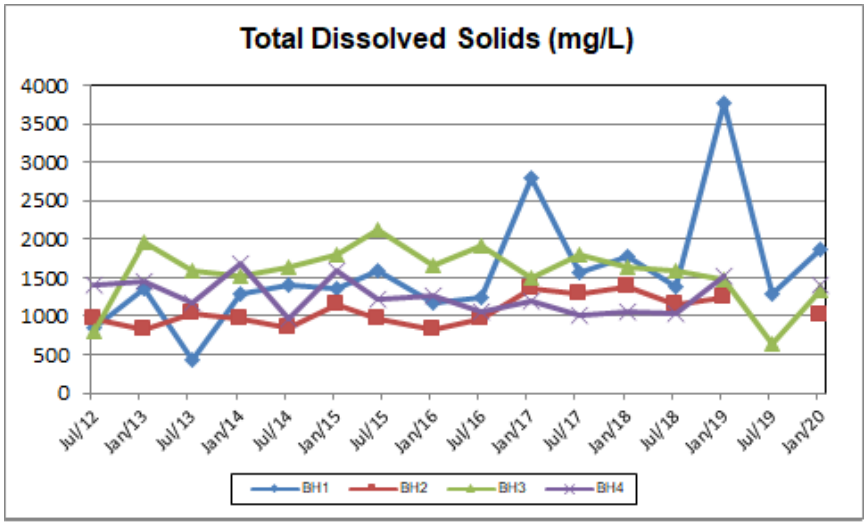

Figure 5-3: Total Dissolved Solids Results for Boreholes 1 to 4

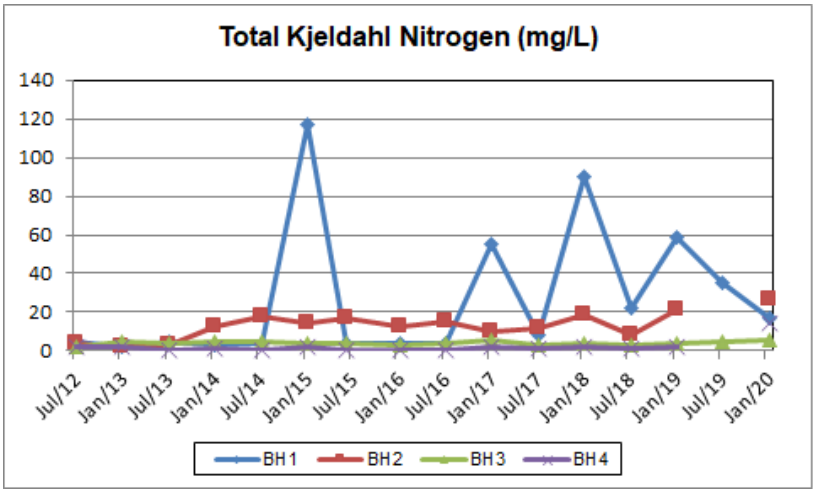

Figure 5-4: Total Kjeldahl Nitrogen Results for Boreholes 1 to 4

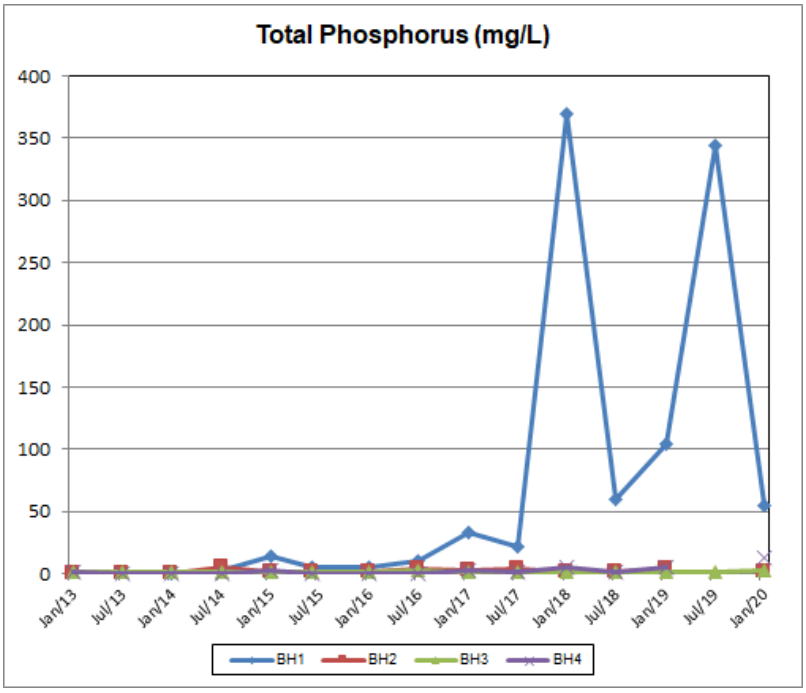

Figure 5-5: Total Phosphorus Results for Boreholes 1 to 4

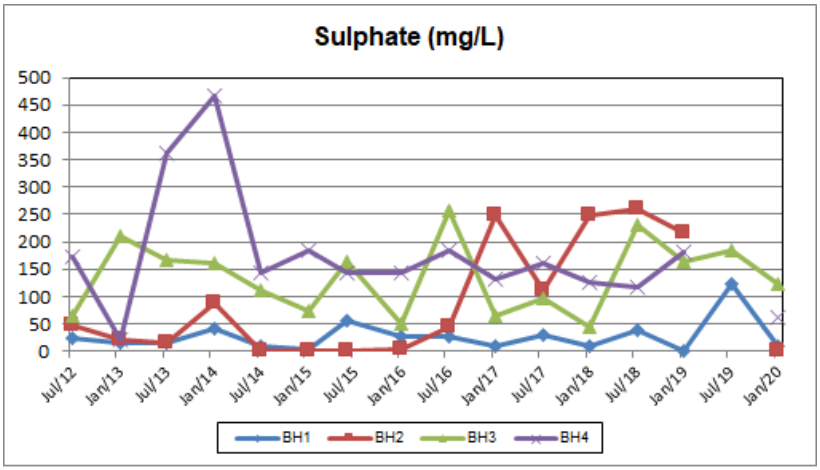

Figure 5-6: Sulphate Results for Boreholes 1 to 4

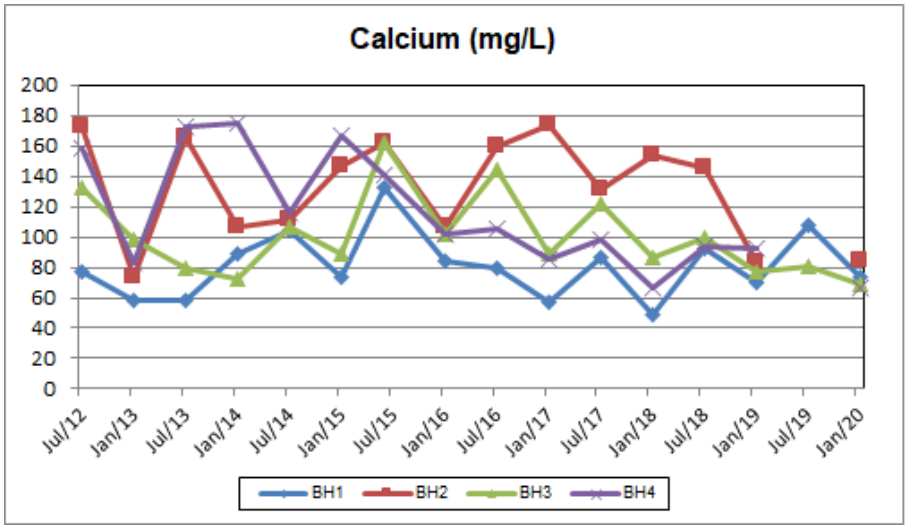

Figure 5-7: Calcium Results for Boreholes 1 to 4

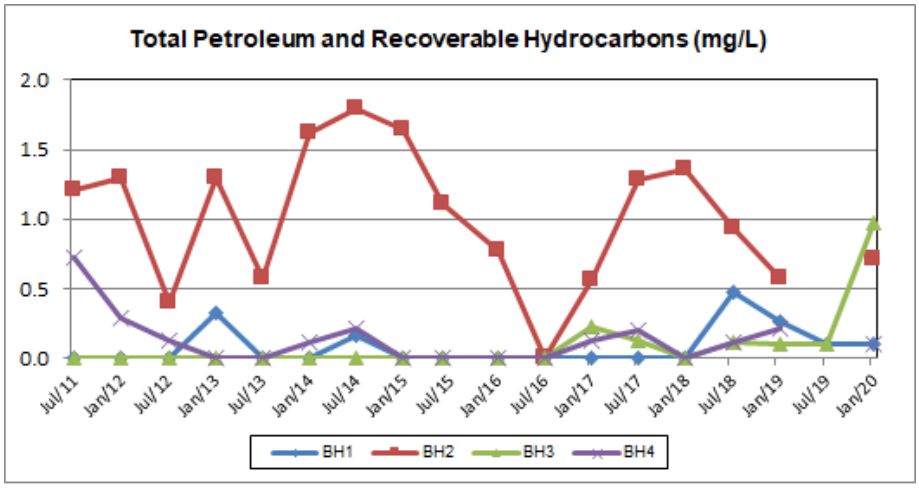

Figure 5-8: Total Petroleum and Recoverable Hydrocarbons Results for Boreholes 1 to 4

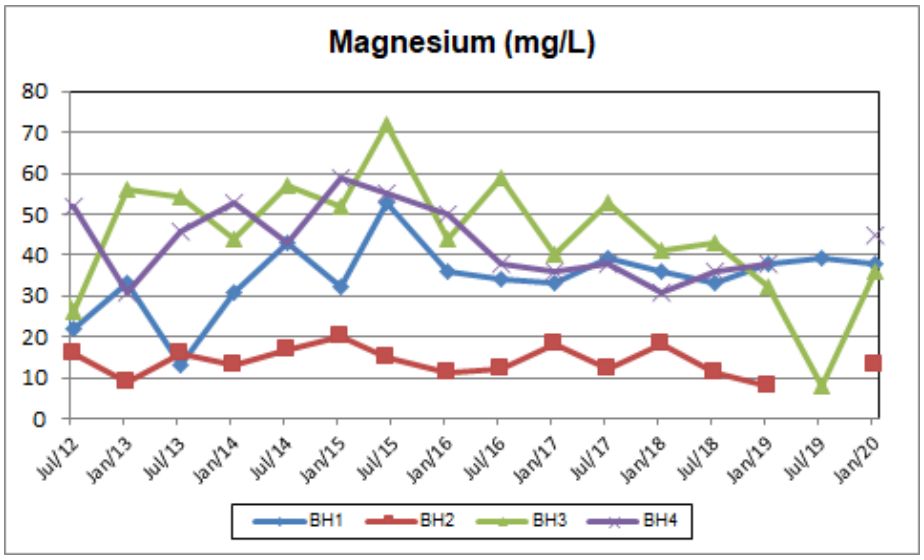

Figure 5-9: Magnesium Results for Boreholes 1 to 4

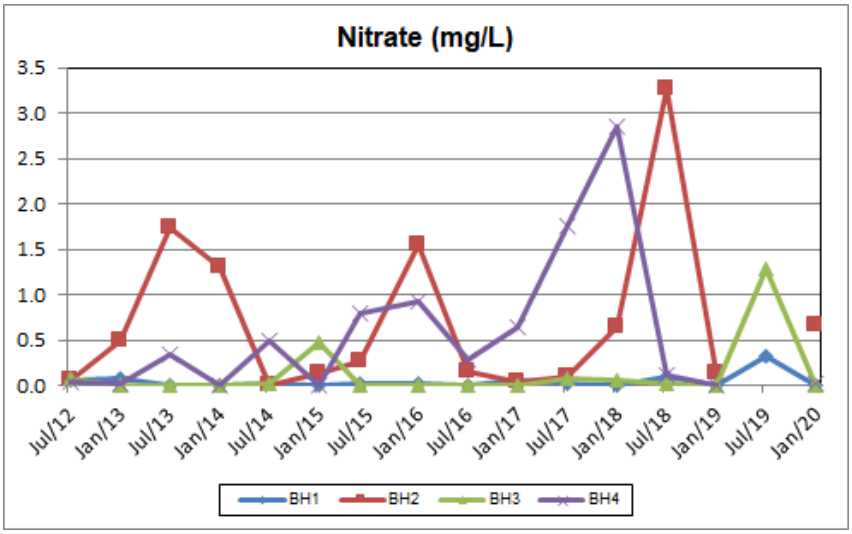

Figure 5-10: Nitrate Results for Boreholes 1 to 4

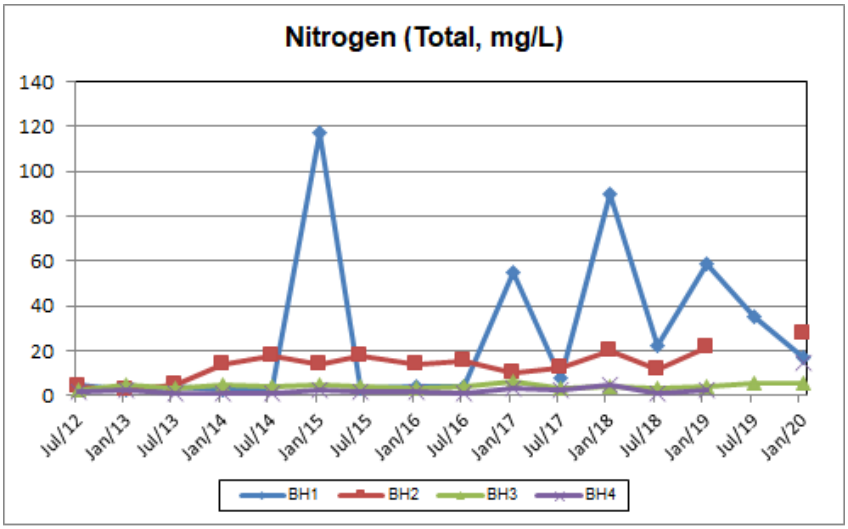

Figure 5-11: Nitrogen Results for Boreholes 1 to 4

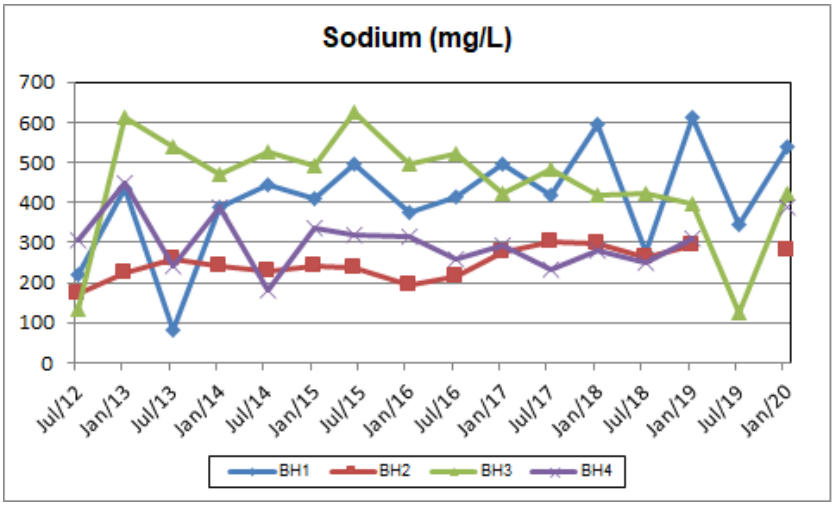

Figure 5-12: Sodium Results for Boreholes 1 to 4

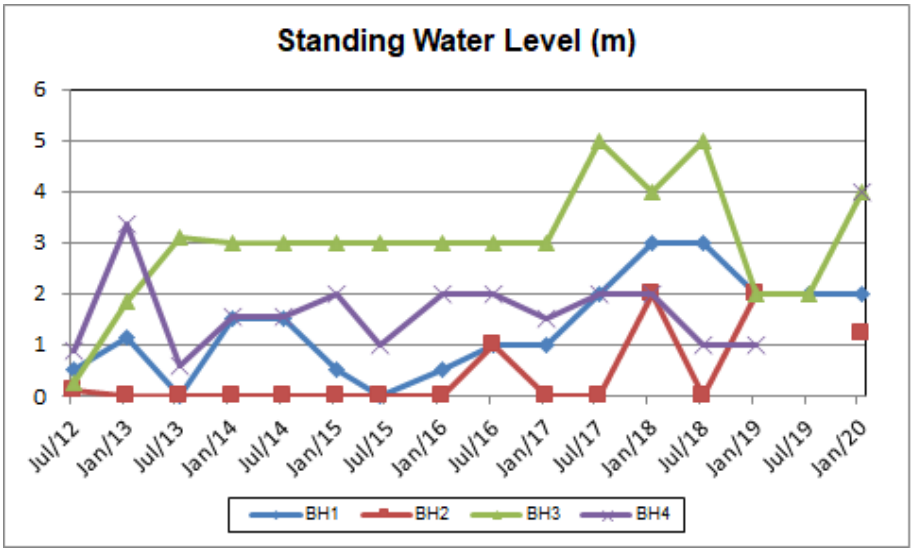

Figure 5-13: Standing Water Level Results for Boreholes 1 to 4

5.2 Wastewater Monitoring Results

The quarterly wastewater monitoring results for 8 January 2020 are presented in Table 5-2.

Table 5-2: Cargill Newcastle Wastewater Results – 8 January 2020

Analyte	Unit	Point 12	Point 13
pH	pH Unit	7.78	7.82
Sodium Absorption Ratio	-	13.1	1.86
Electrical Conductivity	µS/cm	1,770	796
Chloride	mg/L	367	68
Total Nitrogen	mg/L	29.6	49.5
Total Phosphorus	mg/L	4.72	8.68
Oil and Grease	mg/L	8	<5
Nitrite	mg/L	<0.01	0.02
Total Kjeldahl Nitrogen (TKN)	mg/L	29.6	49.5
Enterococci	CFU/100mL	-	170,000
Faecal Coliforms	CFU/100mL	-	2,400,000
Dissolved Major Cations			
Calcium	mg/L	29	29
Magnesium	mg/L	9	7
Sodium	mg/L	316	43
Potassium	mg/L	20	19

Figure 5-14 to Figure 5-26 illustrate the current and historical data for Point 12 and Point 13.

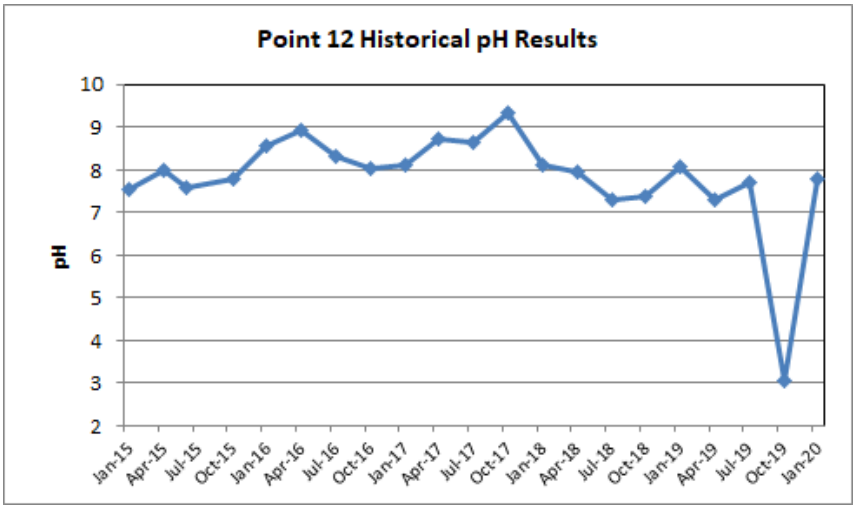

Figure 5-14: Point 12 pH Results

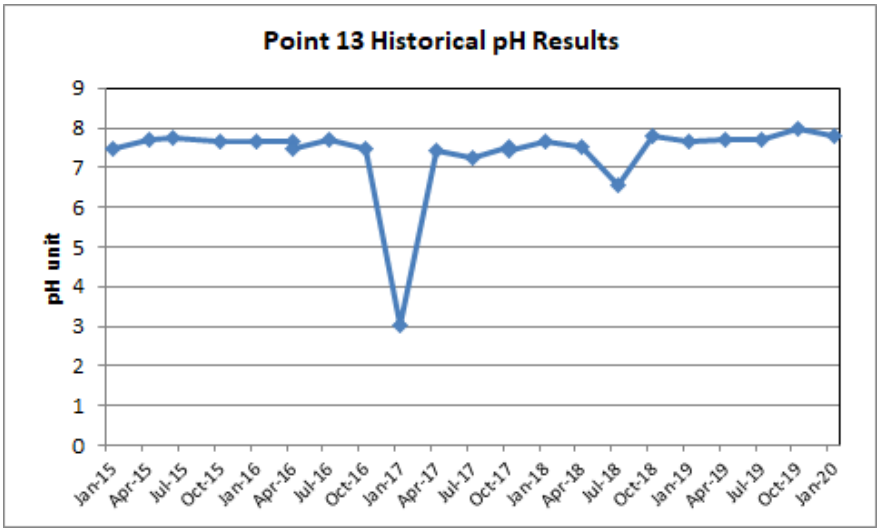

Figure 5-15: Point 13 pH Results

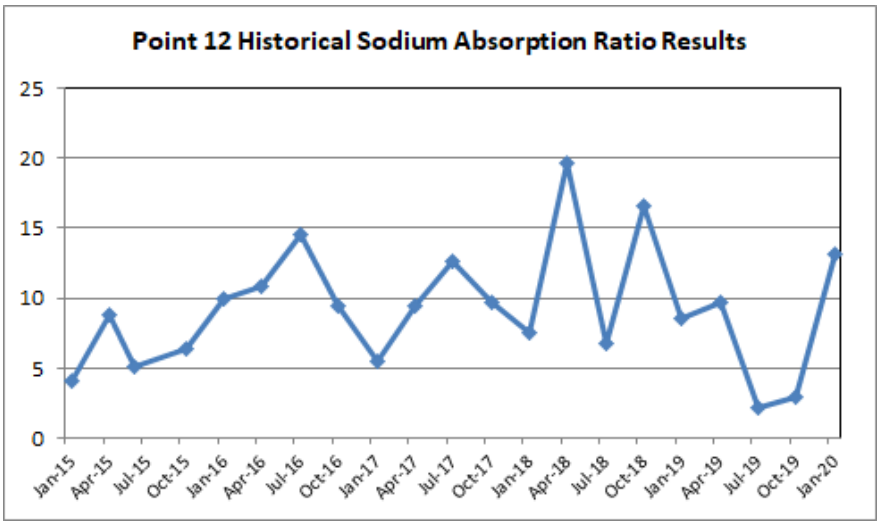

Figure 5-16: Point 12 Sodium Absorption Ratio Results

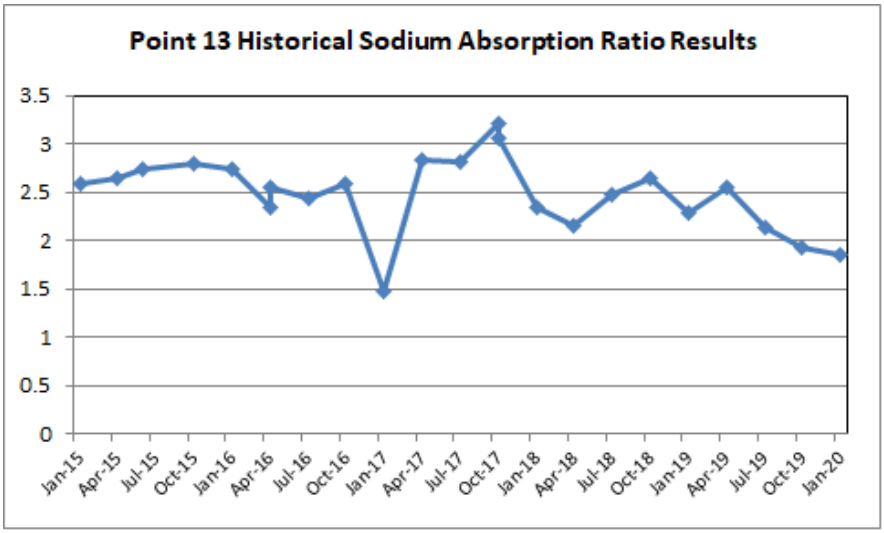

Figure 5-17: Point 13 Sodium Absorption Ratio Results

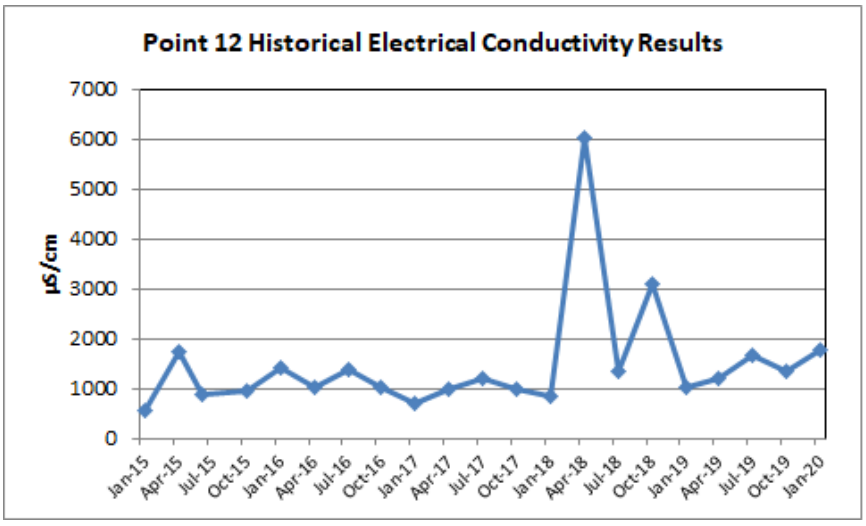

Figure 5-18: Point 12 Electrical Conductivity Results

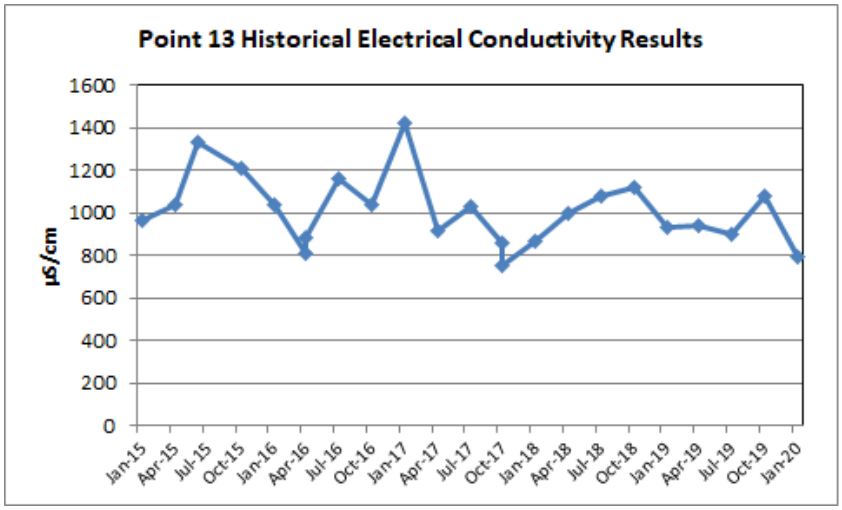

Figure 5-19: Point 13 Electrical Conductivity Results

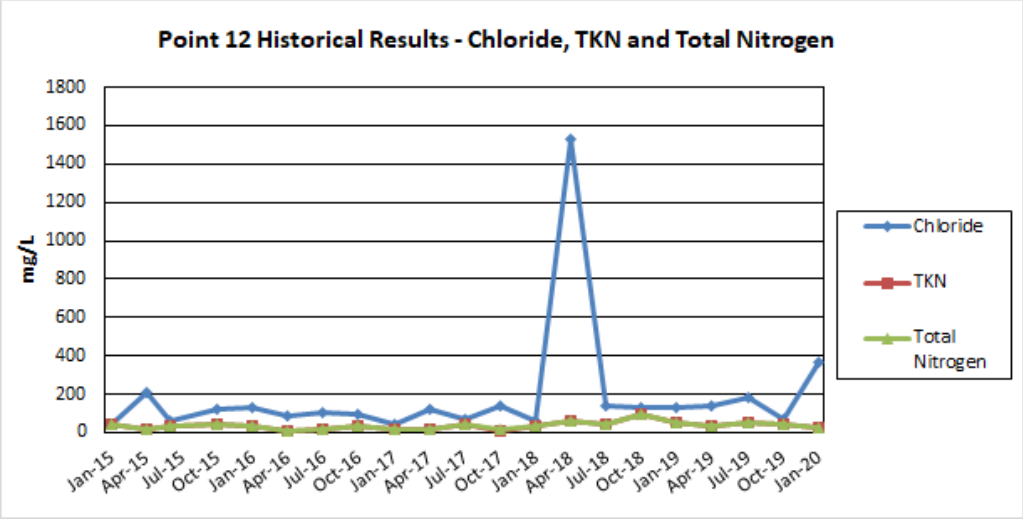

Figure 5-20: Point 12 Chloride, TKN and Nitrogen Results

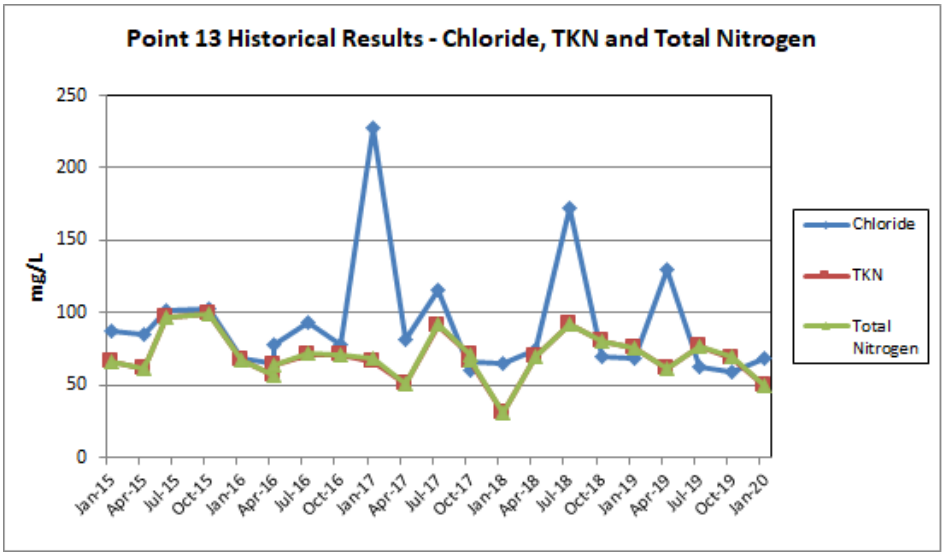

Figure 5-21: Point 13 Chloride, TKN and Nitrogen Results

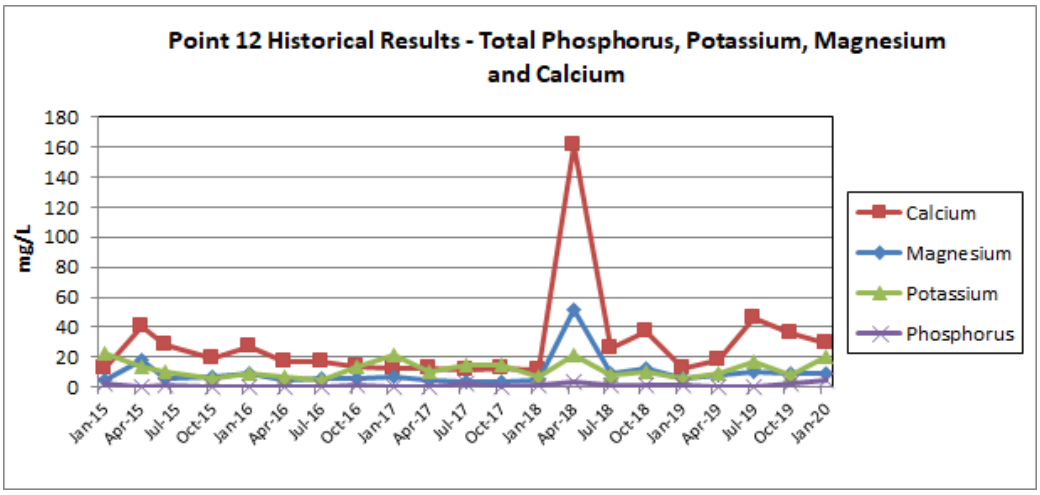

Figure 5-22: Point 12 Total Phosphorus, Potassium, Magnesium and Calcium Results

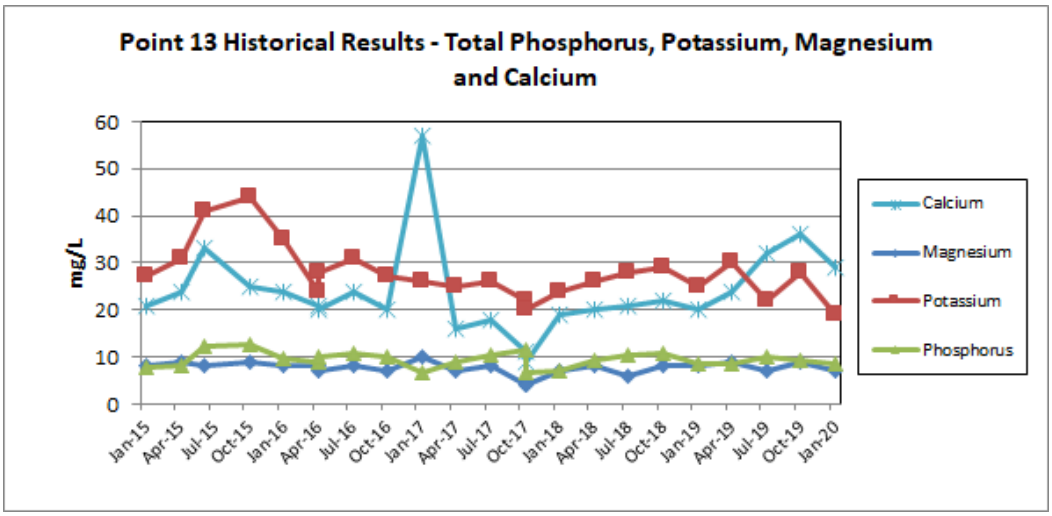

Figure 5-23: Point 13 Total Phosphorus, Potassium, Magnesium and Calcium Results

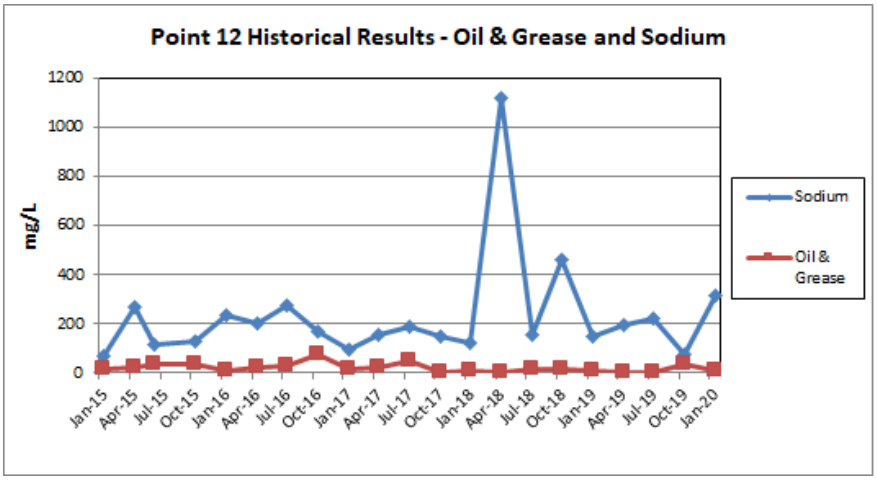

Figure 5-24: Point 12 Oil & Grease and Sodium Results

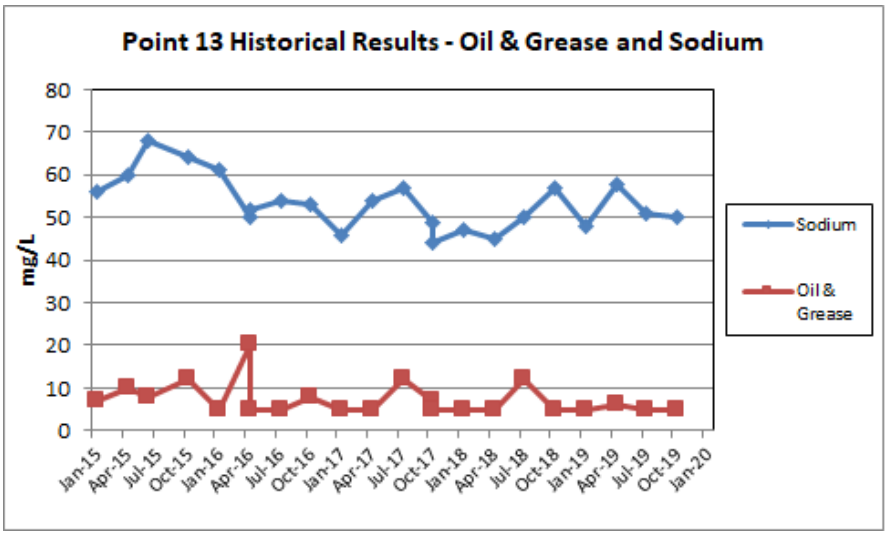

Figure 5-25: Point 13 Oil & Grease and Sodium Results

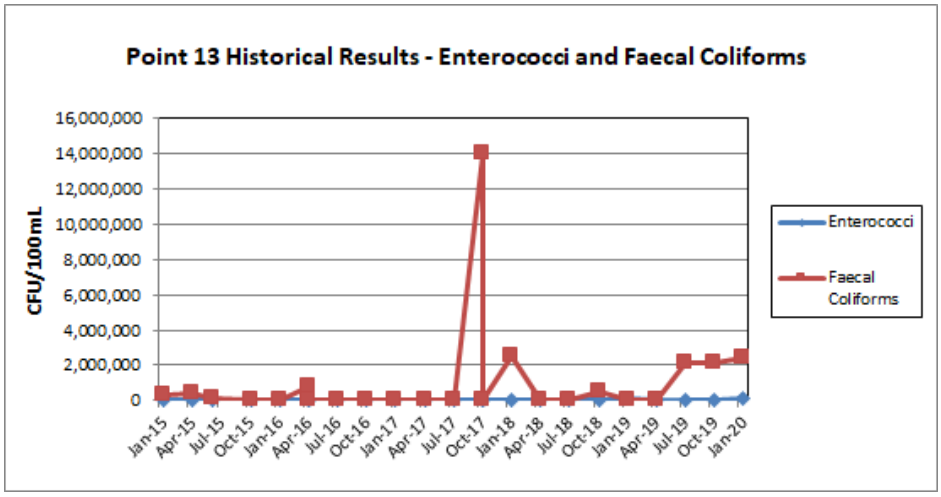

Figure 5-26: Point 13 Enterococci and Faecal Coliforms Results

6 Discussion

Groundwater and wastewater sampling was carried out on 8 January 2020. Sampling of Boreholes 6, 8, 7, 9, and Point 12 and Point 13 was performed as stipulated in EPL 5810.

Hexane and Total Recoverable Hydrocarbons are performed for the purposes of leak detection. Quarterly water quality analytes were analysed for Point 12 and Point 13 as per EPL 5810.

Cargill's EPL does not specify water quality limits. The groundwater and wastewater monitoring was required by the licence to ensure that the groundwater quality is not adversely affected by the operations of the plant. The monitoring is to highlight changes in trends.

Appendix A – NATA Laboratory Results

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2000410**	Page	: 1 of 6
Client	: **MJM ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MS BRIGID KELLY	Contact	: Customer Services ES
Address	: OFFICE 1, 335 WHARF ROAD NEWCASTLE NSW, AUSTRALIA 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 49264222	Telephone	: +61-2-8784 8555
Project	: 036 2069	Date Samples Received	: 08-Jan-2020 14:09
Order number	: ----	Date Analysis Commenced	: 08-Jan-2020
C-O-C number	: ----	Issue Date	: 15-Jan-2020 16:57
Sampler	: J Culllip		
Site	: Cargill		
Quote number	: EN/222		
No. of samples received	: 6		
No. of samples analysed	: 6		

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. 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
Ashesh Patel	Senior Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Gregory Towers	Technical Officer	Chemistry, Newcastle West, NSW
Helen Simpson	Inorganic Chemist	WRG Subcontracting, Smithfield, NSW
Tony DeSouza	Senior Microbiologist	Sydney Microbiology, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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.

- ED041G: LOR raised for Sulfate on sample 1 due to sample matrix.
- MF = membrane filtration
- CFU = colony forming unit
- Microbiological Comment: In accordance with ALS work instruction QWI-MIC/04, membrane filtration result is reported an approximate (~) when the count of colonies on the filtered membrane is outside the range of 10 - 100cfu.
- MW023 is ALS's internal code and is equivalent to AS4276.9.
- MW006 is ALS's internal code and is equivalent to AS4276.7.
- Alkanes (CM051_A) is conducted by ALS Scoresby NATA accreditation no. 992, site no. 989.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	BH1	BH2	BH3	BH4	Point 12
			Client sampling date / time	08-Jan-2020 00:00	08-Jan-2020 00:00	08-Jan-2020 00:00	08-Jan-2020 00:00	08-Jan-2020 00:00
Compound	CAS Number	LOR	Unit	ES2000410-001	ES2000410-002	ES2000410-003	ES2000410-004	ES2000410-005
				Result	Result	Result	Result	Result
EA005: pH								
pH Value	----	0.01	pH Unit	7.26	7.36	7.58	7.63	----
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	----	----	----	----	7.78
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	2990	1890	2510	2310	1770
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	1880	1010	1330	1400	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<10	<1	124	62	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	----	----	----	----	367
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	73	84	69	66	29
Magnesium	7439-95-4	1	mg/L	38	13	36	45	9
Sodium	7440-23-5	1	mg/L	540	279	422	386	316
Potassium	7440-09-7	1	mg/L	----	----	----	----	20
ED093F: SAR and Hardness Calculations								
^ Sodium Adsorption Ratio	----	0.01	-	----	----	----	----	13.1
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	0.14	<0.01	<0.01	----
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	<0.01	0.66	<0.01	0.02	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.80	<0.01	0.02	<0.01
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	16.6	26.6	5.5	14.5	29.6
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	16.6	27.4	5.5	14.5	29.6
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	54.2	2.10	3.42	12.7	4.72
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	----	----	----	----	8
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	BH1	BH2	BH3	BH4	Point 12
				Client sampling date / time	08-Jan-2020 00:00	08-Jan-2020 00:00	08-Jan-2020 00:00	08-Jan-2020 00:00	08-Jan-2020 00:00
Compound	CAS Number	LOR	Unit		ES2000410-001	ES2000410-002	ES2000410-003	ES2000410-004	ES2000410-005
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		<20	**30**	<20	<20	----
C10 - C14 Fraction	----	50	µg/L		<50	**160**	**650**	<50	----
C15 - C28 Fraction	----	100	µg/L		<100	**590**	**230**	<100	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	**750**	**880**	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	**30**	<20	<20	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	**30**	<20	<20	----
>C10 - C16 Fraction	----	100	µg/L		<100	**310**	**700**	<100	----
>C16 - C34 Fraction	----	100	µg/L		<100	**400**	**270**	<100	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	**710**	**970**	<100	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	**310**	**700**	<100	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	----
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	----
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	----
WP125C: Alkanes									
n-Hexane	110-54-3	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**79.1**	**92.6**	**92.8**	**101**	----
Toluene-D8	2037-26-5	2	%		**80.2**	**102**	**90.0**	**105**	----
4-Bromofluorobenzene	460-00-4	2	%		**75.7**	**92.7**	**87.4**	**96.4**	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	Point 13	----	----	----	----
			Client sampling date / time	08-Jan-2020 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2000410-006	--------	--------	--------	--------
				Result	----	----	----	----
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**7.82**	----	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**796**	----	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**68**	----	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**29**	----	----	----	----
Magnesium	7439-95-4	1	mg/L	**7**	----	----	----	----
Sodium	7440-23-5	1	mg/L	**43**	----	----	----	----
Potassium	7440-09-7	1	mg/L	**19**	----	----	----	----
ED093F: SAR and Hardness Calculations								
^ **Sodium Adsorption Ratio**	----	0.01	-	**1.86**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.02**	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**49.5**	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ **Total Nitrogen as N**	----	0.1	mg/L	**49.5**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**8.68**	----	----	----	----
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	<5	----	----	----	----
MW006: Faecal Coliforms & E.coli by MF								
Faecal Coliforms	----	1	CFU/100mL	**~2400000**	----	----	----	----
MW023: Enterococci by Membrane Filtration								
Enterococci	----	1	CFU/100mL	**170000**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) 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

Appendix B – Sampling Field Notes

WATER SAMPLING FORM

Client Name: Cargill Newcastle

Date 8 1 2020 Time 10:30

Day Month Year

Reasons for sampling: Licence Variation Water Sampling

Location of sampling point: Point 12

Nature of sampling point [ ] Groundwater [ ] Tradewaste sump [ ] Surface water

[ ] Stormwater [X] Other Please specify

Effluent Water Sampling

Tap at wastewater treatment plant

Sample ID: Point 12

Depth sample taken: At tap

Sample appearance Greyish

Water Level in BH -

Volume of sample taken 1L

Name of Sampler JC

Method of sampling Grab sample

Nature of sample point Wastewater Treatment Plant

COC Reference No. 036 2069

Number of Bottles 6

Other comments:

Process odour

NOTE: ONE WATER SAMPLING FORM TO BE COMPLETED FOR EACH SAMPLE POINT

WATER SAMPLING FORM

Client Name: Cargill Newcastle

Date 8 1 2020 Time 12:30

Day Month Year

Reasons for sampling: Licence Variation Water Sampling

Location of sampling point: Point 13

Nature of sampling point [ ] Groundwater [ ] Tradewaste sump [ ] Surface water

[ ] Stormwater [X] Other Please specify

Sewage Treatment Plant tank chamber

Sample ID: Point 13

Depth sample taken: Surface (mm)

Sample appearance Clear with dark particulates

Volume of sample taken 1L

Name of Sampler JC

Method of sampling Bailer

Nature of sample point Tank

COC Reference No. 036 2069

Number of Bottles 6

Other comments:

Sewage odour Dark Particulates

NOTE: ONE WATER SAMPLING FORM TO BE COMPLETED FOR EACH SAMPLE POINT

GROUND WATER SAMPLING FORM

Client Name: Cargill Australia - Newcastle

Date 8 1 2020 Time 10:20
Day Month Year

Reasons for sampling: Environmental monitoring

Location of sampling point: BH1 Front of Plant near road

Nature of sampling point ☑ Groundwater ☐ Tradewaste sump ☐ Surface water
☐ Stormwater ☐ Other Please specify

Sample ID: BH1
Depth sample taken: 2 m
Sample appearance Dark Brown
Water Level in BH 2 m
Volume of sample taken 1.5 L
Name of Sampler JC
Method of sampling In-situ bailer
Nature of sample point Bore Hole
COC Reference No. 036-2069
Number of Bottles 5
Other comments:

High sediment load

NOTE: ONE WATER SAMPLING FORM TO BE COMPLETED FOR EACH SAMPLE POINT

GROUND WATER SAMPLING FORM

Client Name: Cargill Australia - Newcastle

Date 8 1 2020 Time 11:40
Day Month Year

Reasons for sampling: Environmental monitoring

Location of sampling point: BH2 Next to weighbridge

Nature of sampling point ☑ Groundwater ☐ Tradewaste sump ☐ Surface water

☐ Stormwater ☐ Other Please specify

Sample ID: BH2

Depth sample taken: 1.2 m

Sample appearance Greyish

Water Level in BH 1.2 m

Volume of sample taken 1.5 L

Name of Sampler JC

Method of sampling In-situ bailer

Nature of sample point Bore Hole

COC Reference No. 036-2069

Number of Bottles 5

Other comments:

Greyish with process odour

NOTE: ONE WATER SAMPLING FORM TO BE COMPLETED FOR EACH SAMPLE POINT

GROUND WATER SAMPLING FORM

Client Name: Cargill Australia - Newcastle

Date 8 1 2020 Time 10:40
Day Month Year

Reasons for sampling: Environmental monitoring

Location of sampling point: BH3 Next to extraction building

Nature of sampling point ☑ Groundwater ☐ Tradewaste sump ☐ Surface water

☐ Stormwater ☐ Other Please specify

Sample ID: BH3

Depth sample taken: 4 m

Sample appearance Clear with dark particulates

Water Level in BH 4 m

Volume of sample taken 1.5 L

Name of Sampler JC

Method of sampling In-situ bailer

Nature of sample point Bore Hole

COC Reference No. 036-2069

Number of Bottles 5

Other comments:

NOTE: ONE WATER SAMPLING FORM TO BE COMPLETED FOR EACH SAMPLE POINT

GROUND WATER SAMPLING FORM

Client Name: Cargill Australia - Newcastle

Date 8 1 2020 Time 11:30
Day Month Year

Reasons for sampling: Environmental monitoring

Location of sampling point: BH4 At far corner of plant next to main road

Nature of sampling point ☑ Groundwater ☐ Tradewaste sump ☐ Surface water
☐ Stormwater ☐ Other Please specify

Sample ID: BH4
Depth sample taken: 4 m
Sample appearance Slightly brown
Water Level in BH 4 m
Volume of sample taken 1.5 L
Name of Sampler JC
Method of sampling In-situ bailer
Nature of sample point Bore Hole
COC Reference No. 036-2069
Number of Bottles 5
Other comments:

NOTE: ONE WATER SAMPLING FORM TO BE COMPLETED FOR EACH SAMPLE POINT