

Boswick, Robert

From: Ken Anderson <andersonk@ae.ca>
Sent: August 15, 2023 8:58 AM
To: Boswick, Robert
Cc: Genaille, Dee; Brenda Poulsen (utility@rmofgrey.ca)
Subject: RE: R.M. of Grey - L.U.D. of St. Claude - EAP Review - TAC Comments and Requests for Additional Information - File No. 241.50
Attachments: Wastewater Results - Aug 3-23.pdf

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ATTENTION: ce courriel provient d'un expéditeur externe. Ne cliquez sur aucun lien et n'ouvrez pas de pièce jointe, excepté si vous connaissez l'expéditeur.

Morning Rob,

As follow up to the TAC responses, the RM has completed the sampling for SAR, Chloride, and Sodium. See attached. Summary Table of Results below.

	SAR	Sodium	Chloride	Phosphorus
Dairy Industry (Monhole)	6.19	210	67.6	37.9
Residential (Jobin)	1.48	62.5	132	6.69
Composite (Lift Station)	4.22	158	84.6	21.6
Lagoon Cell 3	5.0	194	127	4.91

As noted, the elevated SAR is from the elevated sodium from the industry source, similarly to phosphorus.

Regards,
Ken

Ken Anderson, P.Eng.
Manager, Water

Associated Engineering Ltd.

410 - Number Five Donald Street, Winnipeg, MB R3L 2T4

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From: Ken Anderson

Sent: Tuesday, July 25, 2023 3:51 PM

To: Boswick, Robert <Robert.Boswick@gov.mb.ca>

Cc: Dee Genaille <Dee.Genaille@gov.mb.ca>; Brenda Poulsen (utility@rmofgrey.ca) <utility@rmofgrey.ca>

Subject: RE: R.M. of Grey - L.U.D. of St. Claude - EAP Review - TAC Comments and Requests for Additional Information - File No. 241.50

Hi Rob,

Thank you for the email and please find attached our responses to the TAC questions.

Best Regards,

Ken

Ken Anderson, P.Eng.
Manager, Water

Associated Engineering Ltd.

410 - Number Five Donald Street, Winnipeg, MB R3L 2T4



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BEST
MANAGED
COMPANIES

2023
member

From: Boswick, Robert <Robert.Boswick@gov.mb.ca>

Sent: July 17, 2023 2:22 PM

To: 'vfisher@dillon.ca' <vfisher@dillon.ca>; 'cpogue@dillon.ca' <cpogue@dillon.ca>; Ken Anderson <andersonk@ae.ca>

Cc: Burland Ross, Siobhan <Siobhan.BurlandRoss@gov.mb.ca>; Parsons, Travis <Travis.Parsons2@gov.mb.ca>

Subject: R.M. of Grey - L.U.D. of St. Claude - EAP Review - TAC Comments and Requests for Additional Information - File No. 241.50

Review of the R.M. of Grey – L.U.D. of St. Claude Environment Act Proposal (EAP) relative to proposed land application of biosolids to be removed from and upgrades to the wastewater treatment lagoon under our File No. 241.50 and currently licenced under Environment Act Licence No. 1666 S3 has resulted in comments and requests for additional information from the Technical Advisory Committee (TAC).

Regarding proposed land application of biosolids, Dillon Consulting Ltd. is requested to assess and respond to comments from the Water Science and Watershed Management Branch – Manitoba Environment and Climate contained in the first attachment as well as to related feedback from Manitoba Transportation and Infrastructure contained in the second attachment.

Regarding proposed lagoon upgrades, Associated Engineering Ltd. is requested to respond to related feedback from Manitoba Transportation and Infrastructure contained in the second attachment and respond to related comments and requests for information from the Environmental Compliance and Enforcement Branch – Manitoba Environment and Climate and the Water Quality Management Section – Manitoba Environment and Climate contained in the third and fourth attachments respectively.

Please provide resulting responses back to me.

Please contact me for discussion as necessary.

Thank you.

Robert Boswick, P.Eng.

Senior Environmental Engineer, Environmental Approvals Branch

Environment and Climate

robert.boswick@gov.mb.ca / Cel.: 204-918-5853 / FAX: 204-945-5229

Box 35 - 14 Fultz Blvd., Winnipeg, MB R3Y 0L6

c: Public Registry

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CERTIFICATE OF ANALYSIS

Work Order	: WP2318197	Page	: 1 of 4
Client	: Rural Municipality of Grey	Laboratory	: ALS Environmental - Winnipeg
Contact	: Brenda Poulsen	Account Manager	: Kianna Brown
Address	: PO Box 99 27 Church Avenue East Elm Creek MB Canada R0G 0N0	Address	: 1329 Nlakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 436 2014	Telephone	: 12042559720
Project	: ST CLAUDE LAGOON	Date Samples Received	: 03-Aug-2023 14:50
PO	: ---	Date Analysis Commenced	: 03-Aug-2023
C-O-C number	: ---	Issue Date	: 14-Aug-2023 16:20
Sampler	: ---		
Site	: ---		
Quote number	: Analytical Testing		
No. of samples received	: 4		
No. of samples analysed	: 4		

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

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Lee McTavish		Inorganics, Winnipeg, Manitoba
Rhovee Guevarra		Inorganics, Winnipeg, Manitoba
Rhovee Guevarra		Metals, Winnipeg, Manitoba



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

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. Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	Description
-	no units
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

Sub-Matrix: Wastewater

(Matrix: Water)

Sub-Matrix: Wastewater (Matrix: Water)					Client sample ID							
Analyte	CAS Number	Method/Lab	LOR	Unit	Client sampling date / time				LAGOON CELL 3	LIFT STATION BERIAULT	LIFT STATION JOBIN ST	MONHOLE TACHE
					03-Aug-2023 10:00	03-Aug-2023 10:40	03-Aug-2023 10:15	03-Aug-2023 10:30				
					WP2318197-001	WP2318197-002	WP2318197-003	WP2318197-004				
					Result	Result	Result	Result				
Physical Tests												
pH	----	E108/WP	0.10	pH units	8.92	7.24	8.16	10.0				
pH @ 15°C (WSER)	----	E108A/WP	0.10	pH units	9.08	6.64	8.13	10.6				
Anions and Nutrients												
Ammonia, total (as N)	7664-41-7	E303/WP	0.010	mg/L	6.36	17.0	38.5	2.17				
Ammonia, un-ionized (as N), 15°C (WSER)	7664-41-7	EC298/WP	0.0010	mg/L	1.57	0.0202	1.37	1.99				
Chloride	16887-00-6	E235 Cl/WP	0.50	mg/L	127	84.6	132	67.6				
Phosphorus, total	7723-14-0	E372/WP	0.020	mg/L	4.91	21.6	6.69	37.9				
Phosphorus, total dissolved	7723-14-0	E375-T/WP	0.0020	mg/L	2.56	14.1	3.82	27.6				
Phosphorus, total reactive	----	E383/WP	0.0030	mg/L	3.14	13.8	4.23	22.1				
Metals												
Sodium adsorption ratio [SAR]	----	EC102A/WP	0.10	-	5.00	4.22	1.48	6.19				
Dissolved Metals												
Aluminum, dissolved	7429-90-5	E421/WP	0.0010	mg/L	0.0264	0.271	0.291	0.529				
Antimony, dissolved	7440-36-0	E421/WP	0.00010	mg/L	0.00022	0.00015	0.00026	0.00028				
Arsenic, dissolved	7440-38-2	E421/WP	0.00010	mg/L	0.00492	0.00198	0.00676	0.00045				
Barium, dissolved	7440-39-3	E421/WP	0.00010	mg/L	0.0241	0.0808	0.241	0.0248				
Beryllium, dissolved	7440-41-7	E421/WP	0.000020	mg/L	<0.000020	<0.000020	<0.000020	<0.000020				
Bismuth, dissolved	7440-69-9	E421/WP	0.000050	mg/L	<0.000050	0.00114	0.000223	0.00172				
Boron, dissolved	7440-42-8	E421/WP	0.010	mg/L	0.194	0.151	0.314	0.094				
Cadmium, dissolved	7440-43-9	E421/WP	0.0000050	mg/L	0.0000070	0.0000457	0.000144	0.0000166				
Calcium, dissolved	7440-70-2	E421/WP	0.050	mg/L	54.5	71.1	74.5	64.9				
Cesium, dissolved	7440-46-2	E421/WP	0.000010	mg/L	0.000015	0.000051	0.000055	0.000069				
Chromium, dissolved	7440-47-3	E421/WP	0.00050	mg/L	<0.00050	0.00134	<0.00050	0.00148				
Cobalt, dissolved	7440-48-4	E421/WP	0.00010	mg/L	0.00102	0.00035	0.00058	0.00019				
Copper, dissolved	7440-50-8	E421/WP	0.00020	mg/L	0.00066	0.0195	0.0339	0.0116				
Iron, dissolved	7439-89-6	E421/WP	0.010	mg/L	0.035	0.690	2.81	0.184				
Lead, dissolved	7439-92-1	E421/WP	0.000050	mg/L	0.000266	0.000800	0.000716	0.000579				
Lithium, dissolved	7439-93-2	E421/WP	0.0010	mg/L	0.0567	0.0342	0.112	0.0172				
Magnesium, dissolved	7439-95-4	E421/WP	0.0050	mg/L	36.3	21.2	37.3	13.5				



Analytical Results

Sub-Matrix: Wastewater

(Matrix: Water)

Client sample ID

Client sampling date / time

Unit

LOR

Method/Lab

CAS Number

LAGOON CELL

3

LIFT STATION

BERIAULT

LIFT STATION

JOBIN ST

MONHOLE

TACHE

Analyte

Result

Result

Result

Result

Result

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Dissolved Metals

Manganese, dissolved

Molybdenum, dissolved

Nickel, dissolved

Phosphorus, dissolved

Potassium, dissolved

Rubidium, dissolved

Selenium, dissolved

Silicon, dissolved

Silver, dissolved

Sodium, dissolved

Strontium, dissolved

Sulfur, dissolved

Tellurium, dissolved

Thallium, dissolved

Thorium, dissolved

Tin, dissolved

Titanium, dissolved

Tungsten, dissolved

Uranium, dissolved

Vanadium, dissolved

Zinc, dissolved

Zirconium, dissolved

Dissolved metals filtration location

EP421/WP

0.00010

0.00050

0.00050

0.050

0.050

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0.00381

0.000740

0.00583

4.96

24.2

0.0144

0.000164

10.0

<0.000010

194

0.222

2.23

<0.00020

<0.000010

<0.00010

<0.00010

<0.00010

0.00107

<0.00010

0.000400

0.00274

0.0031

<0.00030

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0.267

0.00118

0.00294

26.6

36.5

0.0295

0.000775

3.78

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158

0.212

13.6

<0.00020

<0.000010

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6.65

0.000079

62.5

0.338

20.1

<0.00020

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0.0304

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43.1

62.8

0.0530

0.000935

2.13

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210

0.111

11.6

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<0.000010

<0.00010

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0.00057

<0.00010

0.000080

0.00093

0.189

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