ENGINEERING CONSULTANTS

January 4, 2017

F:\200\206 Dauphin River Band\206.05 Water and Sewer Project\01 Correspondence\171 Jan - Mar\Ltr - MB Con Primary Cell.docx

Ms. Tracey Braun
Director of Environmental Approvals
Manitoba Sustainable Development
123 Main Street
Suite 160 VIA Station
Winnipeg, Manitoba
R3C 1A5

**Via Email**

**D-206.05**

Dear Ms. Braun,

**RE: Dauphin River First Nation Lagoon Environmental Act Licence No. 3160**

As per clause 19 of the Environmental Act Licence No. 3160, attached are the test results completed in accordance with clause 18 of the licence. To date a total of 6 test results have been obtained on the lagoon primary cell dike, primary cell floor and storage cell dikes with the following results:

Sample Date July 4, 2016 - ST4 – $4.67x10^{-9}$ cm/s
Sample Date July 4, 2016 - ST6 – $1.09x10^{-8}$ cm/s
Sample Date July 4, 2016 - ST7 – $7.47x10^{-9}$ cm/s
Sample Date Sept 13, 2016 - ST9 – $1.13x10^{-8}$ cm/s
Sample Date July 4, 2016 - ST2 – $6.93x10^{-9}$ cm/s
Sample Date Aug 17, 2016 - ST12 - $8.2x10^{-9}$ cm/s

All of the test results meet the hydraulic conductivity requirements of the licence of $1x10^{-7}$ cm/s. A copy of the test results are attached.

Due to heavy rainfall in October 2016, the storage cell floor, consisting of a remolded clay liner, was unable to be completed. The majority of the floor has been remolded with the exception of two small areas. Attached is plan identifying the approximate location of the unfinished floor remolding. As soon as seasonal conditions are suitable in spring of 2017, the balance of the floor remolding will be completed.

The community of Dauphin River First Nation will be returning home throughout the winter months in 2017 and will be requiring the use of the lagoon primary cell to collect and treat their sewage. Based on the test results obtained on the primary cell liner and the storage cell dikes, we are requesting permission to place the primary cell into operation for the returning residents.

If there are any questions or concerns, please contact the undersigned.

Yours truly,

**JR Cousin Consultants Ltd.**

Jason Cousin, P. Eng.
Municipal Engineer
enc. Six test results from Trek, Plan of Lagoon floor

TREK GEOTECHNICAL Quality Engineering | Valued Relationships

August 15, 2016 File No. 1000-027-02

Mr. Brad Boyd
Quantum Murray
201 Portage Avenue - 18th Floor
Winnipeg MB
R3B 3K6

**RE Dauphin River First Nation Wastewater Lagoon Construction – Lab Testing Update for Shelby Tube Samples**

TREK Geotechnical Inc. (TREK) was retained by Quanrum Murray LP (QM) to provide testing services on an as requested basis at the above project. This report provides a summary of the hydraulic conductivity test results completed to date.

On July 5, 2016 QM delivered Shelby tube samples to Trek for testing. The Shelby tubes were identified as ST1 to ST10. Representatives from Manitoba Conservation, QM, J.R. Cousin Consultants Ltd. met at Trek's laboratory to observe the extrusion of Shelby tube samples Manitoba Conservation selected which samples were to be extracted from the Shelby tubes as well as selected four samples to be tested for Hydraulic conductivity. Three tests have been completed to date (ST4, ST6, ST7) while testing of ST9 is in progress. A summary of results from the completed tests is provided below, and the completed reports are attached.

ST4 - $4.67 \times 10^{-11}$ m/s ($4.67 \times 10^{-9}$ cm/s)
ST6 -$1.09 \times 10^{-10}$ m/s ($1.09 \times 10^{-8}$ cm/s)
ST7- $7.47 \times 10^{-11}$ m/s ($7.47 \times 10^{-9}$ cm/s)

A final testing report will be issued once all testing has been completed. The test results presented are representative of the soil samples provided. The testing services undertaken by TREK constitutes testing services only and engineering evaluation or interpretation has not been undertaken, but is available upon request.

If you have any questions or require any additional information, please contact the undersigned.

**TREK Geotechnical**
**Per:**

PROVINCE OF MANITOBA
N.J. FERREIRA
Member
22892
REGISTERED PROFESSIONAL ENGINEER
Aug. 15 2016

**Nelson Ferreira, M.Sc., P.Eng.**
Geotechnical Engineer

APEGM
Certificate of Authorization
Trek Geotechnical Inc.
No. 4877 Date: Aug. 15, 2016

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# Hydraulic Conductivity Determination (Flexible Wall)

**ASTM D5084-10**

| | | | |
|---|---|---|---|
| **Project No.** | 1000-027-02 | **Test Hole** | ST4 |
| **Client** | Quantum Murray | **Trek Sample #** | |
| **Project** | Dauphin River First Nation<br>Wastewater Lagoon Construction | **Depth (m)** | 1.54 - 2.16 |
| | | **Sample Date** | July 04, 2016 |
| | | **Test Date** | July 07, 2016 to Aug 02, 2016 |
| | | **Technician** | Paul Bevel |

## Specimen Details

**Visual Classification** Clay, silty, brown, firm, high plasticity

**Comments** The specific gravity of the soil was assumed to be 2.75.

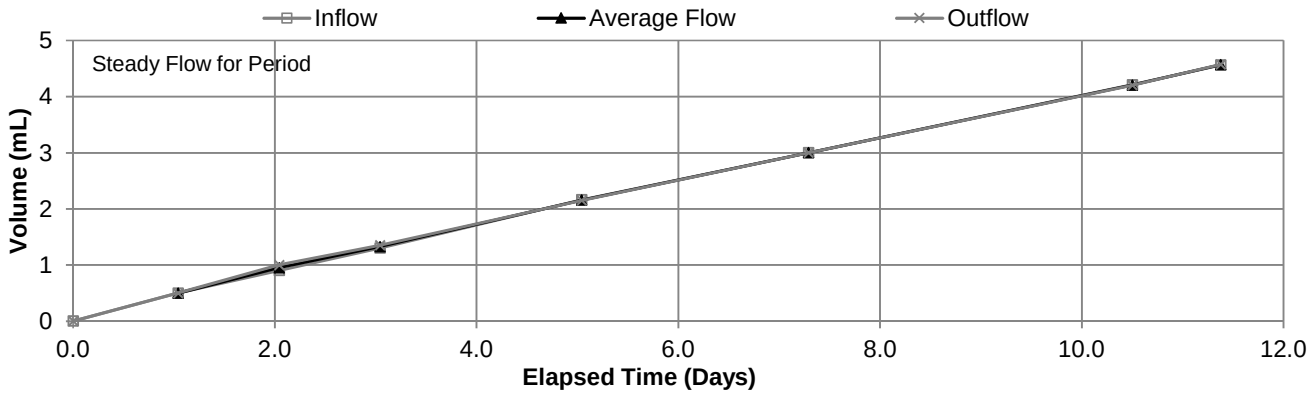
## Atterberg Limits

| | |
|---|---|
| **Liquid Limit** | Not Requested |
| **Plastic Limit** | Not Requested |
| **Plasticity Index** | Not Requested |

## Test Details

| | |
|---|---|
| **Permeant** | Distilled, de-aired water |
| **Method** | Constant Head |
| **Cell Pressure** | 172.4 kPa |
| **Influent Pressure** | 128.2 kPa |
| **Effluent Pressure** | 110.3 kPa |
| **Gradient** | 22.48 |

## Permeation Graph




## Steady Flow Permeation Data

| Time Increment (Days) | Elapsed Time (Days) | Flow (Q) | | Inflow / Outflow Ratio | Average Flow (mL) | Temperature Correction | Corrected Hydraulic Conductivity, $k_{20}$ (m/s) |
|---|---|---|---|---|---|---|---|
| | | Influent (mL) | Effluent (mL) | | | | |
| 2.00 | 5.04 | 0.86 | 0.80 | 1.08 | 0.83 | 0.95 | 4.91E-11 |
| 2.25 | 7.29 | 0.84 | 0.85 | 0.99 | 0.85 | 0.95 | 4.44E-11 |
| 3.21 | 10.50 | 1.21 | 1.20 | 1.01 | 1.21 | 0.94 | 4.39E-11 |
| 0.88 | 11.38 | 0.35 | 0.37 | 0.95 | 0.36 | 0.96 | 4.93E-11 |

**Average Temperature Corrected Hydraulic Conductivity, $k_{20}$ (m/s)** **4.67E-11** **($4.67 \times 10^{-9}$ cm/s)**

## Consolidation Data

| | Average Height (m) | Average Diameter (m) | Moisture Content (%) | Dry Density (kN/m$^3$) | Degree of Saturation (%) | Cell Pressure | Back Pressure |
|---|---|---|---|---|---|---|---|
| **Initial** | 0.0808 | 0.0727 | 30.2 | 14.5 | 97.2 | 172.4 | 110.3 |
| **Final** | 0.0813 | 0.0727 | 31.9 | 14.5 | 101.5 | 172.4 | 110.3 |

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# Hydraulic Conductivity Determination (Flexible Wall)

**ASTM D5084-10**

| | | | |
|---|---|---|---|
| **Project No.** | 1000-027-02 | **Test Hole** | ST6 |
| **Client** | Quantum Murray | **Trek Sample #** | |
| **Project** | Dauphin River First Nation<br>Wastewater Lagoon Construction | **Depth (m)** | 0.62 - 1.23 |
| | | **Sample Date** | July 04, 2016 |
| | | **Test Date** | July 12, 2016 to Aug 04, 2016 |
| | | **Technician** | Paul Bevel |

## Specimen Details

**Visual Classification** Clay, silty, brown and grey, trace oxidation, firm, high plasticity

**Comments** The specific gravity of the soil was assumed to be 2.75.

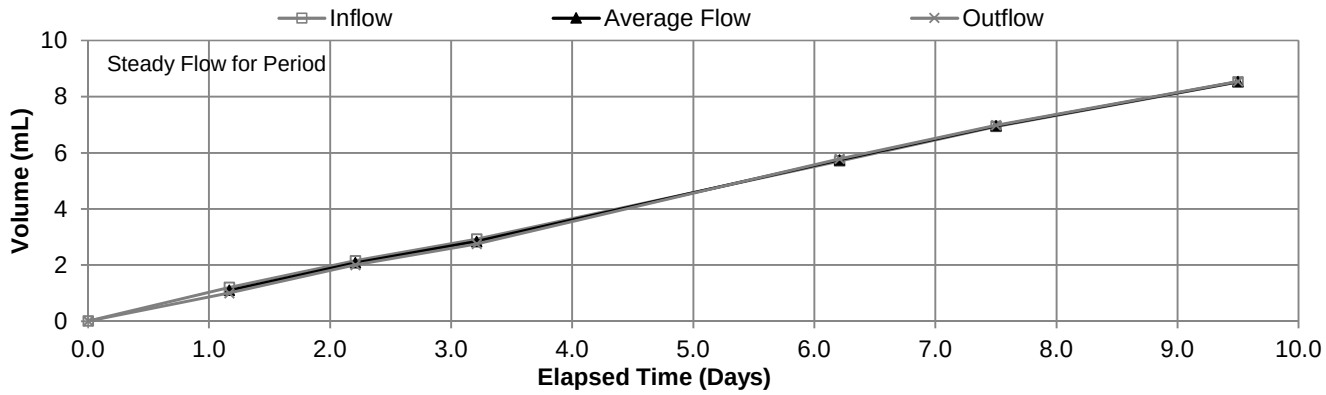
## Atterberg Limits

| | |
|---|---|
| **Liquid Limit** | Not Requested |
| **Plastic Limit** | Not Requested |
| **Plasticity Index** | Not Requested |

## Test Details

| | |
|---|---|
| **Permeant** | Distilled, de-aired water |
| **Method** | Constant Head |
| **Cell Pressure** | 151.7 kPa |
| **Influent Pressure** | 124.1 kPa |
| **Effluent Pressure** | 110.3 kPa |
| **Gradient** | 21.05 |

## Permeation Graph




## Steady Flow Permeation Data

| Time Increment (Days) | Elapsed Time (Days) | Flow (Q) | | Inflow / Outflow Ratio | Average Flow (mL) | Temperature Correction | Corrected Hydraulic Conductivity, $k_{20}$ (m/s) |
|---|---|---|---|---|---|---|---|
| | | Influent (mL) | Effluent (mL) | | | | |
| 1.00 | 3.21 | 0.77 | 0.75 | 1.03 | 0.76 | 0.96 | 9.71E-11 |
| 3.00 | 6.21 | 2.78 | 3.03 | 0.92 | 2.91 | 0.95 | 1.22E-10 |
| 1.29 | 7.50 | 1.23 | 1.20 | 1.03 | 1.22 | 0.95 | 1.19E-10 |
| 2.00 | 9.50 | 1.59 | 1.56 | 1.02 | 1.58 | 0.95 | 9.94E-11 |

**Average Temperature Corrected Hydraulic Conductivity, $k_{20}$ (m/s)** **1.09E-10** **(1.09x10$^{-8}$ cm/s)**

## Consolidation Data

| | Average Height (m) | Average Diameter (m) | Moisture Content (%) | Dry Density (kN/m$^3$) | Degree of Saturation (%) | Cell Pressure | Back Pressure |
|---|---|---|---|---|---|---|---|
| **Initial** | 0.0841 | 0.0727 | 32.1 | 14.3 | 99.7 | 151.7 | 110.3 |
| **Final** | 0.0835 | 0.0727 | 32.2 | 14.4 | 101.8 | 151.7 | 110.3 |

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# Hydraulic Conductivity Determination (Flexible Wall)

**ASTM D5084-10**

| | | | |
|---|---|---|---|
| **Project No.** | 1000-027-02 | **Test Hole** | ST7 |
| **Client** | Quantum Murray | **Trek Sample #** | |
| **Project** | Dauphin River First Nation<br>Wastewater Lagoon Construction | **Depth (m)** | 1.54-2.16 |
| | | **Sample Date** | July 04, 2016 |
| | | **Test Date** | July 05, 2016 to July 22, 2016 |
| | | **Technician** | Paul Bevel |

## Specimen Details

**Visual Classification** Clay, silty, mottled brown and grey, firm, high plasticity

**Comments** The specific gravity of the soil was assumed to be 2.75.

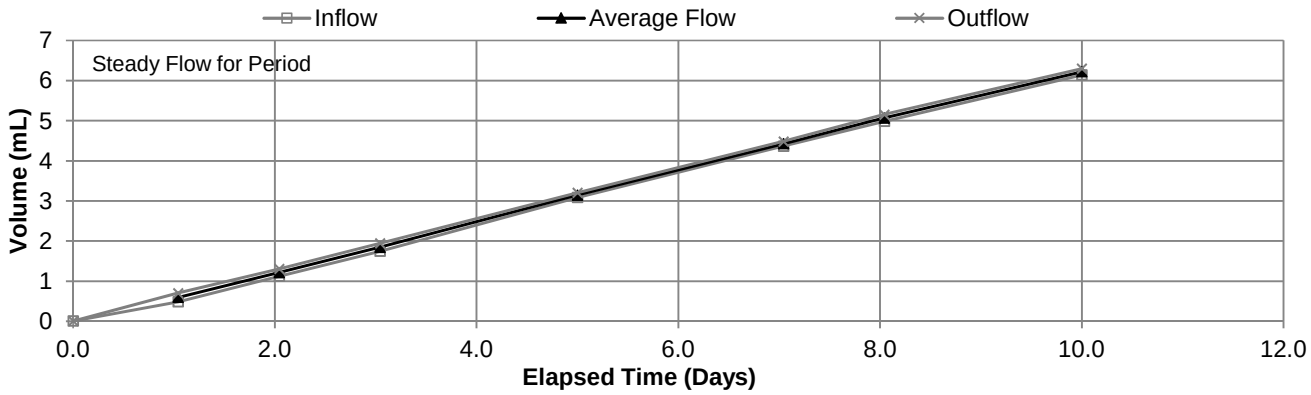
## Atterberg Limits

| | |
|---|---|
| **Liquid Limit** | Not Requested |
| **Plastic Limit** | Not Requested |
| **Plasticity Index** | Not Requested |

## Test Details

| | |
|---|---|
| **Permeant** | Distilled, de-aired water |
| **Method** | Constant Head |
| **Cell Pressure** | 199.9 kPa |
| **Influent Pressure** | 179.3 kPa |
| **Effluent Pressure** | 160.6 kPa |
| **Gradient** | 22.45 |

## Permeation Graph




## Steady Flow Permeation Data

| Time Increment (Days) | Elapsed Time (Days) | Flow (Q) | | Inflow / Outflow Ratio | Average Flow (mL) | Temperature Correction | Corrected Hydraulic Conductivity, $k_{20}$ (m/s) |
|---|---|---|---|---|---|---|---|
| | | Influent (mL) | Effluent (mL) | | | | |
| 1.96 | 5.00 | 1.34 | 1.26 | 1.06 | 1.30 | 0.95 | 7.86E-11 |
| 2.04 | 7.04 | 1.28 | 1.28 | 1.00 | 1.28 | 0.95 | 7.42E-11 |
| 1.00 | 8.04 | 0.62 | 0.67 | 0.93 | 0.65 | 0.94 | 7.55E-11 |
| 1.96 | 10.00 | 1.16 | 1.15 | 1.01 | 1.16 | 0.96 | 7.07E-11 |

**Average Temperature Corrected Hydraulic Conductivity, $k_{20}$ (m/s)** **7.47E-11** **($7.47 \times 10^{-9}$ cm/s)**

## Consolidation Data

| | Average Height (m) | Average Diameter (m) | Moisture Content (%) | Dry Density (kN/m$^3$) | Degree of Saturation (%) | Cell Pressure | Back Pressure |
|---|---|---|---|---|---|---|---|
| **Initial** | 0.0783 | 0.0726 | 31.1 | 14.3 | 96.4 | 199.9 | 160.6 |
| **Final** | 0.0783 | 0.0727 | 33.2 | 14.2 | 101.3 | 199.9 | 160.6 |

TREK GEOTECHNICAL Quality Engineering | Valued Relationships

October 14, 2016 File No. 1000-027-02

Mr. Brad Boyd
Quantum Murray
201 Portage Avenue - 18th Floor
Winnipeg MB
R3B 3K6

**RE Dauphin River First Nation Wastewater Lagoon Construction – Lab Testing for Shelby Tube Sample**

On September 15, 2016 Quantum Murray LP (QM) delivered Shelby tube samples to Trek Geotechnical Inc. (Trek) for testing. Hydraulic conductivity testing was requested for Shelby tube identified as ST9, Re-test Cell 1. The sample from the Shelby tube was extruded and tested using a flexible wall permeameter following ASTM D5080-10. The test report is attached and the calculated hydraulic conductivity value is as follows:

ST9 $1.13 \times 10^{-10}$ m/s ($1.13 \times 10^{-8}$ cm/s)

The test result presented is representative of the soil sample provided. The testing services undertaken by TREK constitutes testing services only and engineering evaluation or interpretation has not been undertaken, but is available upon request.

If you have any questions or require any additional information, please contact the undersigned.

**TREK Geotechnical**
**Per:**

PROVINCE OF MANITOBA
N. FERREIRA
Member
22892
Oct. 14, 2016
REGISTERED PROFESSIONAL ENGINEER

**Nelson Ferreira, M.Sc., P.Eng.**
Geotechnical Engineer

APEGM
Certificate of Authorization
Trek Geotechnical Inc.
No. 4877 Date: Oct. 14, 2016

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# Hydraulic Conductivity Determination (Flexible Wall)

**ASTM D5084-10**

| | | | |
|---|---|---|---|
| **Project No.** | 1000-027-02 | **Test Hole** | Retest Cell 1, ST9 |
| **Client** | Quantum Murray | **Trek Sample #** | L539a |
| **Project** | Dauphin River First Nation<br>Wastewater Lagoon Construction | **Depth (m)** | 2.8m - 3.3m |
| | | **Sample Date** | Sept 13, 2016 |
| | | **Test Date** | Sept 19, 2016 to Oct 12, 2016 |
| | | **Technician** | Paul Bevel |

## Specimen Details

**Visual Classification** Clay, silty, brown, firm, high plasticity

**Comments** The specific gravity of the soil was assumed to be 2.75.

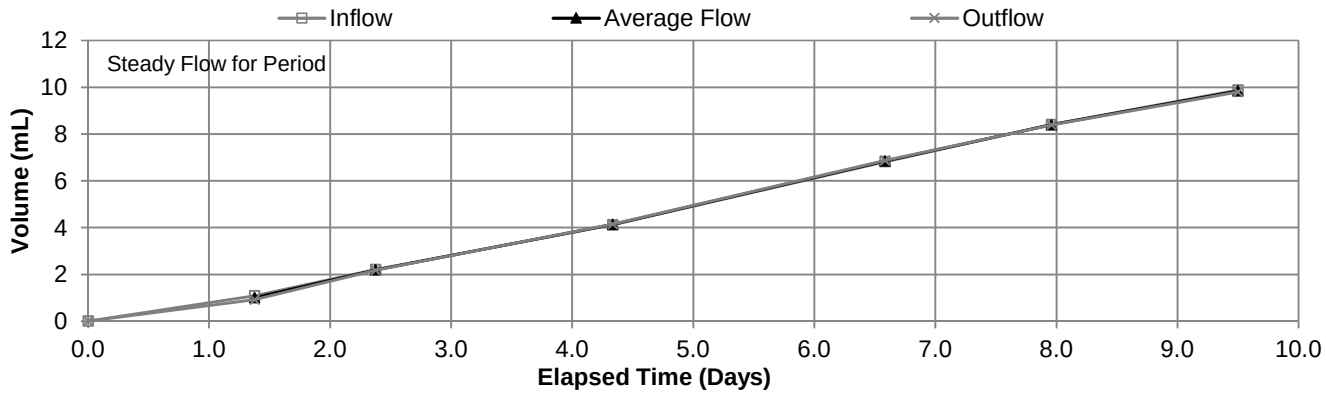
## Atterberg Limits

| | |
|---|---|
| **Liquid Limit** | Not Requested |
| **Plastic Limit** | Not Requested |
| **Plasticity Index** | Not Requested |

## Test Details

| | |
|---|---|
| **Permeant** | Distilled, de-aired water |
| **Method** | Constant Head |
| **Cell Pressure** | 137.9 kPa |
| **Influent Pressure** | 116.5 kPa |
| **Effluent Pressure** | 98.6 kPa |
| **Gradient** | 25.34 |

## Permeation Graph




## Steady Flow Permeation Data

| Time Increment (Days) | Elapsed Time (Days) | Flow (Q) | | Inflow / Outflow Ratio | Average Flow (mL) | Temperature Correction | Corrected Hydraulic Conductivity, $k_{20}$ (m/s) |
|---|---|---|---|---|---|---|---|
| | | Influent (mL) | Effluent (mL) | | | | |
| 1.96 | 4.33 | 1.91 | 1.97 | 0.97 | 1.94 | 0.95 | 1.05E-10 |
| 2.25 | 6.58 | 2.70 | 2.72 | 0.99 | 2.71 | 0.95 | 1.28E-10 |
| 1.38 | 7.96 | 1.59 | 1.52 | 1.05 | 1.56 | 0.95 | 1.20E-10 |
| 1.54 | 9.50 | 1.48 | 1.41 | 1.05 | 1.45 | 0.94 | 9.81E-11 |

**Average Temperature Corrected Hydraulic Conductivity, $k_{20}$ (m/s)** **1.13E-10** **(1.13x10$^{-8}$ cm/s)**

## Consolidation Data

| | Average Height (m) | Average Diameter (m) | Moisture Content (%) | Dry Density (kN/m$^3$) | Degree of Saturation (%) | Cell Pressure | Back Pressure |
|---|---|---|---|---|---|---|---|
| **Initial** | 0.0725 | 0.0722 | 25.3 | 15.7 | 96.3 | 137.9 | 98.6 |
| **Final** | 0.0721 | 0.0723 | 27.4 | 15.5 | 101.9 | 137.9 | 98.6 |

TREK GEOTECHNICAL Quality Engineering | Valued Relationships

December 01, 2016 File No. 1000-027-02

Mr. Brad Boyd
Quantum Murray
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**RE Dauphin River First Nation Wastewater Lagoon Construction – Lab Testing for Shelby Tube Samples**

Brad Boyd from Quantum Murray LP (QM) requested that two Shelby tube samples be tested for hydraulic conductivity. The samples were identified as ST2 and ST12. A sample from each Shelby tube was extruded and tested using a flexible wall permeameter following ASTM D5080-10. The test report for each is attached and the calculated hydraulic conductivity values are as follows:

ST2 $6.93 \times 10^{-11}$ m/s ($6.93 \times 10^{-9}$ cm/s)
ST12 $8.20 \times 10^{-11}$ m/s ($8.20 \times 10^{-9}$ cm/s)

The test result presented is representative of the soil sample provided. The testing services undertaken by TREK constitutes testing services only and engineering evaluation or interpretation has not been undertaken, but is available upon request.

If you have any questions or require any additional information, please contact the undersigned.

**TREK Geotechnical**
**Per:**

PROVINCE OF MANITOBA
N. J. FERREIRA
Member
22884
REGISTERED PROFESSIONAL ENGINEER
Dec. 01, 2016

**Nelson Ferreira, Ph.D., P.Eng.**
Geotechnical Engineer

APEGM
Certificate of Authorization
Trek Geotechnical Inc.
No. 4877 Date: Dec. 01, 2016

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# Hydraulic Conductivity Determination (Flexible Wall)

**ASTM D5084-10**

| | | | |
|---|---|---|---|
| **Project No.** | 1000-027-02 | **Test Hole** | ST2 |
| **Client** | Quantum Murray | **Trek Sample #** | N/A |
| **Project** | Dauphin River First Nation<br>Wastewater Lagoon Construction | **Depth (m)** | 7.5'-9.5' |
| | | **Sample Date** | Jul 04, 2016 |
| | | **Test Date** | Nov 04, 2016 to Nov 27, 2016 |
| | | **Technician** | Paul Bevel |

## Specimen Details

**Visual Classification** Clay, silty, brown, moist, firm, high plasticity

**Comments** The specific gravity of the soil was assumed to be 2.75.

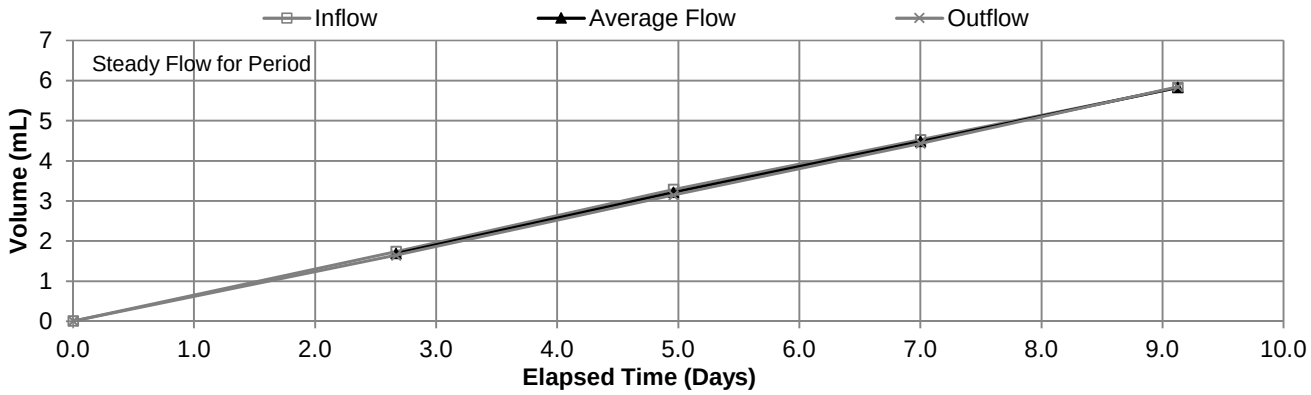
## Atterberg Limits

| | |
|---|---|
| **Liquid Limit** | Not Requested |
| **Plastic Limit** | Not Requested |
| **Plasticity Index** | Not Requested |

## Test Details

| | |
|---|---|
| **Permeant** | Distilled, de-aired water |
| **Method** | Constant Head |
| **Cell Pressure** | 124.8 kPa |
| **Influent Pressure** | 90.3 kPa |
| **Effluent Pressure** | 73.8 kPa |
| **Gradient** | 24.74 |

## Permeation Graph




## Steady Flow Permeation Data

| Time Increment (Days) | Elapsed Time (Days) | Flow (Q) | | Inflow / Outflow Ratio | Average Flow (mL) | Temperature Correction | Corrected Hydraulic Conductivity, $k_{20}$ (m/s) |
|---|---|---|---|---|---|---|---|
| | | Influent (mL) | Effluent (mL) | | | | |
| 2.67 | 2.67 | 1.73 | 1.64 | 1.05 | 1.69 | 0.95 | 6.85E-11 |
| 2.29 | 4.96 | 1.55 | 1.50 | 1.03 | 1.53 | 0.96 | 7.30E-11 |
| 2.04 | 7.00 | 1.24 | 1.29 | 0.96 | 1.27 | 0.95 | 6.72E-11 |
| 2.13 | 9.13 | 1.30 | 1.41 | 0.92 | 1.36 | 0.94 | 6.83E-11 |

**Average Temperature Corrected Hydraulic Conductivity, $k_{20}$ (m/s)** **6.93E-11** **($6.93 \times 10^{-9}$ cm/s)**

## Consolidation Data

| | Average Height (m) | Average Diameter (m) | Moisture Content (%) | Dry Density (kN/m$^3$) | Degree of Saturation (%) | Cell Pressure | Back Pressure |
|---|---|---|---|---|---|---|---|
| **Initial** | 0.0680 | 0.0715 | 30.1 | 14.7 | 99.1 | 124.8 | 73.8 |
| **Final** | 0.0682 | 0.0724 | 32.6 | 14.4 | 102.6 | 124.8 | 73.8 |

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# Hydraulic Conductivity Determination (Flexible Wall)

**ASTM D5084-10**

| | | | |
|---|---|---|---|
| **Project No.** | 1000-027-02 | **Test Hole** | ST12 |
| **Client** | Quantum Murray | **Trek Sample #** | N/A |
| **Project** | Dauphin River First Nation<br>Wastewater Lagoon Construction | **Depth (m)** | Unknown |
| | | **Sample Date** | Aug 17, 2016 |
| | | **Test Date** | Oct 19, 2016 to Nov 14, 2016 |
| | | **Technician** | Paul Bevel |

## Specimen Details

**Visual Classification** Clay, silty, brown, firm, high plasticity

**Comments** The specific gravity of the soil was assumed to be 2.75.

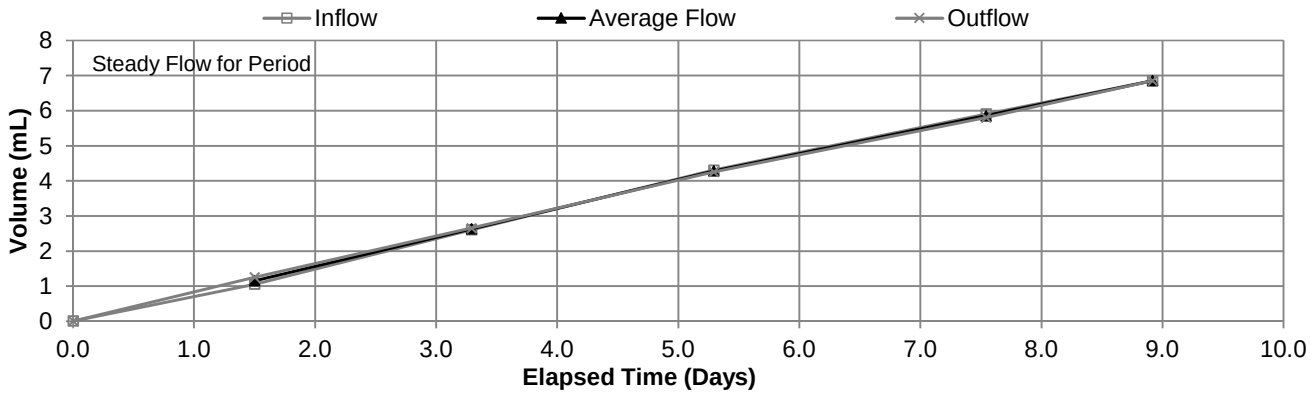
## Atterberg Limits

| | |
|---|---|
| **Liquid Limit** | Not Requested |
| **Plastic Limit** | Not Requested |
| **Plasticity Index** | Not Requested |

## Test Details

| | |
|---|---|
| **Permeant** | Distilled, de-aired water |
| **Method** | Constant Head |
| **Cell Pressure** | 124.1 kPa |
| **Influent Pressure** | 92.4 kPa |
| **Effluent Pressure** | 73.1 kPa |
| **Gradient** | 25.18 |

## Permeation Graph



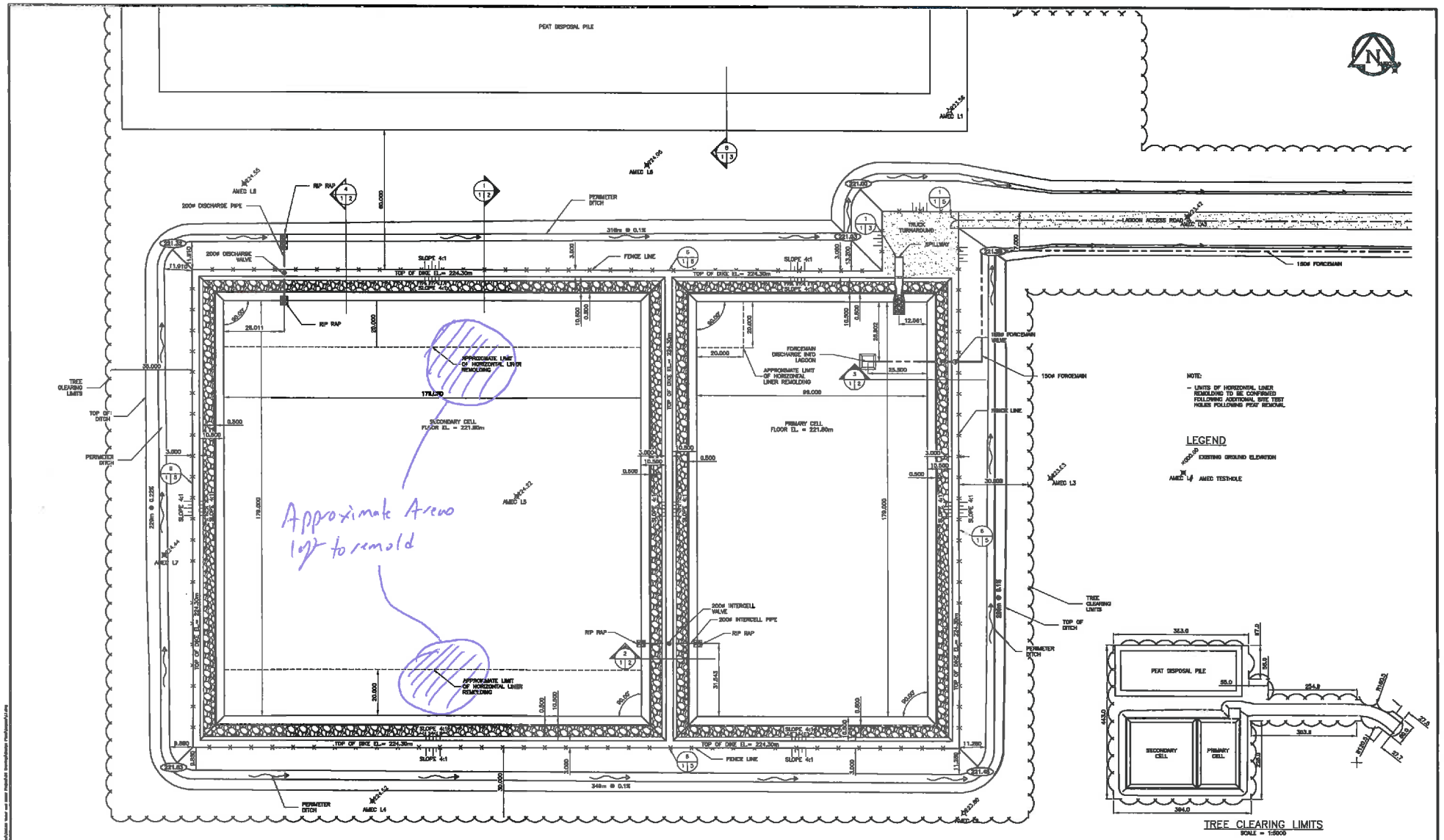

## Steady Flow Permeation Data

| Time Increment (Days) | Elapsed Time (Days) | Flow (Q) | | Inflow / Outflow Ratio | Average Flow (mL) | Temperature Correction | Corrected Hydraulic Conductivity, $k_{20}$ (m/s) |
|---|---|---|---|---|---|---|---|
| | | Influent (mL) | Effluent (mL) | | | | |
| 1.79 | 3.29 | 1.55 | 1.40 | 1.11 | 1.48 | 0.96 | 8.88E-11 |
| 2.00 | 5.29 | 1.70 | 1.60 | 1.06 | 1.65 | 0.95 | 8.79E-11 |
| 2.25 | 7.54 | 1.60 | 1.55 | 1.03 | 1.58 | 0.94 | 7.37E-11 |
| 1.38 | 8.92 | 0.95 | 1.05 | 0.90 | 1.00 | 0.95 | 7.75E-11 |

**Average Temperature Corrected Hydraulic Conductivity, $k_{20}$ (m/s)** **8.20E-11** **(8.20x10$^{-9}$ cm/s)**

## Consolidation Data

| | Average Height (m) | Average Diameter (m) | Moisture Content (%) | Dry Density (kN/m$^3$) | Degree of Saturation (%) | Cell Pressure | Back Pressure |
|---|---|---|---|---|---|---|---|
| **Initial** | 0.0781 | 0.0718 | 24.1 | 16.1 | 98.9 | 124.1 | 73.1 |
| **Final** | 0.0782 | 0.0724 | 25.5 | 15.9 | 101.0 | 124.1 | 73.1 |




SCALE BAR (IN METRES)
15 0 7.5 15 30 45 60 75
1:750

| No. | REVISIONS | DATE | INITIALS |
|---|---|---|---|
| 1 | ISSUED FOR TENDER | 15/12/24 | CT |

B.M. EL.
REFER TO PLAN 062 FOR BENCH-MARK INFORMATION

LOCATIONS OF UNDERGROUND STRUCTURES/UTILITIES AS SHOWN ARE BASED ON AVAILABLE INFORMATION BUT NO GUARANTEE IS GIVEN OR IMPLIED THAT ALL EXISTING UNDERGROUND STRUCTURES/UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL UNDERGROUND STRUCTURES/UTILITIES MUST BE OBTAINED FROM THE APPROPRIATE AUTHORITY/OWNER, BY THE CONTRACTOR, BEFORE PROCEEDING WITH CONSTRUCTION.

J.R. Cousin Consultants Ltd.
No. 234 Date:

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CODE: D-206.05
DESIGNED BY: MP
DRAWN BY: MP
REVIEWED BY: JRC

PROJECT: DAUPHIN RIVER FIRST NATION WASTEWATER LAGOON
TITLE: LAGOON LAYOUT PLAN
SCALE: 1:750 | DATE: 15/03/26 | PLAN: L1 | SHEET: 5 of 9