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The Municipality of Dysart et al

HALIBURTON SEWAGE TREATMENT PLANT

2023 ANNUAL REPORT

January 1 to December 31, 2023

Certificate of Approval Number 8325-6EENZ5

Date:

March 31, 2024

Prepared by:

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1.0 OVERVIEW

The Haliburton Sewage Treatment Plant (STP) provides wastewater treatment for the Village of Haliburton, Municipality of Dysart et al, Ontario. The Works consist of a raw sewage pumping station (RSPS), headworks and equalization facilities, secondary treatment, sludge digestion, chemical feed systems, effluent filtration and ultraviolet (UV) disinfection, all described in detail in Certificated of Approval (C of A) Number 8325-6EENZ5 issued on August 9, 2005.

This report presents a summary of the operational activities and annual monitoring results for the operating period from January 1 to December 31, 2023. In accordance with Condition 10(5) of the C of A, this report includes a detailed analysis of effluent concentrations with reference to the criteria outlined in Conditions 6 and 7 of the C of A, as well as flow analysis and facility performance issues.

2.0 BACKGROUND

The original Haliburton STP and collection system including four (4) pumping stations were constructed in 1975 to service the Village of Haliburton. In 1983, a study was prepared to extend the sewage collection system to several resorts located along the north shore of Lake Kashagawigamog. In 1985, approval was applied for to construct the North Kashagawigamog sewer extension; prior to granting approval, the Ministry of the Environment, Conservation and Parks (MECP) required a capacity study to be conducted on the existing STP. The capacity study concluded that the existing STP did not have sufficient capacity to accommodate the anticipated future flow from the Village and extended service areas; therefore, an expansion to the existing STP was recommended.

The expansion of the Haliburton STP required a Class Environmental Assessment (Class EA) to be conducted, which began in May 1988. The Class EA process was completed and design for the expanded STP was finalized in 1994. Construction for the expansion began in 1994 and new facilities were commissioned in 1995. Following completion of the upgraded STP, work began on the installation of the new collection system, which included various sized gravity collection systems and seven (7) pumping stations. An eighth pumping station was constructed and commissioned in late 2004.

The original STP Certificate of Approval (C of A) No. 3-0183-94-006 was issued on May 20, 1994. An Amended C of A No. 0191-5SZKZ9 was issued on December 4, 2003, following a request to decommission the old extended aeration plant and subsequently de-rate the remaining new plant to an average daily flow capacity of 1,575 m^3/day with a peak flow rate capacity of 4,410 m^3/day.

An Amended C of A No. 8325-6EENZ5 was issued on August 9, 2005 following an application by ASI Group Ltd. (subsequently Clearford ASI, now Clearford Waterworks), the current Operating Authority of the system, to make some additional changes to the plant. A copy of the C of A is included in Appendix A.

3.0 MONITORING DATA & EFFLUENT LIMITS

3.1 MONITORING PROGRAM

The monitoring program for the facility is described in detail in the C of A, including: Raw Sewage monthly composite samples, and Final Effluent weekly and monthly composite and grab samples. Continuous flow measurements were recorded daily by a magnetic flowmeter on the effluent discharge line.

Samples were collected by the plant operator, Clearford Waterworks, who is licensed in accordance with the conditions of O.Reg. 129/04. Samples were tested for the following parameters:

- Raw Sewage – $CBOD_5$, TSS, TP, TKN, TAN
- Final Effluent – $CBOD_5$, TSS, TP, TAN, NO_3, *E. coli*, pH and Temperature (field), and Un-Ionized Ammonia (calculated)

Temperature and pH testing was performed at site by the operator. All other parameter testing was conducted by SGS Canada Inc., an independent accredited laboratory. Samples were retained in laboratory-supplied coolers containing ice and transported to the laboratory for analysis. Chain of custody documents were provided for all samples.

3.2 SUMMARY OF MONITORING DATA

The facility performance is presented below with respect to the parameters identified in the monitoring program. Table 1 outlines the Effluent Objectives per Condition 6 and the Effluent Limits (compliance criteria) per Condition 7 of the C of A. Table 2 summarizes the monthly influent flows to the plant during the reporting period including number of days in operation and calculated annualized average daily flow (ADF). Table 3 shows average monthly concentrations of various parameters in the raw sewage and calculated average daily loadings based on monthly average day volumes of wastewater received.

The monthly and annual plant data summaries are included in Appendix B. Copies of the Raw Sewage and Treated Effluent Laboratory Analytical Certificates are included in Appendix C.

TABLE 1. CERTIFICATE OF APPROVAL EFFLUENT QUALITY CRITERIA

PARAMETER	EFFLUENT OBJECTIVE	EFFLUENT LIMIT
Average Daily Flow (m^3/d), Annualized Average	1,575	-
Peak Flow Rate (m^3/d)	4,410	-
$CBOD_5$ Concentration (mg/L), Annualized Average	5.0	10.0
Suspended Solids (TSS) Concentration (mg/L), Annualized Average	5.0	10.0
Total Ammonia Nitrogen (TAN) Concentration (mg/L), Average Monthly	2.0	5.0
Total Phosphorus as P (TP) Concentration (mg/L), Average Monthly	0.1	0.2
TP Loading (kg/y), Annualized Average	-	115
pH (pH units), At All Times	6.5-9.0	6.0-9.5
E. coli (CFU/100mL), Monthly Geometric Mean Density	200	-

TABLE 2. MONTHLY WASTEWATER FLOWS (m^3)

PERIOD	TOTAL DAYS IN OPERATION	TOTAL MONTHLY INFLUENT FLOW	AVERAGE DAILY FLOW (ADF)	MAXIMUM DAILY FLOW (MDF)
January	31	28,081	906	1,240
February	28	22,248	795	795
March	31	27,073	873	907
April	30	40,058	1,335	2,032
May	31	36,954	1,192	1,572
June	30	30,625	1,021	1,528
July	31	29,748	960	1,146
August	31	27,385	883	1,001
September	30	23,378	779	915
October	31	22,217	717	877
November	30	20,443	681	801
December	31	22,808	736	915
Total	**365**	**331,018**		
Average	**-**	**27,585**	**907**	
Maximum	**-**	**40,058**		**2,032**

TABLE 3. MONTHLY INFLUENT (RAW) CONCENTRATIONS AND LOADINGS

PERIOD	$CBOD_5$		TSS		TAN		UN-IONIZED AMMONIA		TKN	
PARAMETER	(mg/L)	(kg/d)	(mg/L)	(kg/d)	(mg/L)	(kg/d)	(mg/L)	(kg/d)	(mg/L)	(kg/d)
January	163	148	166	150	14.6	13.2	0.2543	0.2304	17.5	15.9
February	188	149	227	181	23.1	18.4	0.3634	0.2888	29.3	23.3
March	196	171	344	300	22.2	19.4	0.3741	0.3268	26.1	22.8
April	168	224	290	387	12.9	17.2	0.1681	0.2244	18.6	24.8
May	93	111	271	322	9.4	11.2	0.0651	0.0776	11.1	13.2
June	202	206	186	190	17.6	18.0	0.3137	0.3203	24.1	24.6
July	180	173	208	199	19.5	18.7	0.4073	0.3909	19.8	19.0
August	225	199	280	248	20.4	18.0	0.4192	0.3703	21.7	19.2
September	159	124	235	183	19.7	15.4	0.3749	0.2922	25.6	19.9
October	209	150	234	167	22.2	15.9	0.3143	0.2252	24.9	17.8
November	179	122	320	218	25.8	17.6	0.4670	0.3182	32.8	22.4
December	200	147	252	185	30.7	22.6	0.7916	0.5824	32.6	24.0
Annual	**180**	**160**	**251**	**228**	**19.8**	**17.1**	**0.3594**	**0.3039**	**23.7**	**20.6**

TABLE 3 (CONTINUED). MONTHLY INFLUENT (RAW) CONCENTRATIONS AND LOADINGS

PERIOD	NO_2		NO_3		TP			pH
PARAMETER	(mg/L)	(kg/d)	(mg/L)	(kg/d)	(mg/L)	(kg/d)	(kg/m)	Min.
January	0.03	0.023	0.18	0.138	2.77	2.12	65.7	7.98
February	0.30	0.240	0.06	0.048	3.14	2.51	70.2	7.80
March	-	-	-	-	2.90	2.91	90.2	7.63
April	0.03	0.036	0.06	0.072	2.10	2.52	75.5	7.94
May	0.03	0.033	0.06	0.065	2.11	2.29	71.1	7.92
June	0.03	0.031	0.06	0.062	2.39	2.46	73.8	7.81
July	0.03	0.026	0.06	0.053	3.18	2.79	86.5	7.75
August	0.03	0.025	0.06	0.050	3.07	2.58	80.0	7.62
September	0.03	0.024	0.06	0.047	2.92	2.30	69.1	7.82
October	0.03	0.022	0.06	0.043	3.02	2.18	67.6	7.82
November	0.03	0.020	0.06	0.040	3.58	2.39	71.6	7.82
December	0.03	0.022	0.06	0.045	2.88	2.15	66.5	7.77
Annual	**0.05**	**0.048**	**0.07**	**0.062**	**2.84**	**2.49**	**74.0**	**7.62**

Table 4 below shows average monthly concentrations of various parameters in the treated effluent and calculated average daily loadings based on monthly average day volumes of wastewater received. Un-ionized ammonia values were calculated using TAN, pH and temperature values, while monthly *E. coli* was calculated using the geometric mean density. Temperature and pH readings were completed in-house at time of sampling.

TABLE 4. MONTHLY EFFLUENT (TREATED) CONCENTRATIONS AND LOADINGS

PERIOD	$CBOD_5$		TSS		TAN		UN-IONIZED AMMONIA		TKN	
PARAMETER	(mg/L)	(kg/d)	(mg/L)	(kg/d)	(mg/L)	(kg/d)	(mg/L)	(kg/d)	(mg/L)	(kg/d)
January	<4	<3.623	<2.5	<2.265	<0.05	<0.043	<0.00014	<0.00012	0.8	0.725
February	<4	<3.178	2.8	2.225	<0.10	<0.082	<0.00028	<0.00023	1.7	1.351
March	<4	<3.493	2.6	2.271	<0.05	<0.043	<0.00011	<0.00010	2.3	2.009
April	<4	<5.341	3.6	4.807	<0.04	<0.057	<0.00009	<0.00012	1.2	1.602
May	<4	<4.768	<2.3	<2.781	<0.05	<0.054	<0.00013	<0.00016	<0.5	<0.596
June	<4	<4.083	3.4	3.471	<0.05	<0.047	<0.00037	<0.00038	<0.6	<0.613
July	<4	<3.838	4.3	4.158	<0.05	<0.048	<0.00034	<0.00032	0.5	0.480
August	<4	<3.534	3.8	3.357	<0.05	<0.044	<0.00020	<0.00017	0.5	0.442
September	2	1.559	<3.6	<2.805	<0.05	<0.036	<0.00023	<0.00018	<1.7	<1.325
October	<4	<2.867	<2.7	<1.911	<0.04	<0.032	<0.00024	<0.00017	<0.5	<0.358
November	<4	<2.726	<2.6	<1.772	<0.05	<0.032	<0.00029	<0.00020	1.7	1.158
December	9	6.622	<3.4	<2.502	<0.09	<0.067	<0.00037	<0.00027	<1.5	<1.104
Annual	**<4.3**	**<3.803**	**<3.1**	**<2.860**	**<0.06**	**<0.049**	**<0.00023**	**<0.00020**	**<1.13**	**<0.980**

TABLE 4 (CONTINUED). MONTHLY EFFLUENT (TREATED) CONCENTRATIONS AND LOADINGS

PERIOD	TP			NO_2		NO_3		*E. coli*	pH	
PARAMETER	(mg/L	(kg/d)	(kg/m)	(mg/L)	(kg/d)	(mg/L)	(kg/d)	(CFU/100mL)	Min.	Max.
January	<0.05	<0.042	<1.292	<0.04	<0.033	8.9	8.017	<2	6.98	7.15
February	0.06	0.048	1.335	<0.15	<0.117	9.9	7.856	<2	6.95	7.54
March	0.06	0.050	1.557	<0.04	<0.035	10.2	8.875	4	6.97	7.01
April	0.06	0.085	2.554	<0.03	<0.040	7.3	9.697	4	6.59	7.11
May	<0.04	<0.052	<1.626	<0.03	<0.036	8.2	9.815	<2	6.83	7.20
June	<0.04	<0.045	<1.340	<0.03	<0.031	9.3	9.522	<2	7.17	7.58
July	0.06	0.062	1.917	<0.04	<0.038	11.1	10.628	<2	6.79	7.34
August	0.07	0.060	1.856	<0.03	<0.030	12.6	11.148	4	6.82	7.14
September	<0.05	<0.038	<1.140	<0.05	<0.039	12.1	9.410	<2	6.86	7.20
October	<0.04	<0.032	<0.978	<0.05	<0.039	12.1	8.672	<2	6.82	7.30
November	0.05	0.032	0.971	<0.03	<0.022	11.7	7.956	<2	7.21	7.40
December	<0.05	<0.035	<1.083	<0.04	<0.031	10.2	7.501	<2	6.93	7.38
Annual	**<0.05**	**<0.048**		**<0.047**	**<0.04089**	**10.3**	**9.09**	**<2.5**	**6.59 (Min.)**	**7.58 (Max.)**

3.3 INTERPRETATION OF ADEQUACY OF THE WORKS

The facility has a design daily flow capacity of 1,575 m^3/day and a design peak flow rate of 4,410 m^3/day. The annual average sewage inflow was 907 m^3/day and the maximum day flow was 2,032 m^3/day occurring on April 5, 2023, as presented in Table 2 above. The annual ADF represents 55.7% of the rated capacity of the system, indicating adequate hydraulic capacity of the plant.

The facility achieved excellent $CBOD_5$, TAN, TKN, TP and *E. coli* removal performance, demonstrating the ongoing success and adequacy of the Works. The final effluent limit criteria were achieved consistently throughout the year with zero (0) non-compliance events. Refer to the Tables above and Appendices for detailed influent and effluent data.

The annual average influent $CBOD_5$ to the facility was 180 mg/L while the treated effluent value was 4 mg/L. Effective $CBOD_5$ removal below the effluent limit (10 mg/L) was achieved throughout the year, as presented in Table 4 above. One (1) elevated single sample result above the effluent objective (9 mg/L) was measured in December 5, 2023; this is not considered indicative of any significant operational problems.

The annual average influent TSS to the facility was 251 mg/L while the treated effluent value was 3 mg/L. Effective TSS removal below the effluent limit (10 mg/L) was achieved throughout the year, as presented in Table 4 above. Elevated single sample results above the effluent objective (5 mg/L) were measured at on September 5, and on July 24, 2023; these are not considered indicative of any significant operational problems.

The annual average influent TAN and TKN to the facility were 19.8 mg/L and 23.7 mg/L, while the treated effluent values were 0.06 mg/L and 1.13 mg/L, respectively. Effluent TAN below the limit (5 mg/L) was achieved throughout the year, as presented in Table 4 above. Un-ionized ammonia was typically low in the influent and was kept below 0.01 mg/L in the treated effluent. Nitrite and Nitrate concentrations in the influent were 0.03 mg/L and 0.07 mg/L, while the treated effluent values were 0.047 mg/L and 10.3 mg/L, respectively.

These results confirmed the successful nitrification process in the aeration tanks transforming ammonia nitrogen in the system to Nitrite and subsequently to Nitrate. The water quality guidelines for Nitrate for the protection of aquatic life is set at 13 mg/L for freshwater (2003). Therefore, effluent was below the water quality guidelines.

The annual average influent TP to the facility was 2.97 mg/L while the treated effluent value was 0.05 mg/L. Effective TP removal below the effluent limit (0.2 mg/L) was achieved throughout the year, as presented in Table 4 above. The calculated annual TP loading was 17.65 kg/year, which is well below the compliance value of 115 kg/year.

All sample pH measurements during the reporting period fell within the treated effluent compliance limits of 6.0 to 9.5, with values ranging from 6.59 to 7.58, as presented in Table 4 above.

Effective disinfection was achieved below the effluent objective for *E. coli* (200 CFU/100mL) throughout the year, as presented in Table 4 above.

4.0 OPERATING PROBLEMS & CORRECTIVE ACTIONS

No major operational problems requiring corrective actions were encountered during the reporting period. All equipment issues were dealt with in a timely manner and did not affect the long-term performance of the plant.

The operator made all necessary process adjustments as required, such as increased biosolids wasting. Spring flows were within normal expected flows and did not cause an upset of the plant. Scheduled and preventative maintenance was completed as discussed in Section 5.0.

5.0 FACILITY & EQUIPMENT MAINTENANCE

Routine preventative maintenance was performed on plant equipment during the reporting period. This includes the lubrication of applicable bearings and gearboxes, cleaning and/or replacement of the UV disinfection equipment, and servicing of the chemical feed systems. The following are highlights of more substantial maintenance activities:

- Annual calibrations on RAS and Raw flowmeters;
- Replaced Filter Cell #4 effluent valve and actuator;
- Had subcontractor on site to facilitate cleaning of EQ pump chamber;
- Had electrical contractor on site to replace Filter Cell #4 influent actuator;
- Replaced faulty PLC Module in main plant panel;
- Complete rebuild of Existing SPS#1 Pump;
- Rebuild plant Return Activated Sludge Pump;
- Completed preliminary upgrades to Pumping Station PLC's. Waiting on Plant PLC upgrade to made final adjustments;
- Rebuild complete UV bank #1, put online and reset counter;
- Annual fire equipment inspection and updating by contractor.

6.0 EFFLUENT QUALITY ASSURANCE

The facility operator undertook regular quality assurance activities during the reporting period to ensure adequate treatment plant operation and effluent quality.

A 24-hour automatic sampler is used to collect the required raw sewage and final effluent composite samples: 100-mL samples are taken every 30 minutes (48 aliquots per day) to form a representative composite sample. The samplers are calibrated monthly and sample containers and tubing are cleaned regularly.

The necessary instrumentation required to perform the in-house analysis of various parameters was available to the facility operators. All sampling and analyses were performed in accordance with the "*Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works*", "*Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater*", and "*Standard Methods for Examination of Water and Wastewater*".

7.0 MONITORING EQUIPMENT CALIBRATION & MAINTENANCE

All magnetic flowmeters were calibrated on December 14, 2023. Copies of the calibration reports are included in Appendix D. All in-house instrumentation is calibrated regularly per the manufacturer's specifications.

8.0 EFFORTS AND RESULTS ACHIEVED

The operational efforts made during the reporting period, as described in the Sections above, achieved the effluent limits listed in the facility C of A. Some single sample results returned measured parameter values above the effluent objectives, but are not considered indicative of any significant operational problems as described above.

The operator followed the recommendations and procedures outlined in the facility Operations & Maintenance Manual. Data was recorded in the facility logbook and monitored for changes. When appropriate, the operator made minor process adjustments to the treatment processes and took corrective actions to ensure that the effluent quality met the objectives and limits for the facility.

The facility was operated in such a manner to enhance the success and adequacy of the Works. The success rate in achieving the effluent concentration objectives is calculated in Table 5 based on the number of samples analyzed and those exceeding the objectives. Table 6 evaluates the performance of the wastewater treatment process expressed as removal efficiency using the annualized influent and effluent concentrations.

TABLE 5. SUCCESS IN ACHIEVING OBJECTIVES

PARAMETER	NO. SAMPLES ANALYZED	NO. SAMPLES EXCEEDING OBJECTIVES	SUCCESS RATE
$CBOD_5$	12	1	91.7%
TSS	64	2	96.9%
TP	104	0	100%
TAN	104	0	100%
E. coli	12	0	100%
pH (range)	104	0	100%

TABLE 6. REMOVAL EFFICIENCY

PARAMETER	REMOVAL RATE
$CBOD_5$	97.6%
TSS	98.7%
TP	98.2%
TAN	99.7%
Un-Ionized Ammonia	99.9%
TKN	95.3%

9.0 SLUDGE MANAGEMENT

Table 7 provides monthly volumes of biosolids (sludge) transferred from the Haliburton STP to various approved locations operated under Shepherd Enterprises Inc. During the reporting period, a total of 1,385 m^3 of processed biosolids was transferred from the STP and hauled directly to the approved Organic Soil Conditioning Site and Shepherd Transfer Facility. A similar amount of biosolids production is expected for the next reporting period.

Copies of the biosolids (sludge) Laboratory Analytical Certificates are included in Appendix E. Copies of the provisional C of A's for Shepherd Enterprises Inc. are included in Appendix F describing disposal of the Haliburton STP biosolids.

TABLE 7. SUMMARY OF HAULING AND DISPOSAL (m^3)

PERIOD	HAULED FROM PLANT	PLANT TO LAGOON TRANSFER FACILITY	PLANT TO SHEPHERD TRANSFER FACILITY	PLANT TO SHEPHERD FIELD	COOPER LAGOON TO FIELD
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	132.8	0	0	132.8	0
May	538.3	0	0	538.3	0
June	0	0	0	0	0
July	145.5	0	0	145.5	0
August	0	0	0	0	0
September	458.2	0	0	458.2	0
October	0	0	0	0	0
November	267.3	0	0	267.3	0
December	0	0	0	0	0
Annual	**1,542**	**0**	**0**	**1,542**	**0**

10.0 COMPLAINTS

There was one complaint received during the reporting period. A compliant was reported to the Ministry on September 24, 2023 and was reported to the operations supervisor at 18:30 PM. The odours were reported by an unknown citizen passing the plant at County Road 21. An investigation at 18:58 found the Wind direction from the NE at 8km/hr which is wind coming from the road towards the plant. The Plant operations were looked at and found to be operating normally. Odours were detected at County Road 21 and Wallings Way, as a marshy odour which were identified as emanating from the river which was very low with exposed muddy banks.

11.0 BY-PASSES, SPILLS & ABNORMAL DISCHARGES

There were no by-passes, spills, or abnormal discharge events during the reporting period.

12.0 OTHER REQUESTED INFORMATION

No additional information was requested by the District Manager during the reporting period.

13.0 SUMMARY

During the reporting period, the facility achieved compliance with the effluent objective and compliance limits in the C of A with respect to all parameters. The average daily sewage flow was consistently below the rated capacity for the facility. No major operating problems were encountered, nor did any by-pass, spill or abnormal discharge events occur. No special maintenance or quality assurance measures were undertaken outside of regular activities.

It is anticipated that the facility will continue to achieve adequate treatment and operational performance during the next reporting period.

APPENDIX A.
CERTIFICATE OF APPROVAL

Ontario

Ministry of the Environment | Ministère de l'Environnement

AMENDED CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 8325-6EENZ5

The Corporation of the Township of Dysart et al
PO Box 389
Haliburton, Ontario
K0M 1S0

AUG 1 6 2005

Site Location: Haliburton Sewage Treatment Plant
1394 Highway #121 (Part of Lot 14, Concession 8, Dysart Township)
Dysart et al Township, County of Haliburton
K0M 1S0

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

Modifications to the existing Haliburton Sewage Treatment Plant for the collection, transmission, treatment and disposal of domestic sewage rated at an *Average Daily Flow* of 1,575 m^3/d, a *Peak Flow Rate* of 4,410 m^3/d and consisting of the following *Works*:

PROPOSED WORKS

The *Proposed Works* include the following:

- installation of one (1) fine screen at the by-pass channel up-stream end of the grit removal chamber to handle a flowrate of 178 L/s;

- decommissioning of the two (2) (one duty, one stand-by) variable frequency drive submersible centrifugal sewage pumps, each rated at 23.5 L/s at a TDH of 6.9 m, together with a common header with a magnetic flow meter and a 100 mm diameter forcemain to the influent box of the decommissioned secondary treatment plant (Plant No. 1) as mentioned in *Previous Works* ;

- replacement of the two (2) (one duty, one stand-by) variable speed rotary lobe type sludge pumps, each rated at 22.8 L/s at a TDH of 13.3 m, as mentioned in *Previous Works* with two (2) (one duty, one stand-by) variable frequency drive centrifugal sludge pumps, each rated at 22.8 L/s at a TDH of 13.3 m; and

- installation of all associated appurtenances, piping, electrical and control systems necessary to operate the *Works*.

All in accordance with the Application for Approval of Municipal and Private Sewage Works from the Municipality of Dysart et al dated June 07, 2005 under a cover letter from ASI Group dated June 06, 2005.

PREVIOUS WORKS

The *Previous Works* include the following:

Plant Feed Raw Sewage Pumping Station and Forcemain

A raw sewage pumping station, located on the south side of Highway 121 approximately 130 m east of the Haliburton Sewage Treatment Plant access road, and consisting of three (3) submersible centrifugal sewage pumps, two (2) rated at 63.0 L/s at a TDH of 14.5 m and one (1) at 42.3 L/s at a TDH of 12.2 m, discharging through an existing 200 mm diameter plant feed forcemain into the existing grit channel at the plant site.

Solids Comminution and Grit Removal Facilities

Solids comminution and grit removal facilities consist of the following:

- a solids comminution facility at the up-stream end of the grit removal facility described below, consisting of an inlet chamber equipped with a manual coarse bar screen, and twin comminutor channels equipped with inlet and outlet gates and one (1) ¾ hp motor solids comminutor rated at a peak flow of 81.1 L/s installed in one of the channels, with the other channel serving as a by-pass channel intended for installation of a second comminutor in the future plant expansion; and

- a grit removal facility in the over-structure of the equalization tanks described below, consisting of two (2) manually cleaned parallel grit channels with common inlet and outlet chambers, each channel 7.0 m long x 0.76 m wide x 0.81 m side water depth, and each with inlet and outlet gates and a proportional weir discharging into the common outlet chamber draining through valved drain pipes into the equalization tanks described below.

Flow Equalization Facilities

The following is included:

- two (2) parallel flow equalization tanks, each having an operating volume of 147 m^3 at a maximum water depth of 4.6 m, each equipped with a gate valve on the floor level outlet to the flow equalization pumping chamber described below, an emergency overflow to the

corresponding anaerobic tank, and a tank mixing coarse bubble air diffuser system rated at 77.9 L/s standard air per tank, consisting of a stainless steel manifold with eight (8) stainless steel headers and jet nozzle type diffusers in each tank connected to the compressed air supply system described below;

- a flow equalization pumping chamber having an operating volume of 55 m^3 at a maximum water depth of 4.6 m, equipped as follows:

  - two (2) (one duty, one stand-by) variable frequency drive submersible centrifugal sewage pumps, each rated at 23.5 L/s at a TDH of 6.9 m, now decommissioned per *Proposed Works* together with a common header with a magnetic flow meter and a 100 mm diameter forcemain to the influent box of the decommissioned secondary treatment plant (Plant No. 1); and

  - three (3) (two duty, one stand-by) variable frequency drive submersible centrifugal sewage pumps, each rated at 63.0 L/s at a TDH of 5.1 m, together with a common header with a magnetic flow meter and a 150 mm diameter forcemain to the anaerobic tanks inflow splitter box at the existing secondary treatment plant (Plant No. 2).

Plant Control Building

A Plant Control Building housing the office and laboratory facilities, three (3) air blowers, coagulant storage and feed system, chlorination equipment and a 100 kW Diesel engine emergency power generator set.

Secondary Treatment Facilities

Secondary treatment comprises of the following:

- two (2) parallel anaerobic tanks, each 6.9 m long x 3.0 m wide x 4.5 m side water depth, together with an inflow splitter box in the over-structure of the tanks, discharging through overflow pipes into the corresponding anoxic tanks described below, each tank equipped with an individual jet mixing system consisting of one (1) submersible sewage pump rated at 23.7 L/s at a TDH of 6.0 m and a header with four (4) jet nozzles installed at the bottom of the tank;

- two (2) parallel anoxic tanks, each 6.9 m long x 3.0 m wide x 4.5 m side water depth, discharging through overflow weirs into the aeration tanks inflow spitter box described below, each tank equipped with an individual jet mixing system consisting of one (1) submersible sewage pump rated at 23.7 L/s at a TDH of 6.0 m and a header with four (4) jet nozzles installed at the bottom of the tank;

- one (1) aeration tanks inflow splitter box designed for three-way flow distribution to the below described two (2) proposed aeration tanks and one (1) future (expansion) aeration tank;

- two (2) parallel rectangular aeration tanks, each 13.5 m long x 4.5 m wide x 4.5 m side water depth, overflowing into a common aeration tank effluent channel, equipped with a fine bubble aeration system rated at 595 L/s standard air per tank, consisting of 230 ceramic disc type diffusers on a PVC pipe air distribution grid system with a stainless steel raiser pipe in each tank, connected to the compressed air supply system;

- an internal mixed liquor recirculation pumping station consisting of a chamber on the outlet from the aeration tank effluent channel described above, including a gravity discharge line to the secondary clarifier influent splitter box described below and two (2) (one duty, one stand-by) internal recirculation submersible pumps, each rated at 36.0 L/s at a TDH of 5.2 m, with a common header and individual discharge pipes to the anoxic tanks described above, including a magnetic flow meter on the recirculation pump header and ball valves on the individual discharge pipes;

- a secondary clarifier influent splitter box designed for two-way flow distribution to the below described proposed secondary clarifier and one (1) future (expansion) secondary clarifier;

- one (1) 13.72 m diameter centre feed circular secondary clarifier with a centre sludge hopper and a peripheral clarifier overflow weir discharging into the secondary clarifier effluent box described below, and a peripheral scum baffle with a scum box discharging into the scum chamber described below, equipped with centre shaft motor driven two (2) rotating rake arm scrapers with steel blades and adjustable spring brass squeegees, and one (1) rotating arm scum skimmer;

- one (1) secondary clarifier effluent box with a gravity discharge line to the effluent filter inflow distribution trough;

- one (1) scum chamber in common structure with the clarifier effluent box;

- a return and waste activated sludge pumping system in the basement of the new Filter Building described below, consisting of two (2) (one duty, one stand-by) variable speed rotary lobe type sludge pumps, now replaced with centrifugal pumps per *Proposed Works*, each rated at 22.8 L/s at a TDH of 13.3 m, with a common suction line from the sludge hopper of the secondary clarifier described above and forcemain with a magnetic flowmeter and individual valved discharge lines to the anaerobic tanks inflow splitter box (return sludge) and to the aerobic sludge digester described below (waste sludge); and

- a scum transfer system in the basement of the new Filter Building described below, consisting of two (2) (one duty, one stand-by) screw type centrifugal scum transfer pumps, each rated at 8.0 L/s at a TDH of 9.8 m, with a common suction line from the scum chamber and a discharge line to the aerobic sludge digester described below.

Sludge Digestion Facilities

Sludge digestion includes the following:

- one (1) aerobic sludge digester consisting of a rectangular tank 10.5 m long x 4.5 m wide x 4.5 m side water depth, with an overflow pipe to the digested sludge storage tank described below, equipped with a coarse bubble air diffuser system rated at 247.6 L/s standard air, consisting of a stainless steel manifold with 24 stainless steel headers and jet nozzle type diffusers connected to the compressed air supply system described below, and one (1) sludge transfer submersible pump rated at 12.6 L/s at a TDH of 9.0 m connected to the sludge loading facility;

- one (1) digested sludge storage tank in common structure with the digester described above, consisting of a rectangular tank 2.7 m long x 4.5 m wide x 4.5 m side water depth, equipped with a coarse bubble air diffuser system rated at 63.8 L/s standard air, consisting of a stainless steel manifold with six (6) stainless steel headers and jet nozzle type diffusers connected to the compressed air supply system described below, one (1) sludge transfer submersible pump rated at 12.6 L/s at a TDH of 9.0 m connected to the sludge loading facility described below, and one (1) supernatant discharge submersible pump rated at 12.6 L/s at a TDH of 9.0 m, with a suction pipe flared inlet rim 2.0 m above the tank bottom and a discharge line to the flow equalization pumping chamber; and

- a sludge truck loading station at the outside wall of the sludge storage tank, consisting of a sludge transfer pump discharge pipe with a flexible discharge hose mounted on a wall-mounted over-head arm.

Compressed Air Supply System

Three (3) (two duty, one stand-by) multi-stage centrifugal air blowers in the Filter Building described below, each rated at 538 L/s at 53.8 kPa (1275 cfm at 7.8 psi), to supply air to the fine bubble aeration and coarse bubble aeration systems and the filter air scour system, including the associated air distribution headers.

Chemical Storage and Feed Facilities

Chemical feed systems include the following:

- a coagulant storage and feed facility in the Chemical Room of the Filter Building described below, consisting of a 22.7 m^3 capacity fibreglass reinforced plastic liquid coagulant storage tank, two (2) (one duty, one stand-by) flow paced variable speed duplex head diaphragm type chemical metering pumps rated at 77.9 L/hr each, together with suction lines from the storage tank and two (2) separate feed lines to the aeration tanks inflow splitter box and the secondary clarifier influent splitter box; and

- a polyelectrolyte preparation and feed facility in the Chemical Room of the Filter Building described below, consisting of one (1) 790 L capacity fibreglass reinforced plastic polyelectrolyte solution mixing and storage tank manually filled with dry polymer, including a potable water supply line and a 1/3 hp mechanical mixer, and two (2) flow paced variable

speed simplex head diaphragm type chemical metering pumps rated at 12.0 L/hr each, a common suction line system from the solution mixing and storage tank, and a solution feed line to the effluent filter inflow distribution trough.

Filter Building

A Filter Building in common structure with the Treatment Plant facilities, housing the effluent filter system, coagulant and polyelectrolyte storage and feed facilities, air blowers, UV disinfection system, sludge pumping facilities, and diesel generator set.

Effluent Filtration Facilities

Effluent filtration comprises of the following:

- six (6) concrete filter cells arranged in two rows of three cells, each cell 3.09 m wide x 1.83 m long x 2.47 m deep (maximum water level), including installation of a single effluent filter inflow distribution trough with individual cell inlet adjustable weirs and wafer type butterfly valves, one (1) filter effluent header discharging into the UV disinfection facility described below, and two (2) backwash troughs with adjustable cell overflow weirs running across the tops of the two rows of cells and discharging into the "mud well" described below;

- four (4) automatically operated deep-bed dual-media gravity type effluent filter systems in four of the above-noted filter cells (two in each row of cells), each filter system consisting of:

  - a steel plate false bottom integrated with an underdrain system with valved connections to the filter effluent and filter backwash headers, and with an air scour diffuser system connected to the air header from the air blower system described above; and

  - filter media consisting of a 480 mm layer of 0.9 to 1.1 mm particle size anthracite over a 300 mm layer of 0.45 to 0.50 mm particle size silica sand;

- a 31.5 m^3 capacity filter backwash wastewater sump ("mud well") in common structure with the effluent filter tanks, equipped with two (2) (one duty, one stand-by) submersible solids-handling centrifugal type constant speed backwash disposal pumps rated at 19 L/s at a TDH of 7.6 m each, with a common forcemain and valved discharge lines to the flow equalization pumping chamber, aerobic sludge digester and the internal mixed liquor recirculation pumping station;

- a filter backwash water supply pump sump on outlet from the filter effluent header to the UV disinfection channel described below, equipped with two (2) (one duty, one stand-by) submersible supply pumps, each rated at 3.2 L/s at a TDH of 7.6 m, with a common supply pipe to the filter backwash water reservoir described below; and

- a 27.8 m^3 capacity filter backwash water reservoir ("clear well") in common structure with the mud well described above, equipped with two (2) (one duty, one stand-by) submersible

backwash pumps, each rated at 68.4 L/s at a TDH of 12.2 m, together with a filter backwash header with connections to the filter underdrain systems.

Final Effluent UV Disinfection Facility

An ultra-violet irradiation effluent disinfection facility in the Filter Building, consisting of a 762 mm wide x 610 mm deep x 7.80 m long covered UV disinfection channel with a steel plate baffle along the length of the channel reducing the channel width to 533 mm, and an outlet sump discharging into the plant effluent sewer described below, equipped with the following:

- an automatic level control flap gate on discharge to the outlet sump, set to maintain the channel water level between 292 mm and 318 mm above the channel bottom, and

- a low pressure mercury vapour ultraviolet irradiation lamp system with 65% of the radiation output at the wave length of 253.7 nm and a nominal average intensity of radiation of 27,850 : Ws/cm^2 at 65% transmission, providing a UV irradiation density of 3.35 W/L (watts per litre) at a detention time of 6.5 seconds at a peak flow of 7528 m3/d, consisting of two (2) in-series independently operated banks of seven (7) independently removable lamp modules having four (4) UV lamps in each module.

Plant Effluent Sewer

A 300 mm diameter plant outfall sewer from the UV disinfection channel in the Filter Building to the plant outlet manhole located on the existing 300 mm diameter plant outfall sewer to Drag River.

Stand-by Power Generator

A 350 kW stand-by diesel engine power generator set with two (2) 909 L capacity fuel storage tanks in the Filter Building.

Process and Maintenance Effluent Water Supply Facility

A plant process and maintenance effluent water supply facility in the Filter Building, consisting of two (2) dry pit centrifugal effluent water pressure pumps, each rated at 1.6 L/s at a TDH of 35.0, with a common suction line from the outlet section of the UV disinfection channel described above, and two (2) 280 L operating capacity precharged pressure tanks, connected to the plant process and maintenance water distribution system.

Plant Operation Control System

An integrated computerized plant operation monitoring and control system, consisting of:

- a master programmable controller installed in the Electrical Room of the Filter Building, providing operation control for the air blowers, sludge wasting valves, UV disinfection

system, flow equalization transfer pumps and various monitoring and alarm functions;

- a local programmable controller installed in the Filter Building, providing monitoring and operation control for the effluent filter system;

- a PC-based central operator work station, installed in the Office of the Plant Control Building; and

- all monitoring, signal transmission, and process control equipment and instrumentation associated with individual plant facilities and pieces of plant equipment.

Miscellaneous

All associated appurtenances, piping, heating and ventilation, electrical and control systems necessary to operate the *Works*.

All in accordance with the following:

1. Application for Approval of Municipal and Private Sewage Works signed on September 26, 2003 under a cover letter from Tammy McKelvey, C.A.O/Clerk of Municipality of Dysart et al dated September 30, 2003 along with a letter from AWS Engineers and Planners Corp. dated September 22, 2003; and

2. Original application(s) for approval, including design calculations, engineering drawings, contract documents, specifications and reports prepared in support of the previous Certificate(s) of Approval.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

"*Act*" means the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended;

"*Annual Average Concentration*" means the arithmetic mean of the *Monthly Average Concentrations* of a contaminant in the effluent calculated for any particular calendar year;

"*Annual Average Loading*" means the *Annual Average Concentration* of a contaminant multiplied by the *Average Daily Flow* during that year multiplied by the number of days sewage was flowing through the treatment plant and correcting the units to kilograms (per year);

"*Average Daily Flow*" means the cumulative total sewage flow to the sewage works during a calendar year divided by the number of days during which sewage was flowing to the sewage works that year;

"$CBOD_5$" means five day biochemical oxygen demand measured in an unfiltered sample;

"*By-pass*" means any discharge from the *Works* that does not undergo any or full treatment before it is

discharged to the environment;

"*Certificate*" means this entire certificate of approval document, issued in accordance with Section 53 of the *Act*, and includes any schedules;

"*Daily Concentration*" means the concentration of a contaminant in the effluent discharged over any single day, as measured by a composite or grab sample, whichever is required;

"*Director*" means any *Ministry* employee appointed by the Minister pursuant to section 5 of the *Act*;

"*District Manager*" means the District Manager of the Peterborough District Office of the Ministry;

"*E. Coli*" refers to the thermally tolerant forms of Escherichia that can survive at 44.5 degrees Celsius;

"*Geometric Mean Density*" is the nth root of the product of multiplication of the results of n number of samples over the period specified;

"*Ministry*" means the Ontario Ministry of the Environment;

"*Monthly Average Concentration*" means the arithmetic mean of all *Daily Concentrations* of a contaminant in the effluent sampled or measured, or both, during a calendar month;

"*Monthly Average Daily Flow*" means the cumulative total sewage flow to the sewage works during a calendar month divided by the number of days during which sewage was flowing to the sewage works that month;

"*Monthly Average Loading*" means the value obtained by multiplying the *Monthly Average Concentration* of a contaminant by the *Monthly Average Daily Flow* over the same calendar month:

"*Owner*" means the Municipality of Dysart *et al* and includes its successors and assignees;

"*Peak Flow Rate*" means the maximum rate of sewage flow for which the plant or process unit was designed;

"*Previous Works*" means those portions of the sewage works previously constructed and approved under a certificate of approval;

"*Proposed Works*" means the sewage works described in the *Owner*'s application, this *Certificate* and in the supporting documentation referred to herein, to the extent approved by this *Certificate*;

"*Rated Capacity*" means the *Average Daily Flow* for which the *Works* are approved to handle; and

"*Works*" means the sewage works described in the *Owner*'s application, this *Certificate* and in the supporting documentation referred to herein, to the extent approved by this *Certificate* and includes both the *Proposed Works* and the *Previous Works*.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL PROVISIONS

(1) The *Owner* shall ensure that any person authorized to carry out work on or operate any aspect of the *Works* is notified of this *Certificate* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Except as otherwise provided by these Conditions, the *Owner* shall operate and maintain the *Works* in accordance with the description given in this *Certificate*, the application for approval of the *Works* and the submitted supporting documents and plans and specifications as listed in this *Certificate*.

(3) Where there is a conflict between a provision of any submitted document referred to in this *Certificate* and the Conditions of this *Certificate*, the Conditions in this *Certificate* shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

(4) Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

(5) The requirements of this *Certificate* are severable. If any requirement of this *Certificate*, or the application of any requirement of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this *Certificate* shall not be affected thereby.

2. EXPIRY OF APPROVAL

The approval issued by this *Certificate* will cease to apply to those parts of the *Works* which have not been constructed within five (5) years of the date of this *Certificate*.

3. CHANGE OF OWNER

(1) The *Owner* shall notify the *District Manager* and the *Director*, in writing, of any of the

following changes within 30 days of the change occurring:

(a) change of *Owner*;

(b) change of address of the *Owner*;

(c) change of partners where the *Owner* is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the *District Manager*;

(d) change of name of the corporation where the *Owner* is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Informations Act, R.S.O. 1990, c. C39 shall be included in the notification to the *District Manager*;

(2) In the event of any change in ownership of the *Works*, other than a change to a successor municipality, the *Owner* shall notify in writing the succeeding owner of the existence of this *Certificate*, and a copy of such notice shall be forwarded to the *District Manager* and the *Director*.

4. UPON THE SUBSTANTIAL COMPLETION OF THE WORKS

(1) Upon the *Substantial Completion* of the *Works*, the *Owner* shall prepare a statement, certified by a Professional Engineer, that the works are constructed in accordance with this *Certificate*, and upon request, shall make the written statement available for inspection by *Ministry* personnel.

(2) Within one year of the *Substantial Completion* of the *Proposed Works*, a set of as-built drawings showing the *Works* "as constructed" shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the *Works* for the operational life of the *Works*.

5. BY-PASSES

(1) Any *By-pass* of sewage from any portion of the *Works* is prohibited, except where:

(a) it is necessary to avoid loss of life, personal injury, danger to public health or severe property damage; or

(b) the *District Manager* agrees that it is necessary for the purpose of carrying out essential maintenance and the *District Manager* has given prior written

acknowledgment of the *by-pass*.

(2) The *Owner* shall collect at least one (1) grab sample of the *By-pass* and have it analyzed for the parameters outlined in Condition 7(1) using the protocols in Condition 9(4).

(3) The *Owner* shall maintain a logbook of all *By-pass* events which shall include, at a minimum, the time, location, duration, quantity of *By-pass*, the authority for *By-pass* pursuant to subsection (1), and the reasons for the occurrence.

6. EFFLUENT OBJECTIVES

(1) The *Owner* shall use best efforts to design, construct and operate the *Works* with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the *Works*.

Table 1 - Effluent Objectives

Effluent Parameter	Concentration Objective (milligrams per litre unless otherwise indicated)
$CBOD_5$	5.0
Suspended Solids	5.0
Total Phosphorus	0.1
Total Ammonia Nitrogen	2.0
E. Coli	200 organisms/100 mL (Monthly *Geometric Mean Density*)

(2) The *Owner* shall use best efforts to:

(a) maintain the pH of the effluent from the *Works* within the range of 6.5 to 9.0, inclusive, at all times;

(b) operate the works within the *Rated Capacity* of the *Works*; and

(c) ensure that the effluent from the *Works* is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters.

(3) The *Owner* shall include in all reports submitted in accordance with Conditions 10, a summary of the efforts made and results achieved under this Condition.

7. EFFLUENT LIMITS

(1) The *Owner* shall operate and maintain the *Works* such that the concentrations and waste loadings of the materials named below as effluent parameters are not exceeded in the effluent from the *Works*.

Table 2 - Effluent Limits		
Effluent Parameter	**Monthly or Annual Average Concentration** (milligrams per litre unless otherwise indicated)	**Annual Average Loading** (kilograms per year unless otherwise indicated)
Column 1	Column 2	Column 3
$CBOD_5$	10.0 *1	-
Suspended Solids	10.0 *1	-
Total Phosphorus	0.2 *2	115
Total Ammonia Nitrogen	5.0 *2	-
pH of the effluent to be maintained between 6.0 to 9.5, inclusive.		

*1 Annual Average Concentration.

*2 Monthly Average Concentration.

(2) For the purposes of determining compliance with and enforcing subsection (1):

(a) The *Annual Average Concentration* of $CBOD_5$ and suspended solids in Column 1 of Table 2 in subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of Table 2 in subsection (1).

(b) The *Monthly Average Concentration* of total ammonia nitrogen and total phosphorus in Column 1 of Table 2 in subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of Table 2 in subsection (1).

(c) The *Annual Average Loading* of total phosphorus in Column 1 of Table 2 in subsection (1) shall not exceed the corresponding loading set out in Column 3 of Table 2 in subsection (1).

(3) Paragraphs (a), (b), and (c) of subsection (2) shall apply upon the issuance of this *Certificate*.

(4) Only those monitoring results collected during the corresponding time period shall be used in calculating the *Monthly* or *Annual Average Concentrations* and *Annual Average Loading* for this *Certificate*.

8. OPERATION AND MAINTENANCE

(1) The *Owner* shall exercise due diligence in ensuring that, at all times, the *Works* and the related equipment and appurtenances used to achieve compliance with this *Certificate* are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this *Certificate* and the *Act* and regulations, adequate laboratory facilities, process controls and alarms and the use of process chemicals and other substances used in the *Works*.

(2) The *Owner* shall prepare an operations manual within six (6) months of the date of issuance of this *Certificate*, that includes, but not necessarily limited to, the following information:

(a) operating procedures for routine operation of the *Works*;

(b) inspection programs, including frequency of inspection, for the *Works* and the methods or tests employed to detect when maintenance is necessary;

(c) repair and maintenance programs, including the frequency of repair and maintenance for the *Works*;

(d) procedures for the inspection and calibration of monitoring equipment;

(e) a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the *District Manager*; and

(f) procedures for receiving, responding and recording public complaints, including recording any follow-up actions taken.

(3) The *Owner* shall maintain the operations manual current and retain a copy at the location of the *Works* for the operational life of the *Works*. Upon request, the *Owner* shall make the manual available to *Ministry* staff.

(4) The *Owner* shall provide for the overall operation of the *Works* with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04.

9. MONITORING AND RECORDING

The *Owner* shall, upon commencement of operation of the *Works*, carry out the following monitoring program:

(1) All samples and measurements taken for the purposes of this *Certificate* are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

(2) For the purposes of this condition, "weekly" means once every week and "monthly" means once every month.

(3) Samples shall be collected at the following sampling points, at the frequency specified, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 3 - Raw Sewage Monitoring
(Sampling point at the inlet of the treatment plant)

Parameters	Sample Type	Frequency
$CBOD_5$	24-hour composite	Monthly
Suspended Solids	24-hour composite	Monthly
Total Phosphorus	24-hour composite	Monthly
Total Kjeldahl Nitrogen	24-hour composite	Monthly
Total Ammonia Nitrogen	24-hour composite	Monthly

Table 4 - Effluent Monitoring
(Sampling point at the outlet of the treatment plant or at the sewer outfall as close as possible to the treatment plant)

Parameters	Sample Type	Frequency
$CBOD_5$	24-hour composite	Monthly
Suspended Solids	24-hour composite	Monthly
Total Phosphorus as P	24-hour composite	Weekly
Total Ammonia Nitrogen	24-hour composite	Weekly
Nitrate Nitrogen	24-hour composite	Weekly
E. Coli	Grab	Monthly
pH	Grab (on-site)	Weekly
Temperature	Grab (on-site)	Weekly

(Note: Definitions for grab and composite samples are included in one or more documents below. 24-hour composite sample means a time-composite sample and constitutes of an integrated sample made up of blending 24 hourly aliquots taken by refrigerated autosampler, which are obtained at an hourly frequency having same sample volume).

(4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

(a) the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;

(b) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;

(c) the publication "Standard Methods for the Examination of Water and Wastewater" (20th edition), as amended from time to time by more recently published editions; and

(d) for any parameters not mentioned in the documents referenced in (a), (b), or (c), written approval of the *District Manager* shall be obtained prior to sampling.

(5) The temperature and pH of the effluent from the *Works* shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of unionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (unionized).

(6) The *Owner* shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate of the effluent from the *Works* with an accuracy to within plus or minus 10 per cent (+/- 10%) of the actual flowrate for the entire design range of the flow measuring device, and record the flowrate at a daily frequency.

(7) The *Owner* shall retain for a minimum of three (3) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this *Certificate*.

10. REPORTING

(1) Ten (10) days prior to the date of a planned *By-pass* being conducted pursuant to Condition 4 and as soon as possible for an unplanned *By-pass*, the *Owner* shall notify the *District Manager* (in writing) of the pending start date, in addition to an assessment of the potential adverse effects on the environment and the duration of the *By-pass*.

(2) The *Owner* shall report to the *District Manager* or designate, any exceedance of any parameter specified in Condition 7 orally, as soon as reasonably possible, and in writing

within seven (7) days after the laboratory results of the exceedance have been received.

(3) In addition to the obligations under Part X of the Environmental Protection Act, the *Owner* shall, within 10 working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the *District Manager* describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(4) The *Owner* shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to *Ministry* staff.

(5) The *Owner* shall prepare, and submit to the *District Manager* a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the *Works* and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

(a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the *Works*;

(b) a description of any operating problems encountered and corrective actions taken;

(c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the *Works*;

(d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;

(e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and

(f) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.

(g) a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;

(h) a summary of any complaints received during the reporting period and any steps taken to address the complaints;

(i) a summary of all *By-pass*, spill or abnormal discharge events; and

(j) any other information the *District Manager* requires from time to time.

11. REVOCATION OF EXISTING APPROVALS

(1) The descriptions of the approved works and conditions of approval in this *Certificate* apply in place of all the existing descriptions and conditions in the Certificates of Approval under the Ontario Water Resources Act for sewage works which are part of the works approved by this *Certificate*.

(2) Notwithstanding Condition 11(1) above, the original applications for approval, including design calculations, engineering drawings, and reports prepared in support of the existing *Certificate(s)* of Approval whose descriptions of the approved works and conditions are now replaced pursuant to Condition 11(1) above, shall form part of this *Certificate*.

(3) Where an existing Certificate of Approval referred t in Condition 11(1) above applies to *Works* in addition to the *Works* approved by this *Certificate*, it shall continue to apply to those additional *Works*.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is imposed to ensure that the *Works* are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Certificate* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the *Owners* their responsibility to notify any person they authorized to carry out work pursuant to this *Certificate* the existence of this *Certificate*.

2. Condition 2 is included to ensure that, when the *Works* are constructed, the *Works* will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.

3. Condition 3 is included to ensure that the *Ministry* records are kept accurate and current with respect to the approved works and to ensure that subsequent owners of the *Works* are made aware of the *Certificate* and continue to operate the *Works* in compliance with it.

4. Condition 4 is included to ensure that the *Works* are constructed in accordance with the approval and that record drawings of the *Works* "as constructed" are maintained for future references.

5. Condition 5 is included to indicate that by-passes of untreated sewage to the receiving

watercourse is prohibited, save in certain limited circumstances where the failure to *By-pass* could result in greater injury to the public interest than the *By-pass* itself where a *By-pass* will not violate the approved effluent requirements, or where the *By-pass* can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the *Ministry* to take action in an informed manner and will ensure the *Owner* is aware of the extent and frequency of *By-pass* events.

6. Condition 6 is imposed to establish non-enforceable effluent quality objectives which the *Owner* is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliance limits of Condition 7 are exceeded.

7. Condition 7 is imposed to ensure that the effluent discharged from the *Works* to the Drag River meets the *Ministry*'s effluent quality requirements thus minimizing environmental impact on the receiver and to protect water quality, fish and other aquatic life in the receiving water body.

8. Condition 8 is included to require that the *Works* be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the owner and made available to the *Ministry*. Such a manual is an integral part of the operation of the *Works*. Its compilation and use should assist the *Owner* in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for *Ministry* staff when reviewing the *Owner*'s operation of the *Works*.

9. Condition 9 is included to enable the *Owner* to evaluate and demonstrate the performance of the *Works*, on a continual basis, so that the *Works* are properly operated and maintained at a level which is consistent with the design objectives and effluent limits specified in the *Certificate* and that the *Works* does not cause any impairment to the receiving watercourse.

10. Condition 10 is included to provide a performance record for future references, to ensure that the *Ministry* is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this *Certificate,* so that the *Ministry* can work with the *Owner* in resolving any problems in a timely manner.

11. Condition 11 is included to stipulate that this *Certificate* replaces all previous approvals for the works being the subject of this Certificate, and that the existing approvals remain in force for the purpose of any works which are not subject to this *Certificate*.

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 0191-5SZKZ9 issued on December 4, 2003.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days

after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
2300 Yonge St., 12th Floor
P.O. Box 2382
Toronto, Ontario
M4P 1E4

AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca**

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 9th day of August, 2005

THIS CERTIFICATE WAS MAILED
ON Aug. 12, 2005
9c
(Signed)

Mohamed Dhalla, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

ZB/
c: District Manager, MOE Peterborough
Jack Yu, ASI Group Ltd. ✓
Water Standards Section, Standards Development Branch, MOE Toronto

APPENDIX B. MONTHLY AND ANNUAL DATA SUMMARIES

Municipality of Dysart et al
Haliburton WWTP
2023 Raw Sewage Summary
Monthly Concentrations and Loadings

Month	Raw Sewage Flows (m^3)			Average Monthly $CBOD_5$		Average Monthly Suspended Solids		Average Monthly Total Ammonia Nitrogen		Average Monthly UnionizedAmmonia Nitrogen		Average Monthly Total Kjeldahl Nitrogen		Average Monthly Nitrite		Average Monthly Nitrate		Average Monthly Total Phosphorus			Monthly pH	Temperature
	Total Flow	Average Daily Flow	Maximum Daily Flow	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Loading (kg/month)	Minimum (pH Units)	°C
January	28,081	906	1,240	163	148	166	150	14.6	13.2	0.2543	0.2304	17.5	15.9	**0.03**	**0.027**	**0.06**	**0.054**	2.25	2.04	63.28	7.85	11.3
February	22,248	795	795	188	149	227	181	23.1	18.4	0.3634	0.2888	29.3	23.3	**0.03**	**0.024**	**0.06**	**0.048**	2.98	2.37	66.25	7.88	9.1
March	27,073	873	907	196	171	344	300	22.2	19.4	0.3741	0.3268	26.1	22.8	**0.03**	**0.026**	**0.06**	**0.052**	3.30	2.88	89.29	7.90	9.4
April	40,058	1,335	2,032	168	224	290	387	12.9	17.2	0.1681	0.2244	18.6	24.8	**0.03**	**0.040**	**0.06**	**0.080**	2.78	3.71	111.36	7.78	9.6
May	36,954	1,192	1,572	93	111	271	322	9.4	11.2	0.0651	0.0776	11.1	13.2	0.05	0.060	0.22	0.262	2.77	3.30	102.36	7.51	9.4
June	30,625	1,021	1,528	202	206	186	190	17.6	18.0	0.3137	0.3203	24.1	24.6	**0.03**	**0.031**	**0.06**	**0.061**	2.13	2.18	65.29	7.84	11.9
July	29,748	960	1,146	180	173	208	199	19.5	18.7	0.4073	0.3909	19.8	19.0	**0.03**	**0.029**	**0.06**	**0.058**	2.89	2.77	85.87	7.83	14.3
August	27,385	883	1,001	225	199	280	248	20.4	18.0	0.4192	0.3703	21.7	19.2	**0.03**	**0.027**	**0.06**	**0.053**	3.26	2.88	89.28	7.78	15.6
September	23,378	779	915	159	124	235	183	19.7	15.4	0.3749	0.2922	25.6	19.9	**0.03**	**0.023**	**0.06**	**0.047**	3.11	2.43	72.75	7.72	16.4
October	22,217	717	877	209	150	234	167	22.2	15.9	0.3143	0.2252	24.9	17.8	**0.03**	**0.022**	**0.06**	**0.043**	3.49	2.50	77.43	7.58	16.7
November	20,443	681	801	179	122	320	218	25.8	17.6	0.4670	0.3182	32.8	22.4	0.05	0.034	**0.05**	**0.034**	3.45	2.35	70.57	7.78	13.9
December	22,808	736	915	200	147	252	185	30.7	22.6	0.7916	0.5824	32.6	24.0	0.03	0.022	0.06	0.044	3.24	2.38	73.81	8.02	11.4
Total	**331,018**																					
Average	**27,585**	**907**		**180**	**160**	**251**	**228**	**19.8**	**17.1**	**0.3594**	**0.3039**	**23.7**	**20.6**	0.03	0.03032	0.07	0.070	**2.97**	**2.65**	**80.63**	**7.79**	**12.42**
Maximum	**40,058**		**2,032**																			

Municipality of Dysart et al
Haliburton WWTP
2023 Final Effluent Summary
Monthly Concentrations and Loadings

Month	Raw Sewage Flows (m^3)			Average Monthly $CBOD_5$		Average Monthly Suspended Solids		Average Monthly Total Ammonia Nitrogen		Average Monthly Unionized Ammonia		Average Monthly Total Kjeldahl Nitrogen		Average Monthly Total Phosphorus			Average Monthly Nitrite		Average Monthly Nitrate		Monthly E.Coli	Monthly pH	
	Total Flow	Average Daily Flow	Maximum Daily Flow	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Loading (kg/month)	Concentration (mg/L)	Loading (kg/day)	Concentration (mg/L)	Loading (kg/day)	Geometric Mean (cfu/100 mL)	Minimum (pH Units)	Maximum (pH Units)
January	28,081	906	1,240	**4**	**3.623**	**2.5**	**2.265**	**0.05**	**0.043**	**0.00014**	**0.00012**	0.8	0.725	**0.05**	**0.042**	**1.292**	**0.04**	**0.033**	8.9	8.017	**2**	6.98	7.15
February	22,248	795	907	**4**	**3.178**	2.8	2.225	**0.10**	**0.082**	**0.00028**	**0.00023**	1.7	1.351	0.06	0.048	1.335	0.15	0.117	9.9	7.856	**2**	6.95	7.54
March	27,073	873	1,189	**4**	**3.493**	2.6	2.271	**0.05**	**0.043**	**0.00011**	**0.00010**	2.3	2.009	0.06	0.050	1.557	**0.04**	**0.035**	10.2	8.875	4	6.97	7.01
April	40,058	1,335	2,032	**4**	**5.341**	3.6	4.807	**0.04**	**0.057**	**0.00009**	**0.00012**	1.2	1.602	0.06	0.085	2.554	**0.03**	**0.040**	7.3	9.697	4	6.59	7.11
May	36,954	1,192	1,572	**4**	**4.768**	**2.3**	**2.781**	**0.05**	**0.054**	**0.00013**	**0.00016**	**0.5**	**0.596**	**0.04**	**0.052**	**1.626**	**0.03**	**0.036**	8.2	9.815	**2**	6.83	7.20
June	30,625	1,021	1,528	**4**	**4.083**	3.4	3.471	**0.05**	**0.047**	**0.00037**	**0.00038**	0.6	0.613	**0.04**	**0.045**	**1.340**	**0.03**	**0.031**	9.3	9.522	**2**	7.17	7.58
July	29,748	960	1,146	**4**	**3.838**	4.3	4.158	**0.05**	**0.048**	**0.00034**	**0.00032**	**0.5**	**0.480**	0.06	0.062	1.917	**0.04**	**0.038**	11.1	10.628	**2**	6.79	7.34
August	27,385	883	1,001	**4**	**3.534**	3.8	3.357	**0.05**	**0.044**	**0.00020**	**0.00017**	**0.5**	**0.442**	0.07	0.060	1.856	**0.03**	**0.030**	12.6	11.148	4	6.82	7.14
September	23,378	779	915	2	1.559	**3.6**	**2.805**	**0.05**	**0.036**	**0.00023**	**0.00018**	1.7	1.325	**0.05**	**0.038**	**1.140**	0.05	0.039	12.1	9.410	**2**	6.86	7.20
October	22,217	717	877	**4**	**2.867**	**2.7**	**1.911**	**0.04**	**0.032**	**0.00024**	**0.00017**	**0.5**	**0.358**	**0.04**	**0.032**	**0.978**	**0.05**	**0.039**	12.1	8.672	**2**	6.82	7.30
November	20,443	681	801	**4**	**2.726**	**2.6**	**1.772**	**0.05**	**0.032**	**0.00029**	**0.00020**	1.7	1.158	0.05	0.032	0.971	**0.03**	**0.022**	11.7	7.956	**2**	7.21	7.40
December	22,808	736	915	9	6.622	**3.4**	**2.502**	**0.09**	**0.067**	**0.00037**	**0.00027**	1.5	1.104	**0.05**	**0.035**	**1.083**	**0.04**	**0.031**	10.2	7.501	**2**	6.93	7.38
Total	**331,018**															17.65							
Average	**27,585**	**906.9**		4.3	3.803	3.1	2.860	0.06	0.049	0.00023	0.00020	1.13	0.980	0.05	0.048		0.047	0.04089	10.3	9.09	2.5	**Minimum**	**Maximum**
Maximum	**40,058**		**2,032**																			**6.59**	**7.58**
Certificate of Approval Compliance Criteria	**N/A**	**1575 m^3 Annual Average**	**4410 m^3 Daily**	**10.0 mg/L Annual Average**	**N/A**	**10.0 mg/L Annual Average**	**N/A**	**5.0 mg/L Monthly Average**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**0.2 mg/L Monthly Average**	**N/A**	**115 kg/Year Annual Average**	**N/A**	**N/A**	**N/A**	**N/A**	**200 cfu/100 ml Objective**	**Between 6.0 to 9.5 Inclusive**	

Note: **Numbers highlighted in grey are equal to less than (<) the value shown**

Municipality of Dysart et al
Haliburton WWTP
January 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	881																						
2	911		147						1.95				**2**	**0.04**	**0.00012**		0.06			*7.04*	*12.2*	*7.4*	
3	915	163	169	14.6	0.25431	17.5	***0.03***	***0.06***	2.06	*7.85*	*11.3*	**4**	**2**	**0.04**	**0.00014**	0.8	0.06	**0.03**	7.7	*7.13*	*11.9*	*7.2*	**2**
4	1240																						
5	1226																						
6	1132																						
7	1059																						
8	992																						
9	1161		*171*						*1.87*				3	0.04	0.00013		0.03			*7.12*	*11.6*	*8.75*	
10	1034													0.04	0.00014		**0.03**	**0.03**	7.9	*7.15*	*10.8*	*7.90*	
11	961																						
12	928																						
13	937																						
14	829																						
15	822																						
16	870		*171*						*2.57*				2	**0.04**	**0.00010**		0.04			*7.05*	*9.4*	*8.69*	
17	862													**0.04**	**0.00009**		0.06	0.04	9.30	*6.98*	*10.5*	*8.06*	
18	912																						
19	844																						
20	879																						
21	834																						
22	776																						
23	809		*185*						*2.57*				3	**0.04**	**0.00010**		**0.03**			*6.98*	*11.8*	*7.97*	
24	805													**0.04**	**0.00012**		**0.03**	**0.03**	9.80	*7.07*	*11.3*	*7.78*	
25	808																						
26	767																						
27	770																						
28	780																						
29	718																						
30	826		*151*						*2.50*				3	0.10	0.00029		0.06			*7.12*	*9.8*	*8.7*	
31	793													0.05	0.00013		0.06	0.05	9.50	*7.09*	*9.4*	*8.1*	
Total	28,081																						
Average	906	163	166	14.6	0.25431	17.5	**0.03**	**0.06**	2.25	7.85	11.3	**4**	**2.5**	**0.05**	**0.00014**	0.8	**0.05**	**0.04**	8.9	7.07	10.9	8.03	**2**
Max.	1,240	163	185	14.6	0.25431	17.5	**0.03**	**0.06**	2.57	7.85	11.3	**4**	3	0.10	0.00029	0.8	0.06	0.05	9.8	7.15	12.2	8.75	**2**
Min.	718	163	147	14.6	0.25431	17.5	**0.03**	**0.06**	1.87	7.85	11.3	**4**	**2**	**0.04**	**0.00009**	0.8	**0.03**	**0.03**	7.73	6.98	9.4	7.18	**2**
Count	31	1	6	1	1	1	1	1	6	1	1	1	6	10	10	1	10	5	5	10	10	10	1

Notes: **1. Numbers highlighted in grey are equal to less than (<) the value shown**
2. Numbers highlighted in green exceed the effluent objective
3. Numbers highlighted in red exceed the effluent limit and are reportable

Municipality of Dysart et al
Haliburton WWTP
February 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	786																						
2	768																						
3	779																						
4	822																						
5	743																						
6	737		232						3.08				2	0.42	0.00102		0.07			7.03	10.1	6.9	
7	722	188	258	23.1	0.36344	29.3	**0.03**	**0.06**	3.13	7.88	9.1	**4**	4	0.10	0.00024	1.7	0.05	0.24	9.64	7.05	9.4	5.9	**2**
8	751																						
9	864																						
10	783																						
11	745																						
12	721																						
13	781		217						2.78				3	0.06	0.00015		0.07			6.99	11.5	6.3	
14	828													0.09	0.00021		0.06	0.27	9.91	6.95	12.2	5.8	
15	907																						
16	845																						
17	849																						
18	851																						
19	814																						
20	792		213						2.65				2	**0.04**	**0.00033**		0.08			7.54	10.9	8.0	
21	809													**0.04**	**0.00012**		0.04	0.04	10.00	7.09	11.5	6.8	
22	852																						
23	847																						
24	885																						
25	795																						
26	679																						
27	753		216						3.25				3	0.04	0.00009		0.05			7.04	8.9	7.6	
28	740													**0.04**	**0.00010**		0.06	0.04	10.00	7.03	9.9	7.1	
Total	22,248																						
Average	795	188	227	23.1	0.36344	29.3	**0.03**	**0.06**	2.98	7.88	9.1	**4**	2.8	**0.10**	**0.00028**	1.7	0.06	0.15	9.89	7.09	10.6	6.80	**2**
Max.	907	188	258	23.1	0.36344	29.3	**0.03**	**0.06**	3.25	7.88	9.1	**4**	4	0.42	0.00102	1.7	0.08	0.27	10.0	7.54	12.2	8.0	**2**
Min.	679	188	213	23.1	0.36344	29.3	**0.03**	**0.06**	2.65	7.88	9.1	**4**	2	**0.04**	**0.00009**	1.7	0.04	0.04	9.6	6.95	8.9	5.8	**2**
Count	28	1	5	1	1	1	1	1	5	1	1	1	5	8	8	1	8	4	4	8	8	8	1

Notes: **1. Numbers highlighted in grey are equal to less than (<) the value shown**
2. Numbers highlighted in green exceed the effluent objective

Municipality of Dysart et al
Haliburton WWTP
March 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	841																						
2	802																						
3	814																						
4	791																						
5	728																						
6	730		384						3.35				2	0.04	0.00009		0.04			*6.97*	*10.7*	*6.4*	
7	810																						
8	815	196	*383*	*22.2*	0.37415	*26.1*	***0.03***	***0.06***	*3.72*	*7.90*	*9.4*	**4**	4	0.06	0.00015	2.3	0.04	0.06	12.00	*7.01*	*11.4*	*7.5*	4
9	773																						
10	821																						
11	679																						
12	689																						
13	753		*310*						3.24				3	0.06	0.00014		0.06			*6.97*	*11.2*	*7.4*	
14	794													0.07	0.00015		0.07	0.04	11.00	*6.97*	*10.6*	*6.3*	
15	749																						
16	802																						
17	1048																						
18	796																						
19	818																						
20	781		*309*						3.17				2	0.04	0.00009		0.06			*6.97*	*10.2*	*7.5*	
21	818													**0.04**	**0.00008**		0.06	**0.03**	8.80	*6.99*	*9.3*	*7.4*	
22	974																						
23	915																						
24	1052																						
25	1013																						
26	970																						
27	1029		*334*						*3.01*				*2*	**0.04**	**0.00009**		0.06			*6.99*	*10.4*	*7.1*	
28	1060													**0.04**	**0.00010**		0.07	**0.03**	8.85	*7.01*	*10.6*	*7.4*	
29	1189																						
30	1067																						
31	1152																						
Total	27,073																						
Average	873	196	344	22.2	0.3741	26.1	**0.03**	**0.06**	3.30	7.90	9.4	**4**	2.6	**0.05**	**0.00011**	2.3	0.06	**0.04**	10.16	6.99	10.6	7.1	4
Max.	1,189	196	384	22.2	0.3741	26.1	**0.03**	**0.06**	3.72	7.90	9.4	**4**	4	0.07	0.00015	2.3	0.07	0.06	12.00	7.01	11.4	7.5	4
Min.	679	196	309	22.2	0.3741	26.1	**0.03**	**0.06**	3.01	7.90	9.4	**4**	2	**0.04**	**0.00008**	2.3	0.04	**0.03**	8.80	6.97	9.3	6.3	4
Count	31	1	5	1	1	1	1	1	5	1	1	1	5	8	8	1	8	4	4	8	8	8	1

Notes: **1. Numbers highlighted in grey are equal to less than (<) the value shown**
2. Numbers highlighted in green exceed the effluent objective
3. Numbers highlighted in red exceed the effluent limit and are reportable

Municipality of Dysart et al
Haliburton WWTP
April 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	1325																						
2	1140																						
3	1287		244						2.6				2	**0.04**	**0.00010**		0.05			*7.04*	*10.3*	*8.1*	
4	1195	168	*279*	*12.9*	0.16807	*18.6*	***0.03***	***0.06***	*3.23*	*7.78*	*9.6*	**4**	3	0.06	0.00015	1.2	0.06	**0.03**	7.25	*7.07*	*9.6*	*7.7*	4
5	2032																						
6	1955																						
7	1712																						
8	1543																						
9	1362																						
10	1390		*175*						*1.67*				*3*	**0.04**	**0.00011**		0.05			*7.06*	*10.5*	*8.2*	
11	1437													**0.04**	**0.00013**		0.06	**0.03**	5.83	*7.11*	*11.9*	*8.6*	
12	1466																						
13	1410																						
14	1457																						
15	1263																						
16	1162																						
17	1342		*265*						*2.18*				*5*	**0.04**	**0.00008**		0.07			*6.91*	*11.3*	*6.9*	
18	1265													**0.04**	**0.00006**		0.07	**0.03**	7.48	*6.82*	*10.5*	*7.0*	
19	1239																						
20	1218																						
21	1230																						
22	1219																						
23	1190																						
24	1169		*486*						*4.25*				*5*	**0.04**	**0.00004**		0.08			*6.59*	*11.5*	*7.1*	
25	1151													0.04	0.00004		0.07	**0.03**	8.49	*6.62*	*10.6*	*6.5*	
26	1155																						
27	1142																						
28	1144																						
29	1161																						
30	1297																						
Total	40,058																						
Average	1,335	168	290	12.9	0.16807	18.6	**0.03**	**0.06**	2.78	7.78	9.6	**4**	3.6	**0.04**	**0.00009**	1.2	0.06	**0.03**	7.26	6.90	10.8	7.52	4
Max.	2,032	168	486	12.9	0.16807	18.6	**0.03**	**0.06**	4.25	7.78	9.6	**4**	5	0.06	0.00015	1.2	0.08	0.03	8.49	7.11	11.9	8.59	4
Min.	1,140	168	175	12.9	0.16807	18.6	**0.03**	**0.06**	1.67	7.78	9.6	**4**	2	**0.04**	**0.00004**	1.2	0.05	**0.03**	5.83	6.59	9.6	6.49	4
Count	30	1	5	1	1	1	1	1	5	1	1	1	5	8	8	1	8	4	4	8	8	8	1

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2. Numbers highlighted in green exceed the effluent objective
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Municipality of Dysart et al
Haliburton WWTP
May 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH_3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH_3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	1528		413						3.88				2	**0.04**	**0.00008**		0.09			6.94	10.4	*6.5*	
2	1566	93	127	9.40	0.06507	11.1	0.05	0.22	1.52	*7.51*	*9.4*	**4**	2	**0.04**	**0.00009**	**0.5**	0.08	**0.03**	6.92	6.97	10.5	*7.3*	**2**
3	1572																					*7.0*	
4	1430																					*6.8*	
5	1362																					*6.9*	
6	1496																					*7.4*	
7	1251																					*6.9*	
8	1316		441						4.43				4	0.04	0.00011		**0.03**			7.02	11.8	*7.1*	
9	1207													**0.04**	**0.00015**		0.04	**0.03**	7.50	7.20	10.5	*7.1*	
10	1246																					*7.6*	
11	1156																					*7.1*	
12	1253																					*6.7*	
13	1117																					*6.4*	
14	1009																					*6.6*	
15	1120		293						2.26				**2**	0.04	0.00010		0.04			7.01	11.6	*6.7*	
16	1060													**0.04**	**0.00014**		0.04	**0.03**	9.67	7.13	12.2	*6.9*	
17	1013																					*7.1*	
18	1024																					*6.9*	
19	1095																					*6.9*	
20	1199																					*6.6*	
21	1079																					*6.8*	
22	1054		195						2.17				**2**	0.05	0.00011		**0.03**			6.92	12.6	*6.4*	
23	1073													0.07	0.00024		0.03	**0.03**	8.30	7.07	13.4	*5.8*	
24	1097																					*6.1*	
25	1084																					*6.6*	
26	1191																					*6.7*	
27	1192																					*6.8*	
28	904																					*6.5*	
29	994		154						2.36				2	0.05	0.00020		**0.03**			7.07	15.3	*6.3*	
30	1122													**0.04**	**0.00008**		**0.03**	**0.03**	8.78	6.83	14.3	*6.6*	
31	1144																					*5.9*	
Total	36,954																						
Average	1,192	93	271	9.4	0.06507	11.1	0.05	0.22	2.77	7.51	9.4	**4**	**2.3**	**0.05**	**0.00013**	**0.5**	**0.04**	**0.03**	8.23	7.02	12.3	6.7	**2**
Max.	1,572	93	441	9.4	0.06507	11.1	0.05	0.22	4.43	7.51	9.4	**4**	4	0.07	0.00024	**0.5**	0.09	**0.03**	9.67	7.20	15.3	7.6	**2**
Min.	904	93	127	9.4	0.06507	11.1	0.05	0.22	1.52	7.51	9.4	**4**	**2**	**0.04**	**0.00008**	**0.5**	**0.03**	**0.03**	6.92	6.83	10.4	5.8	**2**
Count	31	1	6	1	1	1	1	1	6	1	1	1	6	10	10	1	10	5	5	10	10	31	1

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Municipality of Dysart et al
Haliburton WWTP
June 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	1055																					*6.2*	
2	1067																					*5.9*	
3	957																					*6.7*	
4	951																					*6.3*	
5	954		193						2.64				3	0.07	0.00037		0.06			*7.17*	*16.0*	*5.6*	
6	963	202	194	17.6	0.31375	24.1	**0.03**	**0.06**	2.46	*7.84*	*11.9*	**4**	4	0.06	0.00044	0.6	0.04	**0.03**	9.67	*7.37*	*14.3*	*5.8*	**2**
7	1015																					*6.1*	
8	917																					*6.6*	
9	993																					*6.1*	
10	856																					*5.7*	
11	887																					*5.5*	
12	1528		171						3.15				4	**0.04**	**0.00041**		0.04			*7.51*	*14.6*	*6.0*	
13	1139													0.04	0.00049		0.06	**0.03**	7.49	*7.58*	*14.8*	*6.3*	
14	1103																					*5.6*	
15	1043																					*5.7*	
16	1079																					*5.8*	
17	1008																					*5.6*	
18	975																					*5.6*	
19	975		173						0.05				4	**0.04**	**0.00028**		0.06			*7.31*	*15.6*	*5.7*	
20	949													**0.04**	**0.00040**		**0.03**	**0.03**	9.65	*7.38*	*18.0*	*5.6*	
21	1020																					*5.6*	
22	1010																					*5.8*	
23	1004																					*5.9*	
24	972																					*6.0*	
25	912																					*5.4*	
26	979		200						2.36				2	**0.04**	**0.00020**		**0.03**			*7.38*	*9.0*	*5.2*	
27	1132													**0.04**	**0.00041**		**0.03**	**0.03**	10.50	*7.39*	*18.2*	*5.0*	
28	1072																					*4.5*	
29	1047																					*5.6*	
30	1063																					*4.7*	
Total	30,625																						
Average	1,021	202	186	17.6	0.31375	24.1	**0.03**	**0.06**	2.13	7.84	11.9	**4**	3.4	**0.05**	**0.00037**	0.6	**0.04**	**0.03**	9.33	7.39	15.1	5.7	**2**
Max.	1,528	202	200	17.6	0.31375	24.1	**0.03**	**0.06**	3.15	7.84	11.9	**4**	4	0.07	0.00049	0.6	0.06	**0.03**	10.50	7.58	18.2	6.7	**2**
Min.	856	202	171	17.6	0.31375	24.1	**0.03**	**0.06**	0.05	7.84	11.9	**4**	2	**0.04**	**0.00020**	0.6	**0.03**	**0.03**	7.49	7.17	9.0	4.5	**2**
Count	30	1	5	1	1	1	1	1	5	1	1	1	5	8	8	1	8	4	4	8	8	30	1

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3. Numbers highlighted in red exceed the effluent limit and are reportable

Municipality of Dysart et al
Haliburton WWTP
July 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	1029																					*5.1*	
2	924																					*5.4*	
3	1006		235						2.99				3	0.06	0.00058		0.06			*7.32*	*19.5*	*4.5*	
4	964	180	191	19.5	0.40733	19.8	**0.03**	**0.06**	2.81	*7.83*	*14.3*	**4**	4	**0.04**	**0.00034**	**0.5**	0.05	**0.03**	10.8	*7.32*	*17.8*	*4.7*	**2**
5	1030																					*4.4*	
6	971																					*4.1*	
7	986																					*4.2*	
8	975																					*4.1*	
9	888																					*4.8*	
10	882		212						2.88				4	0.04	0.00036		0.05			*7.26*	*20.3*	*4.5*	
11	980													0.04	0.00024		0.05	**0.03**	10.7	*7.15*	*18.5*	*4.9*	
12	1007																					*5.6*	
13	1146																					*4.7*	
14	1138																					*4.4*	
15	952																					*4.6*	
16	873																					*4.5*	
17	1005		145						2.57				3	0.06	0.00061		0.06			*7.34*	*19.7*	*4.7*	
18	981													0.08	0.00039		0.07	0.06	11.20	*7.08*	*17.6*	*4.7*	
19	977																					*5.0*	
20	997																					*4.0*	
21	966																					*4.5*	
22	950																					*3.2*	
23	908																					*3.5*	
24	901		134						2.81				**9**	**0.04**	**0.00018**		0.10			*7.05*	*17.9*	*4.2*	
25	903													**0.04**	**0.00010**		0.07	0.04	11.6	*6.79*	*18.0*	*3.9*	
26	921																					*4.1*	
27	928																					*4.1*	
28	983																					*6.6*	
29	934																					*3.1*	
30	769																					*4.6*	
31	874		329						3.26				3	0.05	0.00022		0.07			*7.05*	*17.5*	*4.8*	
Total	29,748																						
Average	960	180	208	19.5	0.40733	19.8	**0.03**	**0.06**	2.89	7.83	14.3	**4**	4.3	**0.05**	**0.00034**	**0.5**	0.06	**0.04**	11.1	7.15	18.5	4.5	**2**
Max.	1,146	180	329	19.5	0.40733	19.8	**0.03**	**0.06**	3.26	7.83	14.3	**4**	9	0.08	0.00061	**0.5**	0.10	0.06	11.6	7.34	20.3	6.6	**2**
Min.	769	180	134	19.5	0.40733	19.8	**0.03**	**0.06**	2.57	7.83	14.3	**4**	3	**0.04**	**0.00010**	**0.5**	0.05	**0.03**	10.7	6.79	17.5	3.1	**2**
Count	31	1	6	1	1	1	1	1	6	1	1	1	6	9	9	1	9	4	4	9	9	31	1

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3. Numbers highlighted in red exceed the effluent limit and are reportable

Municipality of Dysart et al
Haliburton WWTP
August 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m³/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH_3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH_3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	860	225	236	20.4	0.41920	21.7	**0.03**	**0.06**	2.94	*7.78*	*15.6*	**4**	3	**0.04**	**0.00022**	**0.5**	0.06	**0.03**	11.9	*7.14*	*17.4*	*4.5*	4
2	927																					*4.6*	
3	939																					*4.1*	
4	928																					*3.8*	
5	955																					*4.3*	
6	799																					*4.0*	
7	938		280						3.18				3	**0.04**	**0.00018**		0.04			*6.98*	*19.9*	*4.5*	
8	904													**0.04**	**0.00014**		0.04	**0.03**	12.8	*6.90*	*19.3*	*3.4*	
9	883																					*3.5*	
10	977																					*4.4*	
11	1001																					*4.0*	
12	900																					*4.5*	
13	817																					*4.2*	
14	872		290						3.46				5	0.08	0.00037		0.09			*7.04*	*18.1*	*4.9*	
15	894													0.06	0.00019		0.05	0.05	13.0	*6.82*	*19.7*	*3.4*	
16	838																					*3.3*	
17	907																					*4.1*	
18	917																					*4.1*	
19	851																					*3.9*	
20	779																					*4.7*	
21	888		190						3.20				4	**0.04**	**0.00014**		0.09			*6.91*	*18.2*	*4.7*	
22	880													0.06	0.00024		0.08	**0.03**	12.2	*7.03*	*16.7*	*3.8*	
23	846																					*4.4*	
24	847																					*3.7*	
25	943																					*3.9*	
26	825																					*3.9*	
27	764																					*5.5*	
28	850		405						3.52				4	0.05	0.00017		0.08			*6.89*	*19.0*	*4.1*	
29	911													**0.04**	**0.00013**		0.08	**0.03**	13.2	*6.91*	*17.6*	*3.8*	
30	878																					*3.7*	
31	867																					*3.9*	
Total	27,385																						
Average	883	225	280	20.4	0.41920	21.7	**0.03**	**0.06**	3.26	7.78	15.6	**4**	3.8	**0.05**	**0.00020**	**0.5**	0.07	**0.03**	12.6	6.96	18.4	4.1	4
Max.	1,001	225	405	20.4	0.41920	21.7	**0.03**	**0.06**	3.52	7.78	15.6	**4**	5	0.08	0.00037	**0.5**	0.09	**0.05**	13.2	7.14	19.9	5.5	4
Min.	764	225	190	20.4	0.41920	21.7	**0.03**	**0.06**	2.94	7.78	15.6	**4**	3	**0.04**	**0.00013**	**0.5**	0.04	**0.03**	11.9	6.82	16.7	3.3	4
Count	31	1	5	1	1	1	0	0	5	1	1	1	5	9	9	1	9	4	5	9	9	31	1

Notes: **1. Numbers highlighted in grey are equal to less than (<) the value shown**
2. Numbers highlighted in green exceed the effluent objective
3. Numbers highlighted in red exceed the effluent limit and are reportable

Municipality of Dysart et al
Haliburton WWTP
September 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	853																					*4.3*	
2	844																					*4.7*	
3	852																					*3.4*	
4	829		251						3.14				2	**0.04**	**0.00013**		0.06			*6.86*	*19.5*	*3.9*	
5	819	159	167	19.7	0.37491	25.6	**0.03**	**0.06**	2.71	*7.72*	*16.4*	2	**6**	0.07	0.00032	1.7	0.08	0.04	11.8	*7.01*	*19.2*	*4.3*	**2**
6	825																					*3.2*	
7	823																					*2.5*	
8	887																					*3.2*	
9	727																					*4.3*	
10	704																					*3.9*	
11	769		223						3.37				**2**	0.04	0.00026		0.05			*7.16*	*19.2*	*6.3*	
12	792													**0.04**	**0.00026**		0.04	0.04	13.7	*7.16*	*19.3*	*3.8*	
13	766																					*2.7*	
14	802																					*2.8*	
15	915																					*3.2*	
16	784																					*3.9*	
17	651																					*4.6*	
18	769		298						3.24				4	0.04	0.00022		0.05			*7.12*	*18.0*	*3.0*	
19	703													**0.04**	**0.00027**		0.05	0.03	11.1	*7.20*	*18.4*	*5.3*	
20	725																					*4.3*	
21	735																					*5.7*	
22	859																					*5.1*	
23	710																					*5.3*	
24	690																					*4.9*	
25	728		237						3.10				4	**0.04**	**0.00006**		**0.03**			*7.17*		*5.2*	
26	750													0.06	0.00033		**0.03**	0.09	11.7	*7.09*	*18.9*	*5.4*	
27	755																					*5.3*	
28	787																					*5.8*	
29	776																					*5.0*	
30	749																					*5.6*	
Total	23,378																						
Average	779	159	235	19.7	0.37491	25.6	**0.03**	**0.06**	3.11	7.72	16.4	2	**3.6**	**0.05**	**0.00023**	1.7	**0.05**	0.05	12.1	7.10	18.9	4.4	**2**
Max.	915	159	298	19.7	0.37491	25.6	**0.03**	**0.06**	3.37	7.72	16.4	2	6	0.07	0.00033	1.7	0.08	0.09	13.7	7.20	19.5	6.3	**2**
Min.	651	159	167	19.7	0.37491	25.6	**0.03**	**0.06**	2.71	7.72	16.4	2	**2**	**0.04**	**0.00006**	1.7	**0.03**	0.03	11.1	6.86	18.0	2.5	**2**
Count	30	1	5	1	1	1	1	1	5	1	1	1	5	8	8	1	8	4	4	8	7	30	1

Notes: 1. Numbers highlighted in grey are equal to less than (<) the value shown
2. Numbers highlighted in green exceed the effluent objective
3. Numbers highlighted in red exceed the effluent limit and are reportable

Municipality of Dysart et al
Haliburton WWTP
October 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	715																					*5.0*	
2	731		278						3.56				3	0.04	0.00021		**0.03**			*7.07*	*19.3*	*4.7*	
3	741	209	222	22.2	0.31429	24.9	**0.03**	**0.06**	3.42	*7.58*	*16.7*	**4**	**2**	0.04	0.00023	**0.5**	**0.03**	**0.15**	11.7	*7.08*	*19.7*	*4.3*	**2**
4	784																					*5.5*	
5	877																					*5.3*	
6	838																					*4.9*	
7	746																					*5.3*	
8	737																					*5.8*	
9	783		202						3.02				2	**0.04**	**0.00028**		0.04			*7.25*	*17.4*	*5.3*	
10	754													0.04	0.00026		0.05	**0.03**	11.5	*7.24*	*16.8*	*6.3*	
11	775																					*6.1*	
12	640																					*5.2*	
13	757																					*5.5*	
14	654																					*6.0*	
15	601																					*5.7*	
16	675		208						3.70				4	**0.04**	**0.00011**		0.04			*6.82*	*18.5*	*5.4*	
17	696													0.05	0.00019		0.05	**0.03**	11.8	*7.02*	*15.9*	*5.9*	
18	760																					*6.1*	
19	673																					*5.7*	
20	774																					*4.2*	
21	663																					*5.1*	
22	586																					*5.3*	
23	648		271						3.41				2	0.06	0.00036		0.03			*7.25*	*15.4*	*5.7*	
24	649													**0.04**	**0.00028**		0.04	0.03	12.4	*7.30*	*15.8*	*6.2*	
25	658																					*5.2*	
26	757																					*5.3*	
27	798																					*5.2*	
28	693																					*4.9*	
29	668																					*5.8*	
30	659		221						3.80				3	0.05	0.00030		0.09			*7.26*	*15.2*	*5.1*	
31	727													0.04	0.00019		0.04	**0.03**	13.1	*7.13*	*15.9*	*6.0*	
Total	22,217																						
Average	717	209	234	22.2	0.31429	24.9	**0.03**	**0.06**	3.49	7.58	16.7	**4**	**2.7**	**0.04**	**0.00024**	**0.5**	**0.04**	**0.05**	12.1	7.14	17.0	5.4	**2**
Max.	877	209	278	22.2	0.31429	24.9	**0.03**	**0.06**	3.80	7.58	16.7	**4**	4	0.06	0.00036	**0.5**	0.09	0.15	13.1	7.30	19.7	6.3	**2**
Min.	586	209	202	22.2	0.31429	24.9	**0.03**	**0.06**	3.02	7.58	16.7	**4**	**2**	**0.04**	**0.00011**	**0.5**	**0.03**	**0.03**	11.5	6.82	15.2	4.2	**2**
Count	31	1	6	1	1	1	1	1	6	1	1	1	6	10	10	1	10	5	5	10	10	31	1

Notes: **1. Numbers highlighted in grey are equal to less than (<) the value shown**
2. Numbers highlighted in green exceed the effluent objective
3. Numbers highlighted in red exceed the effluent limit and are reportable

Municipality of Dysart et al
Haliburton WWTP
November 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	669																					*6.5*	
2	684																					*6.1*	
3	727																					*5.7*	
4	655																					*6.1*	
5	605																					*5.7*	
6	742		300						3.57				2	**0.04**	**0.00027**		0.07			*7.34*	*13.9*	*5.9*	
7	662	179	265	25.8	0.46699	32.8	0.05	**0.05**	3.23	*7.78*	*13.9*	**4**	3	0.04	0.00023	1.7	0.06	0.04	13.00	*7.21*	*16.2*	*5.1*	**2**
8	736																					*6.2*	
9	740																					*5.9*	
10	683																					*5.6*	
11	688																					*5.6*	
12	717																					*6.2*	
13	661		370						3.20				**2**	0.07	0.00048		0.05			*7.40*	*12.5*	*5.9*	
14	670													0.05	0.00031		0.04	**0.03**	11.3	*7.34*	*13.0*	*5.8*	
15	801																					*5.7*	
16	693																					*5.8*	
17	665																					*5.0*	
18	659																					*5.8*	
19	658																					*5.8*	
20	674		309						3.76				3	**0.04**	**0.00025**		0.03			*7.33*	*13.5*	*5.6*	
21	690													**0.04**	**0.00029**		0.03	**0.03**	11.20	*7.38*	*14.0*	*6.6*	
22	575																					*6.0*	
23	658																					*6.7*	
24	720																					*7.2*	
25	676																					*6.0*	
26	617																					*6.0*	
27	666		356						3.50				3	0.04	0.00021		0.05			*7.25*	*13.3*	*6.6*	
28	655													0.05	0.00030		0.05	0.03	11.20	*7.28*	*14.4*	*6.4*	
29	727																					*5.9*	
30	670																					*6.0*	
Total	20,443																						
Average	681	179	320	25.8	0.46699	32.8	0.05	**0.05**	3.45	7.78	13.9	**4**	**2.6**	**0.05**	**0.00029**	1.7	0.05	**0.03**	11.7	7.32	13.9	6.0	**2**
Max.	801	179	370	25.8	0.46699	32.8	0.05	**0.05**	3.76	7.78	13.9	**4**	3	0.07	0.00048	1.7	0.07	**0.04**	13.0	7.40	16.2	7.2	**2**
Min.	575	179	265	25.8	0.46699	32.8	0.05	**0.05**	3.20	7.78	13.9	**4**	**2**	**0.04**	**0.00021**	1.7	0.03	**0.03**	11.20	7.21	12.5	5.0	**2**
Count	30	1	5	1	1	1	1	1	5	1	1	1	5	8	8	1	8	4	4	8	8	30	1

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Municipality of Dysart et al
Haliburton WWTP
December 2023

Date	Raw Sewage											Final Effluent											
	Raw Sewage Flow m^3/d	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	Total Phosphorus mg/L	pH	Temperature °C	$CBOD_5$ mg/L	Suspended Solids mg/L	Total Ammonia mg/L	Calculated Un-ionized Ammonia as NH3 mg/l	Total Kjeldahl Nitrogen mg/L	Total Phosphorus mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	pH	Temperature oC	Dissolved Oxygen mg/L	E. Coli cfu/100 mL
1	704																					*5.8*	
2	639																					*6.9*	
3	658																					*6.4*	
4	724		261						3.45				4	0.06	0.00037		0.04			*7.38*	*11.7*	*5.8*	
5	704	200	262	30.7	0.79155	32.6	**0.03**	**0.06**	3.65	*8.02*	*11.4*	**9**	**2**	0.05	0.00011	1.5	0.04	**0.03**	11.3	*6.93*	*11.7*	*6.0*	**2**
6	885																					*6.2*	
7	673																					*6.6*	
8	659																					*6.3*	
9	742																					*6.4*	
10	660																					*5.8*	
11	754		261						3.12				3	**0.04**	**0.00020**		0.03			*7.25*	*13.1*	*6.1*	
12	770													0.08	0.00033		**0.03**	**0.03**	9.94	*7.17*	*12.8*	*6.2*	
13	680																					*6.4*	
14	708																					*6.8*	
15	764																					*7.2*	
16	708																					*6.3*	
17	753																					*6.2*	
18	566		269						3.22				5	0.25	0.00074		0.08			*7.31*	*4.6*	*4.6*	
19	915													0.13	0.00058		0.08	0.08	10.6	*7.19*	*13.3*	*6.5*	
20	854																					*5.0*	
21	745																					*6.6*	
22	778																					*7.0*	
23	752																					*6.6*	
24	656																					*7.1*	
25	624		206						2.74				3	0.06	0.00030		0.04			*7.24*	*13.1*	*7.3*	
26	662													0.06	0.00034		0.04	**0.03**	8.94	*7.28*	*13.8*	*7.1*	
27	819																					*6.6*	
28	832																					*5.5*	
29	836																					*6.1*	
30	837																					*6.5*	
31	747																					*6.8*	
Total	22,808																						
Average	736	200	252	30.7	0.79155	32.6	**0.03**	**0.06**	3.24	8.02	11.4	**9**	**3.4**	**0.09**	**0.00037**	1.5	**0.05**	**0.04**	10.20	7.22	11.8	6.3	**2**
Max.	915	200	269	30.7	0.79155	32.6	**0.03**	**0.06**	3.65	8.02	11.4	9	5	0.25	0.00074	1.5	0.08	0.08	11.30	7.38	13.8	7.3	**2**
Min.	566	200	206	30.7	0.79155	32.6	**0.03**	**0.06**	2.74	8.02	11.4	9	**2**	**0.04**	**0.00011**	1.5	**0.03**	**0.03**	8.94	6.93	4.6	4.6	**2**
Count	31	1	5	1	1	1	1	1	5	1	1	1	5	8	8	1	8	4	4	8	8	31	1

Notes: **1. Numbers highlighted in grey are equal to less than (<) the value shown**
2. Numbers highlighted in green exceed the effluent objective
3. Numbers highlighted in red exceed the effluent limit and are reportable

APPENDIX C. LABORATORY ANALYTICAL CERTIFICATES

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

10-January-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 04 January 2023
LR Report: **CA13057-JAN23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					02-Jan-23 07:24	02-Jan-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	18.0	18.0
Field pH [no unit]	---	---	---	---	7.04	---
Field Temperature [celcius]	---	---	---	---	12.2	---
Total Suspended Solids [mg/L]	06-Jan-23	14:19	09-Jan-23	16:11	< 2	147
Phosphorus (total) [mg/L]	09-Jan-23	12:07	10-Jan-23	11:32	0.06	1.95
Ammonia+Ammonium (N) [mg/L]	06-Jan-23	17:06	10-Jan-23	11:32	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00003186887

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

11-January-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 04 January 2023
LR Report: **CA13056-JAN23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Raw Sewage Influent	6: DS - Sewage Effluent
Sample Date & Time					03-Jan-23 07:35	03-Jan-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	19.0	19.0
Field pH [no unit]	---	---	---	---	7.85	7.13
Field Temperature [celcius]	---	---	---	---	11.3	11.9
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	05-Jan-23	16:37	10-Jan-23	13:09	163	< 4
Total Suspended Solids [mg/L]	07-Jan-23	12:57	10-Jan-23	13:39	169	< 2
pH@temp15 [pH Units]	05-Jan-23	08:59	05-Jan-23	12:03	---	8.40
Phosphorus (total) [mg/L]	09-Jan-23	12:07	10-Jan-23	11:30	2.06	0.06
Total Kjeldahl Nitrogen [as N mg/L]	09-Jan-23	15:32	11-Jan-23	11:02	17.5	0.8
Ammonia+Ammonium (N) [mg/L]	06-Jan-23	17:06	10-Jan-23	10:02	14.6	< 0.04
Unionized Ammonia [mg/L as N]	06-Jan-23	17:06	10-Jan-23	10:03	---	< 0.001
Nitrite (as N) [mg/L]	05-Jan-23	00:25	10-Jan-23	13:36	< 0.03	< 0.03
Nitrate (as N) [mg/L]	05-Jan-23	00:25	10-Jan-23	13:36	< 0.06	7.73
Nitrate + Nitrite (as N) [mg/L]	05-Jan-23	00:25	10-Jan-23	13:36	< 0.06	7.73
E. Coli [cfu/100mL]	04-Jan-23	17:35	06-Jan-23	10:38	---	< 2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003188542

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-January-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 11 January 2023
LR Report: **CA13319-JAN23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					09-Jan-23 07:06	09-Jan-23 07:10
Temperature Upon Receipt [°C]	---	---	---	---	4.0	4.0
Field pH [no unit]	---	---	---	---	7.12	---
Field Temperature [celcius]	---	---	---	---	11.6	---
Total Suspended Solids [mg/L]	12-Jan-23	13:53	13-Jan-23	12:04	3	171
Phosphorus (total) [mg/L]	13-Jan-23	14:43	17-Jan-23	15:10	0.03	1.87
Ammonia+Ammonium (N) [mg/L]	12-Jan-23	18:00	17-Jan-23	11:03	0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003197231

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

18-January-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 11 January 2023
LR Report: **CA13326-JAN23**

Copy: #1

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					10-Jan-23 07:52
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Field pH [no unit]	---	---	---	---	7.15
Field Temperature [celcius]	---	---	---	---	10.8
Phosphorus (total) [mg/L]	13-Jan-23	14:43	17-Jan-23	15:10	< 0.03
Unionized Ammonia [mg/L as N]	13-Jan-23	12:28	17-Jan-23	11:04	< 0.001
Ammonia+Ammonium (N) [mg/L]	13-Jan-23	12:28	17-Jan-23	11:03	0.04
Nitrite (as N) [mg/L]	12-Jan-23	13:30	18-Jan-23	13:56	< 0.03
Nitrate (as N) [mg/L]	12-Jan-23	13:30	18-Jan-23	13:56	7.92
Nitrate + Nitrite (as N) [mg/L]	12-Jan-23	13:30	18-Jan-23	13:56	7.92

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003198429

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

24-January-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 18 January 2023
LR Report: **CA13539-JAN23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					16-Jan-23 07:15	16-Jan-23 07:10
Temperature Upon Receipt [°C]	---	---	---	---	8.0	8.0
Field pH [no unit]	---	---	---	---	7.05	---
Field Temperature [celcius]	---	---	---	---	9.4	---
Total Suspended Solids [mg/L]	23-Jan-23	07:49	24-Jan-23	13:05	2	171
Phosphorus (total) [mg/L]	18-Jan-23	15:33	19-Jan-23	14:48	0.04	2.57
Ammonia+Ammonium (N) [mg/L]	18-Jan-23	16:48	19-Jan-23	12:36	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003205984

SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
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25-January-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 18 January 2023
LR Report: **CA13544-JAN23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					17-Jan-23 07:10
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	6.98
Field Temperature [celcius]	---	---	---	---	10.5
Phosphorus (total) [mg/L]	18-Jan-23	15:33	23-Jan-23	11:34	0.06
Ammonia+Ammonium (N) [mg/L]	18-Jan-23	16:48	19-Jan-23	12:36	< 0.04
Unionized Ammonia [mg/L as N]	18-Jan-23	16:48	19-Jan-23	12:37	< 0.001
Nitrite (as N) [mg/L]	18-Jan-23	20:13	25-Jan-23	11:00	0.04
Nitrate (as N) [mg/L]	18-Jan-23	20:13	25-Jan-23	11:00	9.30
Nitrate + Nitrite (as N) [mg/L]	18-Jan-23	20:13	25-Jan-23	11:00	9.34

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003207133

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30-January-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 25 January 2023
LR Report: **CA13755-JAN23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					23-Jan-23 07:23	23-Jan-23 07:28
Temperature Upon Receipt [°C]	---	---	---	---	7.0	7.0
Field pH [no unit]	---	---	---	---	6.98	---
Field Temperature [celcius]	---	---	---	---	11.8	---
Total Suspended Solids [mg/L]	26-Jan-23	09:47	30-Jan-23	15:11	3	185
Phosphorus (total) [mg/L]	25-Jan-23	17:23	26-Jan-23	11:19	< 0.03	2.57
Ammonia+Ammonium (N) [mg/L]	25-Jan-23	17:00	26-Jan-23	13:05	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003213614

SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
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31-January-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 25 January 2023
LR Report: **CA13754-JAN23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					24-Jan-23 08:05
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Field pH [no unit]	---	---	---	---	7.07
Field Temperature [celcius]	---	---	---	---	11.3
Phosphorus (total) [mg/L]	25-Jan-23	17:23	26-Jan-23	11:19	< 0.03
Ammonia+Ammonium (N) [mg/L]	25-Jan-23	17:00	26-Jan-23	13:04	< 0.04
Nitrite (as N) [mg/L]	26-Jan-23	09:28	30-Jan-23	17:08	< 0.03
Nitrate (as N) [mg/L]	26-Jan-23	09:28	30-Jan-23	17:08	9.80
Nitrate + Nitrite (as N) [mg/L]	26-Jan-23	09:28	30-Jan-23	17:08	9.80
Unionized Ammonia [mg/L as N]	25-Jan-23	17:00	26-Jan-23	13:04	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003213976

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03-February-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 01 February 2023
LR Report: **CA12029-FEB23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					30-Jan-23 07:12	30-Jan-23 07:26
Temperature Upon Receipt [°C]	---	---	---	---	4.0	4.0
Field pH [no unit]	---	---	---	---	7.12	---
Field Temperature [celcius]	---	---	---	---	9.8	---
Total Suspended Solids [mg/L]	02-Feb-23	10:02	03-Feb-23	15:51	3	151
Phosphorus (total) [mg/L]	01-Feb-23	19:45	02-Feb-23	13:47	0.06	2.50
Ammonia+Ammonium (N) [mg/L]	01-Feb-23	22:10	03-Feb-23	10:17	0.10	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003219726

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08-February-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 01 February 2023
LR Report: **CA12027-FEB23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					31-Jan-23 07:26
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Field pH [no unit]	---	---	---	---	7.09
Field Temperature [celcius]	---	---	---	---	9.4
Phosphorus (total) [mg/L]	01-Feb-23	19:45	02-Feb-23	13:47	0.06
Unionized Ammonia [mg/L as N]	01-Feb-23	22:10	08-Feb-23	14:47	< 0.001
Ammonia+Ammonium (N) [mg/L]	01-Feb-23	22:10	08-Feb-23	14:47	0.05
Nitrite (as N) [mg/L]	02-Feb-23	15:06	07-Feb-23	15:19	0.05
Nitrate (as N) [mg/L]	02-Feb-23	15:06	07-Feb-23	15:19	9.50
Nitrate + Nitrite (as N) [mg/L]	02-Feb-23	15:06	07-Feb-23	15:19	9.55

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003223665

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14-February-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 08 February 2023
LR Report: **CA12216-FEB23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					06-Feb-23 07:30	06-Feb-23 07:36
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	7.03	---
Field Temperature [celcius]	---	---	---	---	10.1	---
Total Suspended Solids [mg/L]	09-Feb-23	08:00	10-Feb-23	13:20	2	232
Phosphorus (total) [mg/L]	08-Feb-23	17:01	10-Feb-23	12:03	0.07	3.08
Ammonia+Ammonium (N) [mg/L]	09-Feb-23	06:43	10-Feb-23	13:15	0.42	---

Patti Stark
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003229970

SGS Canada Inc.
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07-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 08 February 2023
LR Report: **CA12206-FEB23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Raw Sewage Influent	6: DS-Sewage Effluent
Sample Date & Time					07-Feb-23 08:00	07-Feb-23 08:15
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	7.88	7.05
Field Temperature [celcius]	---	---	---	---	9.1	9.4
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	09-Feb-23	17:30	14-Feb-23	13:14	188	< 4
Total Suspended Solids [mg/L]	10-Feb-23	09:58	13-Feb-23	11:02	258	4
pH@temp15 [pH Units]	10-Feb-23	13:51	13-Feb-23	12:48	---	7.37
Phosphorus (total) [mg/L]	09-Feb-23	16:11	13-Feb-23	09:54	3.13	0.05
Total Kjeldahl Nitrogen [as N mg/L]	08-Feb-23	17:08	09-Feb-23	13:39	29.3	1.7
Ammonia+Ammonium (N) [mg/L]	09-Feb-23	10:15	16-Feb-23	11:16	23.1	0.10
Unionized Ammonia [mg/L as N]	09-Feb-23	10:15	16-Feb-23	11:16	---	< 0.001
Nitrite (as N) [mg/L]	09-Feb-23	15:31	15-Feb-23	11:48	< 0.03	0.24
Nitrate (as N) [mg/L]	09-Feb-23	15:31	15-Feb-23	11:48	< 0.06	9.64
Nitrate + Nitrite (as N) [mg/L]	09-Feb-23	15:31	15-Feb-23	11:48	< 0.06	9.88
E. Coli [cfu/100mL]	08-Feb-23	15:43	10-Feb-23	08:36	---	< 2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003254124

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07-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 15 February 2023
LR Report: **CA13490-FEB23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					14-Feb-23 07:17
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	6.95
Field Temperature [celcius]	---	---	---	---	12.2
Phosphorus (total) [mg/L]	16-Feb-23	16:31	17-Feb-23	14:04	0.06
Ammonia+Ammonium (N) [mg/L]	16-Feb-23	10:12	17-Feb-23	09:30	0.09
Nitrite (as N) [mg/L]	16-Feb-23	09:31	21-Feb-23	13:27	0.27
Nitrate (as N) [mg/L]	16-Feb-23	09:31	21-Feb-23	13:27	9.91
Nitrate + Nitrite (as N) [mg/L]	16-Feb-23	09:31	21-Feb-23	13:27	10.2
Unionized Ammonia [mg/L as N]	16-Feb-23	10:12	23-Feb-23	09:44	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003254146

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07-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 22 February 2023
LR Report: **CA12977-FEB23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					20-Feb-23 11:20	20-Feb-23 11:10
Temperature Upon Receipt [°C]	---	---	---	---	8.0	8.0
Field pH [no unit]	---	---	---	---	7.54	---
Field Temperature [celcius]	---	---	---	---	10.9	---
Total Suspended Solids [mg/L]	24-Feb-23	09:33	27-Feb-23	12:38	2	213
Phosphorus (total) [mg/L]	22-Feb-23	21:50	01-Mar-23	09:22	0.08	2.65
Ammonia+Ammonium (N) [mg/L]	23-Feb-23	17:43	24-Feb-23	13:20	< 0.04	---

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003254135

SGS Canada Inc.
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07-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 22 February 2023
LR Report: **CA12976-FEB23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					21-Feb-23 07:02
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	7.09
Field Temperature [celcius]	---	---	---	---	11.5
Phosphorus (total) [mg/L]	22-Feb-23	21:50	23-Feb-23	10:32	0.04
Ammonia+Ammonium (N) [mg/L]	23-Feb-23	17:43	24-Feb-23	13:20	< 0.04
Unionized Ammonia [mg/L as N]	23-Feb-23	17:43	24-Feb-23	13:20	< 0.001
Nitrite (as N) [mg/L]	22-Feb-23	19:52	23-Feb-23	12:09	0.04
Nitrate (as N) [mg/L]	22-Feb-23	19:52	23-Feb-23	12:09	10.0
Nitrate + Nitrite (as N) [mg/L]	22-Feb-23	19:52	23-Feb-23	12:09	10.0

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003254131

SGS Canada Inc.
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07-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
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Phone: 519-542-7900
Fax:

Date Rec. : 15 February 2023
LR Report: **CA13489-FEB23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					13-Feb-23 07:17	13-Feb-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	8.0	8.0
Field pH [no unit]	---	---	---	---	6.99	---
Field Temperature [celcius]	---	---	---	---	11.5	---
Total Suspended Solids [mg/L]	16-Feb-23	11:12	17-Feb-23	15:10	3	217
Phosphorus (total) [mg/L]	16-Feb-23	16:31	21-Feb-23	13:40	0.07	2.78
Ammonia+Ammonium (N) [mg/L]	16-Feb-23	10:12	17-Feb-23	09:30	0.06	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003254140

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
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07-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 01 March 2023
LR Report: **CA13027-MAR23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					27-Feb-23 07:07	27-Feb-23 07:13
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	7.04	---
Field Temperature [celcius]	---	---	---	---	8.9	---
Total Suspended Solids [mg/L]	02-Mar-23	11:21	03-Mar-23	16:11	3	216
Phosphorus (total) [mg/L]	01-Mar-23	18:03	02-Mar-23	10:59	0.05	3.25
Ammonia+Ammonium (N) [mg/L]	01-Mar-23	16:57	02-Mar-23	12:25	0.04	---

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003254153

SGS Canada Inc.
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08-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
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Phone: 519-542-7900
Fax:

Date Rec. : 01 March 2023
LR Report: **CA13026-MAR23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					28-Feb-23 07:19
Temperature Upon Receipt [°C]	---	---	---	---	5.0
Field pH [no unit]	---	---	---	---	7.03
Field Temperature [celcius]	---	---	---	---	9.9
Phosphorus (total) [mg/L]	01-Mar-23	18:03	02-Mar-23	10:58	0.06
Ammonia+Ammonium (N) [mg/L]	01-Mar-23	16:57	02-Mar-23	12:25	< 0.04
Nitrite (as N) [mg/L]	02-Mar-23	08:40	08-Mar-23	11:08	0.04
Nitrate (as N) [mg/L]	02-Mar-23	08:40	08-Mar-23	11:08	10.0
Nitrate + Nitrite (as N) [mg/L]	02-Mar-23	08:40	08-Mar-23	11:08	10.1
Unionized Ammonia [mg/L as N]	02-Mar-23	08:40	02-Mar-23	12:25	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003255218

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P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
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14-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 09 March 2023
LR Report: **CA13379-MAR23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					06-Mar-23 07:39	06-Mar-23 07:44
Temperature Upon Receipt [°C]	---	---	---	---	9.0	9.0
Field pH [no unit]	---	---	---	---	6.97	---
Field Temperature [celcius]	---	---	---	---	10.7	---
Total Suspended Solids [mg/L]	11-Mar-23	12:57	14-Mar-23	11:34	2	384
Phosphorus (total) [mg/L]	10-Mar-23	15:38	14-Mar-23	11:12	0.04	3.35
Ammonia+Ammonium (N) [mg/L]	10-Mar-23	21:19	14-Mar-23	09:40	0.04	---

Kimberley Didsbury
Project Specialist,
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0003262798

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16-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 09 March 2023
LR Report: **CA13387-MAR23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Raw Sewage Influent	6: DS - Sewage Effluent
Sample Date & Time					08-Mar-23 06:55	08-Mar-23 07:05
Temperature Upon Receipt [°C]	---	---	---	---	9.0	9.0
Field pH [no unit]	---	---	---	---	7.90	7.01
Field Temperature [celcius]	---	---	---	---	9.4	11.4
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	10-Mar-23	17:31	15-Mar-23	14:25	196	< 4
Total Suspended Solids [mg/L]	13-Mar-23	13:40	14-Mar-23	12:56	383	4
pH@temp15 [pH Units]	10-Mar-23	13:34	10-Mar-23	16:23	---	7.39
Phosphorus (total) [mg/L]	10-Mar-23	15:38	14-Mar-23	11:12	3.72	0.04
Total Kjeldahl Nitrogen [as N mg/L]	10-Mar-23	16:28	13-Mar-23	11:58	26.1	2.3
Ammonia+Ammonium (N) [mg/L]	09-Mar-23	21:12	13-Mar-23	09:32	22.2	0.06
Unionized Ammonia [mg/L as N]	09-Mar-23	21:12	13-Mar-23	09:32	---	< 0.001
Nitrite (as N) [mg/L]	10-Mar-23	10:46	15-Mar-23	16:11	< 0.03	0.06
Nitrate (as N) [mg/L]	10-Mar-23	10:46	15-Mar-23	16:11	< 0.06	12.0
Nitrate + Nitrite (as N) [mg/L]	10-Mar-23	10:46	15-Mar-23	16:11	< 0.06	12.1
E. Coli [cfu/100mL]	09-Mar-23	16:31	13-Mar-23	08:47	---	4

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
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0003265592

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17-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 15 March 2023
LR Report: **CA13611-MAR23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					13-Mar-23 08:00	13-Mar-23 07:50
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	6.97	---
Field Temperature [celcius]	---	---	---	---	11.2	---
Total Suspended Solids [mg/L]	16-Mar-23	11:33	17-Mar-23	13:18	3	310
Phosphorus (total) [mg/L]	16-Mar-23	15:41	17-Mar-23	12:30	0.06	3.24
Ammonia+Ammonium (N) [mg/L]	15-Mar-23	21:53	16-Mar-23	09:08	0.06	---

Kimberley Didsbury
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0003267961

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21-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 15 March 2023
LR Report: **CA13606-MAR23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					14-Mar-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	5.0
Field pH [no unit]	---	---	---	---	6.97
Field Temperature [celcius]	---	---	---	---	10.6
Phosphorus (total) [mg/L]	15-Mar-23	16:35	16-Mar-23	11:34	0.07
Ammonia+Ammonium (N) [mg/L]	15-Mar-23	21:53	16-Mar-23	09:07	0.07
Unionized Ammonia [mg/L as N]	15-Mar-23	21:53	16-Mar-23	09:07	< 0.001
Nitrite (as N) [mg/L]	17-Mar-23	11:10	21-Mar-23	13:43	0.04
Nitrate (as N) [mg/L]	17-Mar-23	11:10	21-Mar-23	13:43	11.0
Nitrate + Nitrite (as N) [mg/L]	17-Mar-23	11:10	21-Mar-23	13:43	11.0

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
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0003271523

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24-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Phone: 519-542-7900
Fax:

Date Rec. : 22 March 2023
LR Report: **CA13825-MAR23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					20-Mar-23 07:45	20-Mar-23 07:35
Temperature Upon Receipt [°C]	---	---	---	---	7.0	7.0
Field pH [no unit]	---	---	---	---	6.97	---
Field Temperature [celcius]	---	---	---	---	10.2	---
Total Suspended Solids [mg/L]	23-Mar-23	07:51	24-Mar-23	11:32	2	309
Phosphorus (total) [mg/L]	22-Mar-23	17:10	23-Mar-23	08:39	0.06	3.17
Ammonia+Ammonium (N) [mg/L]	22-Mar-23	17:37	23-Mar-23	12:41	0.04	---

Kimberley Didsbury
Project Specialist,
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0003275860

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28-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 22 March 2023
LR Report: **CA13823-MAR23**

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Stoney Creek, ON
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					21-Mar-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Field pH [no unit]	---	---	---	---	6.99
Field Temperature [celcius]	---	---	---	---	9.3
Phosphorus (total) [mg/L]	22-Mar-23	17:10	23-Mar-23	08:38	0.06
Ammonia+Ammonium (N) [mg/L]	22-Mar-23	17:37	23-Mar-23	12:40	< 0.04
Unionized Ammonia [mg/L as N]	22-Mar-23	17:37	23-Mar-23	12:40	< 0.001
Nitrite (as N) [mg/L]	23-Mar-23	15:09	28-Mar-23	15:25	< 0.03
Nitrate (as N) [mg/L]	23-Mar-23	15:09	28-Mar-23	15:25	8.80
Nitrate + Nitrite (as N) [mg/L]	23-Mar-23	15:09	28-Mar-23	15:25	8.80

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
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0003280469

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04-April-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Phone: 519-542-7900
Fax:

Date Rec. : 29 March 2023
LR Report: **CA13984-MAR23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					27-Mar-23 07:35	27-Mar-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	6.99	---
Field Temperature [celcius]	---	---	---	---	10.4	---
Total Suspended Solids [mg/L]	31-Mar-23	08:17	03-Apr-23	12:58	2	334
Phosphorus (total) [mg/L]	29-Mar-23	17:08	30-Mar-23	15:01	0.06	3.01
Ammonia+Ammonium (N) [mg/L]	03-Apr-23	07:21	04-Apr-23	08:43	< 0.04	---

Kimberley Didsbury
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OnLine LIMS

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31-March-2023

Clearford Waterworks Inc. (Haliburton WPCP)
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Phone: 519-542-7900
Fax:

Date Rec. : 29 March 2023
LR Report: **CA13992-MAR23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Sewage Effluent
Sample Date & Time					28-Mar-23 08:10
Temperature Upon Receipt [°C]	---	---	---	---	5.0
Field pH [no unit]	---	---	---	---	7.01
Field Temperature [celcius]	---	---	---	---	10.6
Phosphorus (total) [mg/L]	29-Mar-23	17:08	30-Mar-23	15:02	0.07
Ammonia+Ammonium (N) [mg/L]	29-Mar-23	22:15	30-Mar-23	09:12	< 0.04
Unionized Ammonia [mg/L as N]	29-Mar-23	22:15	30-Mar-23	09:12	< 0.001
Nitrite (as N) [mg/L]	30-Mar-23	10:26	31-Mar-23	10:33	< 0.03
Nitrate (as N) [mg/L]	30-Mar-23	10:26	31-Mar-23	10:33	8.85
Nitrate + Nitrite (as N) [mg/L]	30-Mar-23	10:26	31-Mar-23	10:33	8.85

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
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Environment, Health & Safety

OnLine LIMS

0003285645

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13-April-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Phone: 519-542-7900
Fax:

Date Rec. : 05 April 2023
LR Report: **CA12204-APR23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					03-Apr-23 07:55	03-Apr-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	10.0	10.0
Field pH [no unit]	---	---	---	---	7.04	---
Field Temperature [celcius]	---	---	---	---	10.3	---
Total Suspended Solids [mg/L]	10-Apr-23	09:53	12-Apr-23	12:45	2	244
Phosphorus (total) [mg/L]	10-Apr-23	15:08	13-Apr-23	07:30	0.05	2.57
Ammonia+Ammonium (N) [mg/L]	05-Apr-23	21:23	06-Apr-23	09:33	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

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13-April-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 05 April 2023
LR Report: **CA12197-APR23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Raw Sewage Influent	6: DS - Sewage Effluent
Sample Date & Time					04-Apr-23 07:45	04-Apr-23 07:55
Temperature Upon Receipt [°C]	---	---	---	---	10.0	10.0
Field pH [no unit]	---	---	---	---	7.78	7.07
Field Temperature [celcius]	---	---	---	---	9.6	9.6
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	06-Apr-23	16:57	11-Apr-23	14:19	168	< 4
Total Suspended Solids [mg/L]	08-Apr-23	09:40	13-Apr-23	11:12	279	3
pH@temp15 [pH Units]	06-Apr-23	14:41	10-Apr-23	09:24	---	7.47
Phosphorus (total) [mg/L]	06-Apr-23	15:04	11-Apr-23	14:19	3.23	0.06
Total Kjeldahl Nitrogen [as N mg/L]	06-Apr-23	15:51	13-Apr-23	13:49	18.6	1.2
Ammonia+Ammonium (N) [mg/L]	05-Apr-23	21:23	06-Apr-23	09:33	12.9	0.06
Unionized Ammonia [mg/L as N]	05-Apr-23	21:23	06-Apr-23	09:33	---	< 0.001
Nitrite (as N) [mg/L]	10-Apr-23	13:37	12-Apr-23	17:28	< 0.03	< 0.03
Nitrate (as N) [mg/L]	10-Apr-23	13:37	12-Apr-23	17:28	< 0.06	7.25
Nitrate + Nitrite (as N) [mg/L]	10-Apr-23	13:37	12-Apr-23	17:28	< 0.06	7.25
E. Coli [cfu/100mL]	05-Apr-23	17:17	10-Apr-23	10:32	---	4

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003298258

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19-April-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 12 April 2023
LR Report: **CA13240-APR23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					10-Apr-23 08:00	10-Apr-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	10.0	10.0
Field pH [no unit]	---	---	---	---	7.06	---
Field Temperature [celcius]	---	---	---	---	10.5	---
Total Suspended Solids [mg/L]	13-Apr-23	15:26	14-Apr-23	13:19	3	175
Phosphorus (total) [mg/L]	14-Apr-23	15:31	18-Apr-23	10:58	0.05	1.67
Ammonia+Ammonium (N) [mg/L]	15-Apr-23	08:11	19-Apr-23	15:25	< 0.04	---

Kimberley Didsbury
Project Specialist,
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OnLine LIMS

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19-April-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 12 April 2023
LR Report: **CA13241-APR23**

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Phone: 519-542-7900
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					11-Apr-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	10.0
Field pH [no unit]	---	---	---	---	7.11
Field Temperature [celcius]	---	---	---	---	11.9
Phosphorus (total) [mg/L]	14-Apr-23	15:31	18-Apr-23	10:58	0.06
Ammonia+Ammonium (N) [mg/L]	15-Apr-23	08:11	19-Apr-23	15:25	< 0.04
Unionized Ammonia [mg/L as N]	15-Apr-23	08:11	19-Apr-23	15:25	< 0.001
Nitrite (as N) [mg/L]	17-Apr-23	18:49	19-Apr-23	10:32	< 0.03
Nitrate (as N) [mg/L]	17-Apr-23	18:49	19-Apr-23	10:32	5.83
Nitrate + Nitrite (as N) [mg/L]	17-Apr-23	18:49	19-Apr-23	10:32	5.83

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003304832

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27-April-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Date Rec. : 19 April 2023
LR Report: **CA12768-APR23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					17-Apr-23 07:47	17-Apr-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	6.0	6.0
Field pH [no unit]	---	---	---	---	6.91	---
Field Temperature [celcius]	---	---	---	---	11.3	---
Total Suspended Solids [mg/L]	20-Apr-23	10:18	20-Apr-23	16:43	5	265
Phosphorus (total) [mg/L]	22-Apr-23	12:26	24-Apr-23	13:26	0.07	2.18
Ammonia+Ammonium (N) [mg/L]	24-Apr-23	21:11	27-Apr-23	11:09	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

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0003313954

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27-April-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 19 April 2023
LR Report: **CA12765-APR23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					18-Apr-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Field pH [no unit]	---	---	---	---	6.82
Field Temperature [celcius]	---	---	---	---	10.5
Phosphorus (total) [mg/L]	22-Apr-23	12:26	24-Apr-23	13:26	0.07
Ammonia+Ammonium (N) [mg/L]	24-Apr-23	21:11	27-Apr-23	11:09	< 0.04
Unionized Ammonia [mg/L as N]	24-Apr-23	21:11	27-Apr-23	11:09	< 0.001
Nitrite (as N) [mg/L]	23-Apr-23	13:01	27-Apr-23	13:11	< 0.03
Nitrate (as N) [mg/L]	23-Apr-23	13:01	27-Apr-23	13:11	7.48
Nitrate + Nitrite (as N) [mg/L]	23-Apr-23	13:01	27-Apr-23	13:11	7.48

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
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0003314296

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01-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 26 April 2023
LR Report: **CA13917-APR23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					24-Apr-23 07:35	24-Apr-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	8.0	8.0
Field pH [no unit]	---	---	---	---	6.59	---
Field Temperature [celcius]	---	---	---	---	11.5	---
Total Suspended Solids [mg/L]	28-Apr-23	08:33	30-Apr-23	09:40	5	486
Phosphorus (total) [mg/L]	28-Apr-23	14:33	30-Apr-23	08:14	0.08	4.25
Ammonia+Ammonium (N) [mg/L]	28-Apr-23	17:12	30-Apr-23	07:41	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003317588

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

01-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 26 April 2023
LR Report: **CA13900-APR23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					25-Apr-23 07:50
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	6.62
Field Temperature [celcius]	---	---	---	---	10.6
Phosphorus (total) [mg/L]	28-Apr-23	14:33	30-Apr-23	08:13	0.07
Ammonia+Ammonium (N) [mg/L]	28-Apr-23	17:12	30-Apr-23	07:38	0.04
Nitrite (as N) [mg/L]	29-Apr-23	07:44	01-May-23	12:31	< 0.03
Nitrate (as N) [mg/L]	29-Apr-23	07:44	01-May-23	12:31	8.49
Nitrate + Nitrite (as N) [mg/L]	29-Apr-23	07:44	01-May-23	12:31	8.49
Unionized Ammonia [mg/L as N]	28-Apr-23	17:12	30-Apr-23	07:40	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003318231

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 03 May 2023
LR Report: **CA13062-MAY23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					01-May-23 08:50	01-May-23 09:00
Temperature Upon Receipt [°C]	---	---	---	---	10.0	10.0
Field pH [no unit]	---	---	---	---	6.94	---
Field Temperature [celcius]	---	---	---	---	10.4	---
Total Suspended Solids [mg/L]	05-May-23	10:47	08-May-23	13:38	2	413
Phosphorus (total) [mg/L]	05-May-23	14:44	09-May-23	12:41	0.09	3.88
Ammonia+Ammonium (N) [mg/L]	05-May-23	16:46	09-May-23	13:18	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003326987

SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
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10-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 03 May 2023
LR Report: **CA13076-MAY23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Raw Sewage Influent	6: DS - Sewage Effluent
Sample Date & Time					02-May-23 07:50	02-May-23 08:00
Temperature Upon Receipt [°C]	---	---	---	---	10.0	10.0
Field pH [no unit]	---	---	---	---	7.51	6.97
Field Temperature [celcius]	---	---	---	---	9.4	10.5
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	04-May-23	17:22	09-May-23	16:33	93	< 4
Total Suspended Solids [mg/L]	05-May-23	15:14	08-May-23	14:06	127	2
pH@temp15 [pH Units]	05-May-23	08:00	05-May-23	13:02	---	7.12
Phosphorus (total) [mg/L]	04-May-23	14:42	08-May-23	11:38	1.52	0.08
Total Kjeldahl Nitrogen [as N mg/L]	04-May-23	15:38	08-May-23	12:16	11.1	< 0.5
Unionized Ammonia [mg/L as N]	04-May-23	16:39	09-May-23	13:19	---	< 0.001
Ammonia+Ammonium (N) [mg/L]	04-May-23	16:39	09-May-23	13:18	9.40	< 0.04
Nitrite (as N) [mg/L]	04-May-23	11:27	05-May-23	16:19	0.05	< 0.03
Nitrate (as N) [mg/L]	04-May-23	11:27	05-May-23	16:19	0.22	6.92
Nitrate + Nitrite (as N) [mg/L]	04-May-23	11:27	05-May-23	16:19	0.27	6.92
E. Coli [cfu/100mL]	03-May-23	16:53	05-May-23	09:25	---	< 2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003327578

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
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16-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 10 May 2023
LR Report: **CA12516-MAY23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					08-May-23 07:50	08-May-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	6.0	6.0
Field pH [no unit]	---	---	---	---	7.02	---
Field Temperature [celcius]	---	---	---	---	11.8	---
Total Suspended Solids [mg/L]	15-May-23	09:53	15-May-23	16:22	4	441
Phosphorus (total) [mg/L]	11-May-23	14:33	12-May-23	10:58	< 0.03	4.43
Ammonia+Ammonium (N) [mg/L]	10-May-23	17:51	11-May-23	11:51	0.04	---

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003334735

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18-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 10 May 2023
LR Report: **CA12520-MAY23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					09-May-23 06:55
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Field pH [no unit]	---	---	---	---	7.20
Field Temperature [celcius]	---	---	---	---	10.5
Phosphorus (total) [mg/L]	11-May-23	14:33	12-May-23	10:59	0.04
Unionized Ammonia [mg/L as N]	10-May-23	17:51	11-May-23	11:51	< 0.001
Ammonia+Ammonium (N) [mg/L]	10-May-23	17:51	11-May-23	11:51	< 0.04
Nitrite (as N) [mg/L]	11-May-23	13:57	17-May-23	15:18	< 0.03
Nitrate (as N) [mg/L]	11-May-23	13:57	17-May-23	15:18	7.50
Nitrate + Nitrite (as N) [mg/L]	11-May-23	13:57	17-May-23	15:18	7.50

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003336927

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Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

23-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 17 May 2023
LR Report: **CA13603-MAY23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					15-May-23 08:00	15-May-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	7.01	---
Field Temperature [celcius]	---	---	---	---	11.6	---
Total Suspended Solids [mg/L]	19-May-23	12:45	23-May-23	14:52	< 2	293
Phosphorus (total) [mg/L]	17-May-23	20:10	18-May-23	10:00	0.04	2.26
Ammonia+Ammonium (N) [mg/L]	18-May-23	15:21	20-May-23	11:00	0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003341060

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29-May-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 17 May 2023
LR Report: **CA13598-MAY23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					16-May-23 08:15
Temperature Upon Receipt [°C]	---	---	---	---	5.0
Total Solids [mg/L]	18-May-23	20:05	23-May-23	13:44	34500
Total Kjeldahl Nitrogen [as N mg/L]	18-May-23	16:39	23-May-23	10:51	1970
Ammonia+Ammonium (N) [as N mg/L]	18-May-23	16:08	19-May-23	13:32	216
Nitrite (as N) [ug/g]	18-May-23	12:54	29-May-23	09:49	12
Nitrate (as N) [ug/g]	18-May-23	12:54	29-May-23	09:49	< 0.3
Nitrate + Nitrite (as N) [ug/g]	18-May-23	12:54	29-May-23	09:49	12
Aluminum [mg/L]	19-May-23	15:36	24-May-23	12:45	2000
Arsenic [mg/L]	19-May-23	15:36	24-May-23	12:45	< 0.1
Cadmium [mg/L]	19-May-23	15:36	24-May-23	12:45	0.030
Cobalt [mg/L]	19-May-23	15:36	24-May-23	12:45	0.09
Chromium [mg/L]	19-May-23	15:36	24-May-23	12:45	0.51
Copper [mg/L]	19-May-23	15:36	24-May-23	12:45	42
Mercury [mg/L]	19-May-23	15:36	24-May-23	12:45	0.052
Potassium [mg/L]	19-May-23	15:36	24-May-23	12:45	213
Molybdenum [mg/L]	19-May-23	15:36	24-May-23	12:45	0.33
Nickel [mg/L]	19-May-23	15:36	24-May-23	12:45	0.44
Phosphorus (Total) [mg/L]	19-May-23	15:36	24-May-23	12:45	1190
Lead [mg/L]	19-May-23	15:36	24-May-23	12:45	0.4
Selenium [mg/L]	19-May-23	15:36	24-May-23	12:45	0.1
Zinc [mg/L]	19-May-23	15:36	24-May-23	12:45	14
E. Coli [cfu/1g dried wgt]	---	---	---	---	55072
E. Coli [cfu/100mL]	17-May-23	15:45	19-May-23	08:21	190000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
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25-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 17 May 2023
LR Report: **CA13604-MAY23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					16-May-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	5.0
Field pH [no unit]	---	---	---	---	7.13
Field Temperature [celcius]	---	---	---	---	12.2
Phosphorus (total) [mg/L]	17-May-23	20:10	18-May-23	10:00	0.04
Ammonia+Ammonium (N) [mg/L]	18-May-23	15:21	19-May-23	08:55	< 0.04
Nitrite (as N) [mg/L]	20-May-23	08:02	25-May-23	06:58	< 0.03
Nitrate (as N) [mg/L]	20-May-23	08:02	25-May-23	06:58	9.67
Nitrate + Nitrite (as N) [mg/L]	20-May-23	08:02	25-May-23	06:58	9.67
Unionized Ammonia [mg/L as N]	18-May-23	15:21	24-May-23	08:08	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003342839

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 24 May 2023
LR Report: **CA13871-MAY23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					22-May-23 07:45	22-May-23 07:35
Temperature Upon Receipt [°C]	---	---	---	---	10.0	10.0
Field pH [no unit]	---	---	---	---	6.92	---
Field Temperature [celcius]	---	---	---	---	12.6	---
Total Suspended Solids [mg/L]	26-May-23	10:54	29-May-23	13:45	< 2	195
Phosphorus (total) [mg/L]	25-May-23	14:39	26-May-23	10:47	< 0.03	2.17
Ammonia+Ammonium (N) [mg/L]	25-May-23	17:21	29-May-23	11:35	0.05	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003347572

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

31-May-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 24 May 2023
LR Report: **CA13872-MAY23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					23-May-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	10.0
Field pH [no unit]	---	---	---	---	7.07
Field Temperature [celcius]	---	---	---	---	13.4
Phosphorus (total) [mg/L]	25-May-23	14:39	26-May-23	10:47	0.03
Ammonia+Ammonium (N) [mg/L]	25-May-23	17:21	29-May-23	11:35	0.07
Unionized Ammonia [mg/L as N]	25-May-23	17:21	29-May-23	11:35	< 0.001
Nitrite (as N) [mg/L]	26-May-23	20:53	31-May-23	14:15	< 0.03
Nitrate (as N) [mg/L]	26-May-23	20:53	31-May-23	14:15	8.30
Nitrate + Nitrite (as N) [mg/L]	26-May-23	20:53	31-May-23	14:15	8.30

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003350488

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

05-June-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 31 May 2023
LR Report: **CA19696-MAY23**

Copy: #1

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					29-May-23 07:40	29-May-23 07:35
Temperature Upon Receipt [°C]	---	---	---	---	8.0	8.0
Field pH [no unit]	---	---	---	---	7.07	---
Field Temperature [celcius]	---	---	---	---	15.3	---
Total Suspended Solids [mg/L]	02-Jun-23	11:10	05-Jun-23	11:17	2	154
Phosphorus (total) [mg/L]	01-Jun-23	15:40	02-Jun-23	15:03	< 0.03	2.36
Ammonia+Ammonium (N) [mg/L]	01-Jun-23	19:26	02-Jun-23	13:14	0.05	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003355369

SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

07-June-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 31 May 2023
LR Report: **CA19697-MAY23**

Copy: #1

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					30-May-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	6.83
Field Temperature [celcius]	---	---	---	---	14.3
Phosphorus (total) [mg/L]	01-Jun-23	15:40	02-Jun-23	15:03	< 0.03
Unionized Ammonia [mg/L as N]	01-Jun-23	19:26	02-Jun-23	13:15	< 0.001
Ammonia+Ammonium (N) [mg/L]	01-Jun-23	19:26	02-Jun-23	13:15	< 0.04
Nitrite (as N) [mg/L]	03-Jun-23	07:35	07-Jun-23	10:34	< 0.03
Nitrate (as N) [mg/L]	03-Jun-23	07:35	07-Jun-23	10:34	8.78
Nitrate + Nitrite (as N) [mg/L]	03-Jun-23	07:35	07-Jun-23	10:34	8.78

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003357474

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

12-June-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 07 June 2023
LR Report: **CA12222-JUN23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					05-Jun-23 07:50	05-Jun-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	4.0	4.0
Field pH [no unit]	---	---	---	---	7.17	---
Field Temperature [celcius]	---	---	---	---	16.0	---
Total Suspended Solids [mg/L]	09-Jun-23	06:58	09-Jun-23	15:51	3	193
Phosphorus (total) [mg/L]	08-Jun-23	14:41	12-Jun-23	13:09	0.06	2.64
Ammonia+Ammonium (N) [mg/L]	09-Jun-23	16:58	12-Jun-23	09:48	0.07	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003363192

SGS Canada Inc.
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16-June-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 07 June 2023
LR Report: **CA12223-JUN23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Raw Sewage Influent	6: DS - Sewage Effluent
Sample Date & Time					06-Jun-23 08:30	06-Jun-23 08:40
Temperature Upon Receipt [°C]	---	---	---	---	4.0	4.0
Field pH [no unit]	---	---	---	---	7.84	7.37
Field Temperature [celcius]	---	---	---	---	11.9	14.3
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	07-Jun-23	17:48	12-Jun-23	16:44	202	< 4
Total Suspended Solids [mg/L]	09-Jun-23	06:58	12-Jun-23	13:46	194	4
pH@temp15 [pH Units]	12-Jun-23	12:46	13-Jun-23	09:35	---	7.38
Phosphorus (total) [mg/L]	08-Jun-23	14:41	09-Jun-23	15:06	2.46	0.04
Total Kjeldahl Nitrogen [as N mg/L]	07-Jun-23	19:20	08-Jun-23	08:50	24.1	0.6
Ammonia+Ammonium (N) [mg/L]	09-Jun-23	16:58	12-Jun-23	09:48	17.6	0.06
Nitrite (as N) [mg/L]	13-Jun-23	07:20	15-Jun-23	15:48	< 0.03	< 0.03
Nitrate (as N) [mg/L]	13-Jun-23	07:20	15-Jun-23	15:48	< 0.06	9.67
Nitrate + Nitrite (as N) [mg/L]	13-Jun-23	07:20	15-Jun-23	15:48	< 0.06	9.67
E. Coli [cfu/100mL]	07-Jun-23	17:19	08-Jun-23	16:02	---	< 2
Unionized Ammonia [mg/L as N]	09-Jun-23	16:58	12-Jun-23	09:49	---	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003368964

SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-June-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 14 June 2023
LR Report: **CA13362-JUN23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					12-Jun-23 09:50	12-Jun-23 09:58
Temperature Upon Receipt [°C]	---	---	---	---	8.0	8.0
Field pH [no unit]	---	---	---	---	7.51	---
Field Temperature [celcius]	---	---	---	---	14.6	---
Total Suspended Solids [mg/L]	16-Jun-23	07:35	16-Jun-23	15:20	4	171
Phosphorus (total) [mg/L]	15-Jun-23	14:21	16-Jun-23	11:41	0.04	3.15
Ammonia+Ammonium (N) [mg/L]	15-Jun-23	14:40	16-Jun-23	13:47	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003370102

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21-June-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 14 June 2023
LR Report: **CA13368-JUN23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					13-Jun-23 10:31
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	7.58
Field Temperature [celcius]	---	---	---	---	14.8
Phosphorus (total) [mg/L]	15-Jun-23	13:38	19-Jun-23	13:46	0.06
Ammonia+Ammonium (N) [mg/L]	15-Jun-23	14:47	21-Jun-23	10:37	0.04
Unionized Ammonia [mg/L as N]	15-Jun-23	14:47	21-Jun-23	10:37	< 0.001
Nitrite (as N) [mg/L]	19-Jun-23	16:17	20-Jun-23	15:42	< 0.03
Nitrate (as N) [mg/L]	19-Jun-23	16:17	20-Jun-23	15:42	7.49
Nitrate + Nitrite (as N) [mg/L]	19-Jun-23	16:17	20-Jun-23	15:42	7.49

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003373946

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11-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 21 June 2023
LR Report: **CA12817-JUN23**

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CERTIFICATE OF ANALYSIS

Final Report - Revised

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					19-Jun-23 08:00	19-Jun-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	9.0	9.0
Field pH [no unit]	---	---	---	---	7.31	---
Field Temperature [celcius]	---	---	---	---	15.6	---
Total Suspended Solids [mg/L]	23-Jun-23	09:49	27-Jun-23	10:44	4	173
Phosphorus (total) [mg/L]	21-Jun-23	17:43	23-Jun-23	12:52	0.06	---
Phosphorus (total) [mg/L]	10-Jul-23	15:00	11-Jul-23	11:30	---	2.71
Ammonia+Ammonium (N) [mg/L]	21-Jun-23	17:12	22-Jun-23	13:15	< 0.04	---

Revised July 11/23 - Phosphorus result corrected for DS - Raw Sewage Influent (QA/QC) sample; original result reported was for mislabeled effluent sample.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003394793

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27-June-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 21 June 2023
LR Report: **CA12817-JUN23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					19-Jun-23 08:00	19-Jun-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	9.0	9.0
Field pH [no unit]	---	---	---	---	7.31	---
Field Temperature [celcius]	---	---	---	---	15.6	---
Total Suspended Solids [mg/L]	23-Jun-23	09:49	27-Jun-23	10:44	4	173
Phosphorus (total) [mg/L]	21-Jun-23	17:43	23-Jun-23	12:52	0.06	0.05
Ammonia+Ammonium (N) [mg/L]	21-Jun-23	17:12	22-Jun-23	13:15	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003380261

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29-June-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 21 June 2023
LR Report: **CA12833-JUN23**

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L8E 5P1, Canada

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					20-Jun-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	9.0
Field pH [no unit]	---	---	---	---	7.38
Field Temperature [celcius]	---	---	---	---	18.0
Phosphorus (total) [mg/L]	27-Jun-23	15:39	29-Jun-23	12:37	< 0.03
Unionized Ammonia [mg/L as N]	21-Jun-23	20:50	22-Jun-23	12:34	< 0.001
Ammonia+Ammonium (N) [mg/L]	23-Jun-23	17:46	26-Jun-23	11:41	< 0.04
Nitrite (as N) [mg/L]	23-Jun-23	16:35	28-Jun-23	08:34	< 0.03
Nitrate (as N) [mg/L]	23-Jun-23	16:35	28-Jun-23	08:34	9.65
Nitrate + Nitrite (as N) [mg/L]	23-Jun-23	16:35	28-Jun-23	08:34	9.65

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003383225

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04-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
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L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 28 June 2023
LR Report: **CA15888-JUN23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					26-Jun-23 07:30	26-Jun-23 07:20
Temperature Upon Receipt [°C]	---	---	---	---	9.0	9.0
Field pH [no unit]	---	---	---	---	7.38	---
Field Temperature [celcius]	---	---	---	---	17.4	---
Total Suspended Solids [mg/L]	30-Jun-23	14:34	04-Jul-23	15:25	< 2	200
Phosphorus (total) [mg/L]	28-Jun-23	14:55	29-Jun-23	12:41	< 0.03	2.36
Ammonia+Ammonium (N) [mg/L]	28-Jun-23	19:15	29-Jun-23	13:38	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003387165

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05-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 28 June 2023
LR Report: **CA15895-JUN23**

Copy: #1

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					27-Jun-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	9.0
Field pH [no unit]	---	---	---	---	7.39
Field Temperature [celcius]	---	---	---	---	18.2
Phosphorus (total) [mg/L]	28-Jun-23	14:55	29-Jun-23	12:42	< 0.03
Unionized Ammonia [mg/L as N]	28-Jun-23	19:15	29-Jun-23	13:39	< 0.001
Ammonia+Ammonium (N) [mg/L]	28-Jun-23	19:15	29-Jun-23	13:38	< 0.04
Nitrite (as N) [mg/L]	30-Jun-23	17:38	04-Jul-23	19:52	< 0.03
Nitrate (as N) [mg/L]	30-Jun-23	17:38	04-Jul-23	19:52	10.5
Nitrate + Nitrite (as N) [mg/L]	30-Jun-23	17:38	04-Jul-23	19:52	10.5

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

00033878911

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10-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Phone: 519-542-7900
Fax:

Date Rec. : 05 July 2023
LR Report: **CA12041-JUL23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS- Raw Sewage Influent (QA/QC)
Sample Date & Time					03-Jul-23 07:50	03-Jul-23 07:20
Temperature Upon Receipt [°C]	---	---	---	---	11.0	11.0
Field pH [no unit]	---	---	---	---	7.32	---
Field Temperature [celcius]	---	---	---	---	19.5	---
Total Suspended Solids [mg/L]	07-Jul-23	07:05	10-Jul-23	11:21	3	235
Phosphorus (total) [mg/L]	06-Jul-23	09:00	10-Jul-23	09:55	0.06	2.99
Ammonia+Ammonium (N) [mg/L]	05-Jul-23	17:46	07-Jul-23	09:32	0.06	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003393162

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13-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Phone: 519-542-7900
Fax:

Date Rec. : 05 July 2023
LR Report: **CA12042-JUL23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Raw Sewage Influent	6: DS - Sewage Effluent
Sample Date & Time					04-Jul-23 07:50	04-Jul-23 08:10
Temperature Upon Receipt [°C]	---	---	---	---	11.0	11.0
Field pH [no unit]	---	---	---	---	7.83	7.32
Field Temperature [celcius]	---	---	---	---	14.3	17.8
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	05-Jul-23	16:58	10-Jul-23	14:32	180	< 4
Total Suspended Solids [mg/L]	07-Jul-23	07:05	10-Jul-23	11:21	191	4
pH@temp15 [pH Units]	07-Jul-23	10:35	10-Jul-23	14:47	---	7.02
Phosphorus (total) [mg/L]	06-Jul-23	09:00	10-Jul-23	09:55	2.81	0.05
Total Kjeldahl Nitrogen [as N mg/L]	05-Jul-23	16:31	07-Jul-23	14:30	19.8	< 0.5
Ammonia+Ammonium (N) [mg/L]	05-Jul-23	17:46	07-Jul-23	09:39	19.5	< 0.04
Unionized Ammonia [mg/L as N]	05-Jul-23	17:46	07-Jul-23	09:39	---	< 0.001
Nitrite (as N) [mg/L]	08-Jul-23	16:46	13-Jul-23	15:32	< 0.03	< 0.03
Nitrate (as N) [mg/L]	08-Jul-23	16:46	13-Jul-23	15:32	< 0.06	10.8
Nitrate + Nitrite (as N) [mg/L]	08-Jul-23	16:46	13-Jul-23	15:32	< 0.06	10.8
E. Coli [cfu/100mL]	05-Jul-23	18:50	07-Jul-23	09:58	---	< 2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003398397

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17-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
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L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 12 July 2023
LR Report: **CA12351-JUL23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					10-Jul-23 08:20	10-Jul-23 07:50
Temperature Upon Receipt [°C]	---	---	---	---	13.0	13.0
Field pH [no unit]	---	---	---	---	7.26	---
Field Temperature [celcius]	---	---	---	---	20.3	---
Total Suspended Solids [mg/L]	14-Jul-23	08:01	17-Jul-23	15:19	4	212
Phosphorus (total) [mg/L]	13-Jul-23	15:13	14-Jul-23	09:37	0.05	2.88
Ammonia+Ammonium (N) [mg/L]	12-Jul-23	22:19	13-Jul-23	09:43	0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003402549

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17-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Phone: 519-542-7900
Fax:

Date Rec. : 12 July 2023
LR Report: **CA12352-JUL23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					11-Jul-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	13.0
Field pH [no unit]	---	---	---	---	7.15
Field Temperature [celcius]	---	---	---	---	18.5
Phosphorus (total) [mg/L]	13-Jul-23	15:13	14-Jul-23	09:37	0.05
Ammonia+Ammonium (N) [mg/L]	12-Jul-23	22:19	13-Jul-23	09:43	0.04
Nitrite (as N) [mg/L]	13-Jul-23	18:50	15-Jul-23	08:51	< 0.03
Nitrate (as N) [mg/L]	13-Jul-23	18:50	15-Jul-23	08:51	10.7
Nitrate + Nitrite (as N) [mg/L]	13-Jul-23	18:50	15-Jul-23	08:51	10.7
Unionized Ammonia [mg/L as N]	12-Jul-23	22:19	13-Jul-23	09:45	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003401303

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25-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 19 July 2023
LR Report: **CA13733-JUL23**

Copy: #1

566 Arvin Avenue
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					17-Jul-23 08:37	17-Jul-23 08:45
Temperature Upon Receipt [°C]	---	---	---	---	9.0	9.0
Field pH [no unit]	---	---	---	---	7.34	---
Field Temperature [celcius]	---	---	---	---	19.7	---
Total Suspended Solids [mg/L]	21-Jul-23	10:01	24-Jul-23	14:09	3	145
Phosphorus (total) [mg/L]	20-Jul-23	15:36	21-Jul-23	11:26	0.06	2.57
Ammonia+Ammonium (N) [mg/L]	21-Jul-23	18:52	24-Jul-23	10:40	0.06	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003410737

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25-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Stoney Creek, ON
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Phone: 519-542-7900
Fax:

Date Rec. : 19 July 2023
LR Report: **CA13734-JUL23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					18-Jul-23 08:45
Temperature Upon Receipt [°C]	---	---	---	---	9.0
Field pH [no unit]	---	---	---	---	7.08
Field Temperature [celcius]	---	---	---	---	17.6
Phosphorus (total) [mg/L]	20-Jul-23	15:36	21-Jul-23	11:26	0.07
Ammonia+Ammonium (N) [mg/L]	21-Jul-23	18:52	24-Jul-23	10:41	0.08
Unionized Ammonia [mg/L as N]	21-Jul-23	18:52	24-Jul-23	10:41	< 0.001
Nitrite (as N) [mg/L]	24-Jul-23	13:34	25-Jul-23	13:50	0.06
Nitrate (as N) [mg/L]	24-Jul-23	13:34	25-Jul-23	13:50	11.2
Nitrate + Nitrite (as N) [mg/L]	24-Jul-23	13:34	25-Jul-23	13:50	11.3

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003411434

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31-July-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 26 July 2023
LR Report: **CA12918-JUL23**

Copy: #1

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					24-Jul-23 08:12	24-Jul-23 07:56
Temperature Upon Receipt [°C]	---	---	---	---	7.0	7.0
Field pH [no unit]	---	---	---	---	7.05	---
Field Temperature [celcius]	---	---	---	---	17.9	---
Total Suspended Solids [mg/L]	28-Jul-23	07:55	28-Jul-23	15:48	9	134
Phosphorus (total) [mg/L]	27-Jul-23	15:12	31-Jul-23	09:48	0.10	2.81
Ammonia+Ammonium (N) [mg/L]	26-Jul-23	17:49	28-Jul-23	10:57	< 0.04	---

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003417145

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

01-August-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 26 July 2023
LR Report: **CA12915-JUL23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					25-Jul-23 07:55
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Field pH [no unit]	---	---	---	---	6.79
Field Temperature [celcius]	---	---	---	---	18.0
Phosphorus (total) [mg/L]	27-Jul-23	15:12	01-Aug-23	13:02	0.07
Unionized Ammonia [mg/L as N]	26-Jul-23	17:49	28-Jul-23	10:57	< 0.001
Ammonia+Ammonium (N) [mg/L]	26-Jul-23	17:49	28-Jul-23	10:57	< 0.04
Nitrite (as N) [mg/L]	31-Jul-23	11:06	01-Aug-23	15:05	0.04
Nitrate (as N) [mg/L]	31-Jul-23	11:06	01-Aug-23	15:05	11.6
Nitrate + Nitrite (as N) [mg/L]	31-Jul-23	11:06	01-Aug-23	15:05	11.6

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003419728

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08-August-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 02 August 2023
LR Report: **CA12121-AUG23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					31-Jul-23 07:20	31-Jul-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	7.0	7.0
Field pH [no unit]	---	---	---	---	7.05	---
Field Temperature [celcius]	---	---	---	---	17.5	---
Total Suspended Solids [mg/L]	03-Aug-23	13:14	08-Aug-23	11:51	3	329
Phosphorus (total) [mg/L]	03-Aug-23	15:59	04-Aug-23	13:19	0.07	3.26
Ammonia+Ammonium (N) [mg/L]	04-Aug-23	20:36	08-Aug-23	10:10	0.05	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003425019

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Lakefield - Ontario - KOL 2HO
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10-August-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 02 August 2023
LR Report: **CA12124-AUG23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Raw Sewage Influent	6: DS - Sewage Effluent
Sample Date & Time					01-Aug-23 07:30	01-Aug-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	7.0	7.0
Field pH [no unit]	---	---	---	---	7.78	7.14
Field Temperature [celcius]	---	---	---	---	15.6	17.4
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	03-Aug-23	17:29	08-Aug-23	17:26	225	< 4
Total Suspended Solids [mg/L]	03-Aug-23	13:14	08-Aug-23	11:51	236	3
Phosphorus (total) [mg/L]	04-Aug-23	16:44	09-Aug-23	12:41	2.94	0.06
Total Kjeldahl Nitrogen [as N mg/L]	03-Aug-23	21:18	04-Aug-23	15:28	21.7	< 0.5
Ammonia+Ammonium (N) [mg/L]	08-Aug-23	17:25	09-Aug-23	15:41	20.4	< 0.04
Nitrite (as N) [mg/L]	03-Aug-23	21:52	04-Aug-23	14:59	< 0.03	< 0.03
Nitrate (as N) [mg/L]	03-Aug-23	21:52	04-Aug-23	14:59	< 0.06	11.9
Nitrate + Nitrite (as N) [mg/L]	03-Aug-23	21:52	04-Aug-23	14:59	< 0.06	11.9
Unionized Ammonia [mg/L as N]	08-Aug-23	17:25	09-Aug-23	15:42	---	< 0.001
E. Coli [cfu/100mL]	02-Aug-23	16:52	08-Aug-23	08:52	---	4
pH@temp15 [pH Units]	04-Aug-23	14:24	08-Aug-23	09:33	---	7.25

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003427692

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14-August-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 09 August 2023
LR Report: **CA12280-AUG23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					07-Aug-23 07:50	07-Aug-23 07:35
Temperature Upon Receipt [°C]	---	---	---	---	14.0	14.0
Field pH [no unit]	---	---	---	---	6.98	---
Field Temperature [celcius]	---	---	---	---	19.9	---
Total Suspended Solids [mg/L]	10-Aug-23	14:24	11-Aug-23	15:39	3	280
Phosphorus (total) [mg/L]	10-Aug-23	15:13	11-Aug-23	13:36	0.04	3.18
Ammonia+Ammonium (N) [mg/L]	10-Aug-23	19:42	11-Aug-23	14:54	< 0.04	---

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003430883

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16-August-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 09 August 2023
LR Report: **CA12279-AUG23**

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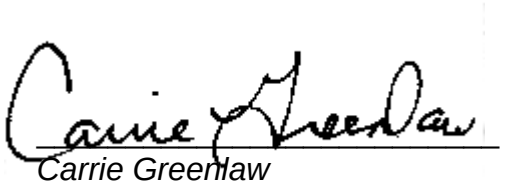
CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					08-Aug-23 07:25
Temperature Upon Receipt [°C]	---	---	---	---	14.0
Field pH [no unit]	---	---	---	---	6.90
Field Temperature [celcius]	---	---	---	---	19.3
Phosphorus (total) [mg/L]	10-Aug-23	15:13	11-Aug-23	13:36	0.04
Ammonia+Ammonium (N) [mg/L]	10-Aug-23	19:42	11-Aug-23	14:54	< 0.04
Unionized Ammonia [mg/L as N]	10-Aug-23	19:42	11-Aug-23	14:54	< 0.001
Nitrite (as N) [mg/L]	12-Aug-23	11:22	16-Aug-23	10:11	< 0.03
Nitrate (as N) [mg/L]	12-Aug-23	11:22	16-Aug-23	10:11	12.8
Nitrate + Nitrite (as N) [mg/L]	12-Aug-23	11:22	16-Aug-23	10:11	12.8

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003434612

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P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
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22-August-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 16 August 2023
LR Report: **CA14786-AUG23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent	6: DS - Sewage Influent
Sample Date & Time					14-Aug-23 07:30	14-Aug-23 07:20
Temperature Upon Receipt [°C]	---	---	---	---	8.0	8.0
Field pH [no unit]	---	---	---	---	7.04	---
Field Temperature [celcius]	---	---	---	---	18.1	---
Total Suspended Solids [mg/L]	17-Aug-23	09:18	18-Aug-23	07:58	5	290
Phosphorus (total) [mg/L]	17-Aug-23	21:12	18-Aug-23	11:32	0.09	3.46
Ammonia+Ammonium (N) [mg/L]	17-Aug-23	18:50	18-Aug-23	14:17	0.08	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003440270

SGS Canada Inc.
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23-August-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 16 August 2023
LR Report: **CA13682-AUG23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					15-Aug-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	6.82
Field Temperature [celcius]	---	---	---	---	19.7
Phosphorus (total) [mg/L]	17-Aug-23	15:19	18-Aug-23	13:32	0.05
Ammonia+Ammonium (N) [mg/L]	17-Aug-23	18:50	18-Aug-23	14:13	0.06
Unionized Ammonia [mg/L as N]	17-Aug-23	18:50	18-Aug-23	14:14	< 0.001
Nitrite (as N) [mg/L]	21-Aug-23	21:53	23-Aug-23	10:54	0.05
Nitrate (as N) [mg/L]	21-Aug-23	21:53	23-Aug-23	10:54	13.0
Nitrate + Nitrite (as N) [mg/L]	21-Aug-23	21:53	23-Aug-23	10:54	13.0

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003442570

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24-August-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 22 August 2023
LR Report: **CA13910-AUG23**

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566 Arvin Avenue
Stoney Creek, ON
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					21-Aug-23 07:23	21-Aug-23 07:11
Temperature Upon Receipt [°C]	---	---	---	---	13.0	13.0
Field pH [no unit]	---	---	---	---	6.91	---
Field Temperature [celcius]	---	---	---	---	18.2	---
Total Suspended Solids [mg/L]	23-Aug-23	11:19	24-Aug-23	14:57	4	190
Phosphorus (total) [mg/L]	22-Aug-23	18:07	23-Aug-23	13:51	0.09	3.20
Ammonia+Ammonium (N) [mg/L]	22-Aug-23	17:16	23-Aug-23	12:56	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003444438

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Lakefield - Ontario - KOL 2HO
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29-August-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 23 August 2023
LR Report: **CA12873-AUG23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					22-Aug-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	15.0
Field pH [no unit]	---	---	---	---	7.03
Field Temperature [celcius]	---	---	---	---	16.7
Phosphorus (total) [mg/L]	24-Aug-23	17:30	28-Aug-23	14:53	0.08
Ammonia+Ammonium (N) [mg/L]	24-Aug-23	21:34	25-Aug-23	16:03	0.06
Unionized Ammonia [mg/L as N]	24-Aug-23	21:34	25-Aug-23	16:03	< 0.001
Nitrite (as N) [mg/L]	25-Aug-23	16:02	29-Aug-23	09:27	< 0.03
Nitrate (as N) [mg/L]	25-Aug-23	16:02	29-Aug-23	09:27	12.2
Nitrate + Nitrite (as N) [mg/L]	25-Aug-23	16:02	29-Aug-23	09:27	12.2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003448747

SGS Canada Inc.
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01-September-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 30 August 2023
LR Report: **CA19545-AUG23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					28-Aug-23 07:40	28-Aug-23 07:35
Temperature Upon Receipt [°C]	---	---	---	---	9.0	9.0
Field pH [no unit]	---	---	---	---	6.89	---
Field Temperature [celcius]	---	---	---	---	19.0	---
Total Suspended Solids [mg/L]	31-Aug-23	07:53	31-Aug-23	16:32	4	405
Phosphorus (total) [mg/L]	30-Aug-23	15:10	01-Sep-23	15:44	0.08	3.52
Ammonia+Ammonium (N) [mg/L]	30-Aug-23	20:00	31-Aug-23	14:04	0.05	---

Ruth Pinn
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003454795

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Lakefield - Ontario - KOL 2HO
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05-September-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 30 August 2023
LR Report: **CA19546-AUG23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					29-Aug-23
Temperature Upon Receipt [°C]	---	---	---	---	9.0
Field pH [no unit]	---	---	---	---	6.91
Field Temperature [celcius]	---	---	---	---	17.6
Phosphorus (total) [mg/L]	30-Aug-23	15:10	01-Sep-23	15:44	0.08
Nitrite (as N) [mg/L]	01-Sep-23	19:04	05-Sep-23	14:27	< 0.03
Nitrate (as N) [mg/L]	01-Sep-23	19:04	05-Sep-23	14:27	13.2
Nitrate + Nitrite (as N) [mg/L]	01-Sep-23	19:04	05-Sep-23	14:27	13.2
Ammonia+Ammonium (N) [mg/L]	30-Aug-23	20:00	31-Aug-23	14:04	< 0.04
Unionized Ammonia [mg/L as N]	30-Aug-23	20:00	31-Aug-23	14:05	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003456214

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Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

11-September-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 06 September 2023
LR Report: **CA13081-SEP23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					04-Sep-23 07:25	04-Sep-23 07:15
Temperature Upon Receipt [°C]	---	---	---	---	12.0	12.0
Field pH [no unit]	---	---	---	---	6.86	---
Field Temperature [celcius]	---	---	---	---	19.5	---
Total Suspended Solids [mg/L]	08-Sep-23	13:44	11-Sep-23	14:05	2	251
Phosphorus (total) [mg/L]	06-Sep-23	17:34	08-Sep-23	11:33	0.06	3.14
Ammonia+Ammonium (N) [mg/L]	06-Sep-23	20:09	08-Sep-23	13:45	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003463079

SGS Canada Inc.
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Lakefield - Ontario - KOL 2HO
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13-September-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 06 September 2023
LR Report: **CA13128-SEP23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Raw Sewage Influent	6: DS - Sewage Effluent
Sample Date & Time					05-Sep-23 07:35	05-Sep-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	12.0	12.0
Field pH [no unit]	---	---	---	---	7.72	7.01
Field Temperature [celcius]	---	---	---	---	16.4	19.2
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	07-Sep-23	15:15	12-Sep-23	13:45	159	2
Total Suspended Solids [mg/L]	07-Sep-23	13:35	11-Sep-23	11:08	167	6
pH@temp15 [pH Units]	11-Sep-23	13:05	11-Sep-23	15:58	---	7.19
Phosphorus (total) [mg/L]	07-Sep-23	15:18	08-Sep-23	11:37	2.71	0.08
Total Kjeldahl Nitrogen [as N mg/L]	07-Sep-23	16:48	08-Sep-23	13:01	25.6	1.7
Unionized Ammonia [mg/L as N]	08-Sep-23	20:24	11-Sep-23	09:49	---	< 0.001
Ammonia+Ammonium (N) [mg/L]	08-Sep-23	20:24	11-Sep-23	09:49	19.7	0.07
Nitrite (as N) [mg/L]	07-Sep-23	16:48	08-Sep-23	14:31	< 0.03	0.04
Nitrate (as N) [mg/L]	07-Sep-23	16:48	08-Sep-23	14:31	< 0.06	11.8
Nitrate + Nitrite (as N) [mg/L]	07-Sep-23	16:48	08-Sep-23	14:31	< 0.06	11.8
E. Coli [cfu/100mL]	06-Sep-23	18:50	08-Sep-23	10:20	---	< 2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003464667

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
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18-September-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 13 September 2023
LR Report: **CA13401-SEP23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					11-Sep-23 07:20	11-Sep-23 07:05
Temperature Upon Receipt [°C]	---	---	---	---	8.0	8.0
Field pH [no unit]	---	---	---	---	7.16	---
Field Temperature [celcius]	---	---	---	---	19.2	---
Total Suspended Solids [mg/L]	16-Sep-23	08:32	18-Sep-23	15:01	< 2	223
Phosphorus (total) [mg/L]	15-Sep-23	15:36	18-Sep-23	11:49	0.05	3.37
Ammonia+Ammonium (N) [mg/L]	17-Sep-23	12:00	18-Sep-23	13:46	0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003471084

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

18-September-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 13 September 2023
LR Report: **CA13400-SEP23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					12-Sep-23 06:45
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	7.16
Field Temperature [celcius]	---	---	---	---	19.3
Phosphorus (total) [mg/L]	15-Sep-23	15:36	18-Sep-23	11:49	0.04
Ammonia+Ammonium (N) [mg/L]	17-Sep-23	12:00	18-Sep-23	13:45	< 0.04
Nitrite (as N) [mg/L]	14-Sep-23	18:10	15-Sep-23	12:25	0.04
Nitrate (as N) [mg/L]	14-Sep-23	18:10	15-Sep-23	12:25	13.7
Nitrate + Nitrite (as N) [mg/L]	14-Sep-23	18:10	15-Sep-23	12:25	13.7
Unionized Ammonia [mg/L as N]	17-Sep-23	12:00	18-Sep-23	13:46	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003470980

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

26-September-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 19 September 2023
LR Report: **CA12721-SEP23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					18-Sep-23 07:30	18-Sep-23 07:50
Temperature Upon Receipt [°C]	---	---	---	---	7.0	7.0
Field pH [no unit]	---	---	---	---	7.12	---
Field Temperature [celcius]	---	---	---	---	18.0	---
Total Suspended Solids [mg/L]	20-Sep-23	15:42	22-Sep-23	13:02	4	298
Phosphorus (total) [mg/L]	19-Sep-23	17:30	21-Sep-23	12:56	0.05	3.24
Ammonia+Ammonium (N) [mg/L]	19-Sep-23	22:34	26-Sep-23	07:44	0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003479177

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

25-September-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 20 September 2023
LR Report: **CA12749-SEP23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					19-Sep-23 09:40
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Field pH [no unit]	---	---	---	---	7.20
Field Temperature [celcius]	---	---	---	---	18.4
Phosphorus (total) [mg/L]	21-Sep-23	15:03	22-Sep-23	13:40	0.05
Unionized Ammonia [mg/L as N]	20-Sep-23	21:23	21-Sep-23	14:28	< 0.001
Ammonia+Ammonium (N) [mg/L]	20-Sep-23	21:23	21-Sep-23	14:28	< 0.04
Nitrite (as N) [mg/L]	21-Sep-23	20:09	23-Sep-23	12:27	0.03
Nitrate (as N) [mg/L]	21-Sep-23	20:09	23-Sep-23	12:27	11.1
Nitrate + Nitrite (as N) [mg/L]	21-Sep-23	20:09	23-Sep-23	12:27	11.1

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003477628

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-October-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 27 September 2023
LR Report: **CA13989-SEP23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					25-Sep-23 07:25	25-Sep-23 07:20
Temperature Upon Receipt [°C]	---	---	---	---	16.0	16.0
Field pH [no unit]	---	---	---	---	7.17	---
Field Temperature [celcius]	---	---	---	---	17.6	---
Total Suspended Solids [mg/L]	29-Sep-23	06:30	02-Oct-23	10:48	4	237
Phosphorus (total) [mg/L]	28-Sep-23	15:59	29-Sep-23	10:11	< 0.03	3.10
Ammonia+Ammonium (N) [mg/L]	28-Sep-23	19:55	29-Sep-23	11:45	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003486169

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02-October-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 27 September 2023
LR Report: **CA13992-SEP23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					26-Sep-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	16.0
Field pH [no unit]	---	---	---	---	7.09
Field Temperature [celcius]	---	---	---	---	18.9
Phosphorus (total) [mg/L]	27-Sep-23	19:12	29-Sep-23	10:11	< 0.03
Ammonia+Ammonium (N) [mg/L]	28-Sep-23	19:55	29-Sep-23	11:46	0.06
Nitrite (as N) [mg/L]	28-Sep-23	17:17	01-Oct-23	08:36	0.09
Nitrate (as N) [mg/L]	28-Sep-23	17:17	01-Oct-23	08:36	11.7
Nitrate + Nitrite (as N) [mg/L]	28-Sep-23	17:17	01-Oct-23	08:36	11.8
Unionized Ammonia [mg/L as N]	28-Sep-23	19:55	29-Sep-23	11:47	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003485874

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10-October-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 04 October 2023
LR Report: **CA13146-OCT23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					02-Oct-23 07:30	02-Oct-23 07:20
Temperature Upon Receipt [°C]	---	---	---	---	9.0	9.0
Field pH [no unit]	---	---	---	---	7.07	---
Field Temperature [celcius]	---	---	---	---	19.3	---
Phosphorus (total) [mg/L]	06-Oct-23	11:57	10-Oct-23	11:36	< 0.03	3.56
Ammonia+Ammonium (N) [mg/L]	06-Oct-23	16:05	10-Oct-23	10:49	0.04	---
Total Suspended Solids [mg/L]	06-Oct-23	09:36	10-Oct-23	14:08	3	278

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003494466

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10-October-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 04 October 2023
LR Report: **CA13149-OCT23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Raw Sewage Influent	6: DS - Sewage Effluent
Sample Date & Time					03-Oct-23 06:50	03-Oct-23 07:00
Temperature Upon Receipt [°C]	---	---	---	---	9.0	9.0
Field pH [no unit]	---	---	---	---	7.58	7.08
Field Temperature [celcius]	---	---	---	---	16.7	19.7
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	05-Oct-23	17:53	10-Oct-23	18:11	209	< 4
Total Suspended Solids [mg/L]	07-Oct-23	09:39	10-Oct-23	14:30	222	< 2
pH@temp15 [pH Units]	05-Oct-23	15:07	05-Oct-23	16:53	---	7.23
Phosphorus (total) [mg/L]	06-Oct-23	11:57	10-Oct-23	11:36	3.42	< 0.03
Total Kjeldahl Nitrogen [as N mg/L]	06-Oct-23	16:43	10-Oct-23	13:22	24.9	< 0.5
Unionized Ammonia [mg/L as N]	06-Oct-23	16:05	10-Oct-23	10:49	---	< 0.001
Ammonia+Ammonium (N) [mg/L]	06-Oct-23	16:05	10-Oct-23	10:49	22.2	0.04
Nitrite (as N) [mg/L]	06-Oct-23	08:13	10-Oct-23	13:23	< 0.03	0.15
Nitrate (as N) [mg/L]	06-Oct-23	08:13	10-Oct-23	13:23	< 0.06	11.7
Nitrate + Nitrite (as N) [mg/L]	06-Oct-23	08:13	10-Oct-23	13:23	< 0.06	11.9
E. Coli [cfu/100mL]	04-Oct-23	18:35	06-Oct-23	07:45	---	< 2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003494670

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16-October-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 11 October 2023
LR Report: **CA13460-OCT23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					10-Oct-23 07:20	10-Oct-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	6.0	6.0
Field pH [no unit]	---	---	---	---	7.25	---
Field Temperature [celcius]	---	---	---	---	17.4	---
Total Suspended Solids [mg/L]	13-Oct-23	11:11	16-Oct-23	14:00	2	202
Phosphorus (total) [mg/L]	13-Oct-23	15:13	16-Oct-23	11:36	0.04	3.02
Ammonia+Ammonium (N) [mg/L]	13-Oct-23	20:42	16-Oct-23	11:09	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003501454

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Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

19-October-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 11 October 2023
LR Report: **CA13472-OCT23**

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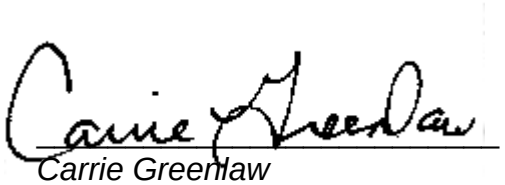
CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					10-Oct-23 11:30
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Field pH [no unit]	---	---	---	---	7.24
Field Temperature [celcius]	---	---	---	---	16.8
Phosphorus (total) [mg/L]	13-Oct-23	15:13	16-Oct-23	11:37	0.05
Ammonia+Ammonium (N) [mg/L]	13-Oct-23	20:42	16-Oct-23	11:10	0.04
Unionized Ammonia [mg/L as N]	13-Oct-23	20:42	16-Oct-23	11:11	< 0.001
Nitrite (as N) [mg/L]	14-Oct-23	12:34	18-Oct-23	15:19	< 0.03
Nitrate (as N) [mg/L]	14-Oct-23	12:34	18-Oct-23	15:19	11.5
Nitrate + Nitrite (as N) [mg/L]	14-Oct-23	12:34	18-Oct-23	15:19	11.5

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.



Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003505063

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
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24-October-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 17 October 2023
LR Report: **CA13814-OCT23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					16-Oct-23 07:30	16-Oct-23 07:25
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	6.82	---
Field Temperature [celcius]	---	---	---	---	18.5	---
Total Suspended Solids [mg/L]	19-Oct-23	13:28	24-Oct-23	14:04	4	208
Phosphorus (total) [mg/L]	18-Oct-23	14:49	19-Oct-23	11:39	0.04	3.70
Ammonia+Ammonium (N) [mg/L]	18-Oct-23	20:04	19-Oct-23	09:32	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003510646

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

25-October-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 18 October 2023
LR Report: **CA13863-OCT23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					17-Oct-23 09:08
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Field pH [no unit]	---	---	---	---	7.02
Field Temperature [celcius]	---	---	---	---	15.9
Phosphorus (total) [mg/L]	20-Oct-23	14:52	23-Oct-23	13:41	0.05
Ammonia+Ammonium (N) [mg/L]	20-Oct-23	20:07	23-Oct-23	10:28	0.05
Unionized Ammonia [mg/L]	20-Oct-23	20:07	23-Oct-23	10:29	< 0.001
Nitrite (as N) [mg/L]	21-Oct-23	12:55	25-Oct-23	10:34	< 0.03
Nitrate (as N) [mg/L]	21-Oct-23	12:55	25-Oct-23	10:34	11.8
Nitrate + Nitrite (as N) [mg/L]	21-Oct-23	12:55	25-Oct-23	10:34	11.8

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003511664

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

01-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 24 October 2023
LR Report: **CA12946-OCT23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					23-Oct-23 11:27	23-Oct-23 11:15
Temperature Upon Receipt [°C]	---	---	---	---	10.0	10.0
Field pH [no unit]	---	---	---	---	7.25	---
Field Temperature [celcius]	---	---	---	---	15.4	---
Total Suspended Solids [mg/L]	25-Oct-23	11:55	31-Oct-23	13:25	2	271
Phosphorus (total) [mg/L]	25-Oct-23	15:13	27-Oct-23	15:16	0.03	3.41
Ammonia+Ammonium (N) [mg/L]	27-Oct-23	21:38	30-Oct-23	10:13	0.06	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003518797

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

03-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 25 October 2023
LR Report: **CA15786-OCT23**

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566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					24-Oct-23 07:39
Temperature Upon Receipt [°C]	---	---	---	---	10.0
Field pH [no unit]	---	---	---	---	7.30
Field Temperature [celcius]	---	---	---	---	15.8
Phosphorus (total) [mg/L]	27-Oct-23	18:19	30-Oct-23	13:35	0.04
Unionized Ammonia [mg/L as N]	27-Oct-23	19:27	30-Oct-23	11:54	< 0.001
Ammonia+Ammonium (N) [mg/L]	27-Oct-23	19:27	30-Oct-23	11:54	< 0.04
Nitrite (as N) [mg/L]	30-Oct-23	10:21	03-Nov-23	10:02	0.03
Nitrate (as N) [mg/L]	30-Oct-23	10:21	03-Nov-23	10:02	12.4
Nitrate + Nitrite (as N) [mg/L]	30-Oct-23	10:21	03-Nov-23	10:02	12.4

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003522127

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

06-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
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Phone: 519-542-7900
Fax:

Date Rec. : 31 October 2023
LR Report: **CA14751-OCT23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS -Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					30-Oct-23 09:02	30-Oct-23 08:50
Temperature Upon Receipt [°C]	---	---	---	---	3.0	3.0
Field pH [no unit]	---	---	---	---	7.26	---
Field Temperature [celcius]	---	---	---	---	15.2	---
Total Suspended Solids [mg/L]	04-Nov-23	11:13	06-Nov-23	13:27	3	221
Phosphorus (total) [mg/L]	02-Nov-23	15:37	03-Nov-23	10:37	0.09	3.80
Ammonia+Ammonium (N) [mg/L]	02-Nov-23	19:19	03-Nov-23	14:31	0.05	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003524261

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

10-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 01 November 2023
LR Report: **CA13037-NOV23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					31-Oct-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Field pH [no unit]	---	---	---	---	7.13
Field Temperature [celcius]	---	---	---	---	15.9
Phosphorus (total) [mg/L]	07-Nov-23	16:09	08-Nov-23	12:45	0.04
Ammonia+Ammonium (N) [mg/L]	06-Nov-23	19:22	07-Nov-23	15:48	0.04
Unionized Ammonia [mg/L]	06-Nov-23	19:22	07-Nov-23	15:48	< 0.001
Nitrite (as N) [mg/L]	06-Nov-23	09:26	09-Nov-23	16:27	< 0.03
Nitrate (as N) [mg/L]	06-Nov-23	09:26	09-Nov-23	16:27	13.1
Nitrate + Nitrite (as N) [mg/L]	06-Nov-23	09:26	09-Nov-23	16:27	13.1

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003528687

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13-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 07 November 2023
LR Report: **CA12265-NOV23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					06-Nov-23 07:30	06-Nov-23 07:15
Temperature Upon Receipt [°C]	---	---	---	---	10.0	10.0
Field pH [no unit]	---	---	---	---	7.34	---
Field Temperature [celcius]	---	---	---	---	13.9	---
Total Suspended Solids [mg/L]	08-Nov-23	14:19	13-Nov-23	14:00	2	300
Phosphorus (total) [mg/L]	09-Nov-23	13:08	10-Nov-23	14:01	0.07	3.57
Ammonia+Ammonium (N) [mg/L]	09-Nov-23	17:11	10-Nov-23	14:41	< 0.04	---

Kimberley Didsbury
Project Specialist,
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0003531188

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20-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 08 November 2023
LR Report: **CA12307-NOV23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Raw Sewage Influent	6: DS-Sewage Effluent
Sample Date & Time					07-Nov-23 07:30	07-Nov-23 07:20
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	7.78	7.21
Field Temperature [celcius]	---	---	---	---	13.9	16.2
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	09-Nov-23	16:41	14-Nov-23	10:39	179	< 4
Total Suspended Solids [mg/L]	13-Nov-23	18:45	14-Nov-23	15:09	265	3
Alkalinity [mg/L as CaCO3]	10-Nov-23	15:40	13-Nov-23	11:48	---	85
pH@temp15 [pH Units]	09-Nov-23	13:47	10-Nov-23	09:43	---	7.42
Phosphorus (total) [mg/L]	10-Nov-23	14:29	13-Nov-23	12:53	3.23	0.06
Total Kjeldahl Nitrogen [as N mg/L]	10-Nov-23	15:35	13-Nov-23	10:47	32.8	1.7
Ammonia+Ammonium (N) [mg/L]	10-Nov-23	20:23	13-Nov-23	11:06	25.8	0.04
Unionized Ammonia [mg/L as N]	10-Nov-23	20:23	13-Nov-23	11:06	---	< 0.001
Nitrite (as N) [mg/L]	13-Nov-23	10:40	17-Nov-23	15:10	0.05	0.04
Nitrate (as N) [mg/L]	13-Nov-23	10:40	17-Nov-23	15:10	< 0.06	13.0
Nitrate + Nitrite (as N) [mg/L]	13-Nov-23	10:40	17-Nov-23	15:10	< 0.06	13.0
E. Coli [cfu/100mL]	08-Nov-23	16:51	10-Nov-23	14:46	---	< 2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
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0003537267

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21-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
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Phone: 519-542-7900
Fax:

Date Rec. : 14 November 2023
LR Report: **CA12440-NOV23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					13-Nov-23 07:55	13-Nov-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	4.0	4.0
Field pH [no unit]	---	---	---	---	7.40	---
Field Temperature [celcius]	---	---	---	---	12.5	---
Total Suspended Solids [mg/L]	17-Nov-23	08:11	20-Nov-23	09:51	< 2	370
Phosphorus (total) [mg/L]	15-Nov-23	16:54	17-Nov-23	13:44	0.05	3.20
Ammonia+Ammonium (N) [mg/L]	15-Nov-23	16:08	21-Nov-23	10:26	0.07	---

Kimberley Didsbury
Project Specialist,
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0003539324

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22-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 15 November 2023
LR Report: **CA13607-NOV23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					14-Nov-23 13:15
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Field pH [no unit]	---	---	---	---	7.34
Field Temperature [celcius]	---	---	---	---	13.0
Phosphorus (total) [mg/L]	16-Nov-23	19:49	17-Nov-23	10:34	0.04
Ammonia+Ammonium (N) [mg/L]	16-Nov-23	17:33	17-Nov-23	10:15	0.05
Nitrite (as N) [mg/L]	19-Nov-23	13:36	20-Nov-23	19:37	< 0.03
Nitrate (as N) [mg/L]	19-Nov-23	13:36	20-Nov-23	19:37	11.3
Nitrate + Nitrite (as N) [mg/L]	19-Nov-23	13:36	20-Nov-23	19:37	11.3
Unionized Ammonia [mg/L as N]	16-Nov-23	17:33	22-Nov-23	10:38	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
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0003540776

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23-November-2023

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Phone: 519-542-7900
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Date Rec. : 21 November 2023
LR Report: **CA13805-NOV23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					20-Nov-23 07:25	20-Nov-23 07:15
Temperature Upon Receipt [°C]	---	---	---	---	6.0	6.0
Field pH [no unit]	---	---	---	---	7.33	---
Field Temperature [celcius]	---	---	---	---	13.5	---
Total Suspended Solids [mg/L]	22-Nov-23	09:48	23-Nov-23	09:59	3	309
Phosphorus (total) [mg/L]	21-Nov-23	16:36	22-Nov-23	14:54	0.03	3.76
Ammonia+Ammonium (N) [mg/L]	22-Nov-23	16:36	23-Nov-23	12:48	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003542492

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27-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
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Stoney Creek, ON
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Date Rec. : 22 November 2023
LR Report: **CA12702-NOV23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent
Sample Date & Time					21-Nov-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Field pH [no unit]	---	---	---	---	7.38
Field Temperature [celcius]	---	---	---	---	14.0
Phosphorus (total) [mg/L]	22-Nov-23	16:24	23-Nov-23	13:59	0.03
Unionized Ammonia [mg/L as N]	22-Nov-23	17:18	23-Nov-23	11:12	< 0.001
Ammonia+Ammonium (N) [mg/L]	22-Nov-23	17:18	23-Nov-23	11:12	< 0.04
Nitrite (as N) [mg/L]	26-Nov-23	16:37	27-Nov-23	15:13	< 0.03
Nitrate (as N) [mg/L]	26-Nov-23	16:37	27-Nov-23	15:13	11.2
Nitrate + Nitrite (as N) [mg/L]	26-Nov-23	16:37	27-Nov-23	15:13	11.2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

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30-November-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
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L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 28 November 2023
LR Report: **CA14932-NOV23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Sewage Effluent (QA/QC)	6: DS-Raw Sewage Influent (QA/QC)
Sample Date & Time					27-Nov-23 07:35	27-Nov-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	7.25	---
Field Temperature [celcius]	---	---	---	---	13.3	---
Total Suspended Solids [mg/L]	29-Nov-23	09:05	30-Nov-23	13:10	3	356
Phosphorus (total) [mg/L]	28-Nov-23	17:22	29-Nov-23	11:05	0.05	3.50
Ammonia+Ammonium (N) [mg/L]	28-Nov-23	20:18	29-Nov-23	08:27	0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

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07-December-2023

Clearford Waterworks Inc. (Haliburton WPCP)
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Phone: 519-542-7900
Fax:

Date Rec. : 29 November 2023
LR Report: **CA15903-NOV23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					28-Nov-23 07:25
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Field pH [no unit]	---	---	---	---	7.28
Field Temperature [celcius]	---	---	---	---	14.4
Phosphorus (total) [mg/L]	29-Nov-23	17:03	01-Dec-23	11:40	0.05
Unionized Ammonia [mg/L as N]	29-Nov-23	19:44	30-Nov-23	10:32	< 0.001
Ammonia+Ammonium (N) [mg/L]	29-Nov-23	19:44	30-Nov-23	10:32	0.05
Nitrite (as N) [mg/L]	01-Dec-23	09:37	06-Dec-23	13:54	0.03
Nitrate (as N) [mg/L]	01-Dec-23	09:37	06-Dec-23	13:54	11.2
Nitrate + Nitrite (as N) [mg/L]	01-Dec-23	09:37	06-Dec-23	13:54	11.2

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
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OnLine LIMS

0003555978

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07-December-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 05 December 2023
LR Report: **CA13154-DEC23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent	6: DS - Raw Sewage Influent
Sample Date & Time					04-Dec-23 07:45	04-Dec-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	6.0	6.0
Field pH [no unit]	---	---	---	---	7.38	---
Field Temperature [celcius]	---	---	---	---	11.7	---
Total Suspended Solids [mg/L]	06-Dec-23	11:07	07-Dec-23	10:29	4	261
Phosphorus (total) [mg/L]	05-Dec-23	17:06	06-Dec-23	11:39	0.04	3.45
Ammonia+Ammonium (N) [mg/L]	05-Dec-23	22:36	06-Dec-23	09:37	0.06	---

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003556439

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13-December-2023

Clearford Waterworks Inc. (Haliburton WPCP)
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Phone: 519-542-7900
Fax:

Date Rec. : 06 December 2023
LR Report: **CA13193-DEC23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Raw Sewage Influent	6: DS-Sewage Effluent
Sample Date & Time					05-Dec-23 10:05	05-Dec-23 10:37
Temperature Upon Receipt [°C]	---	---	---	---	7.0	7.0
Field pH [no unit]	---	---	---	---	8.02	6.93
Field Temperature [celcius]	---	---	---	---	11.4	11.7
Carbonaceous Biochemical Oxygen Demand [(CBOD5) mg/L]	07-Dec-23	17:53	12-Dec-23	13:36	200	9
Total Suspended Solids [mg/L]	08-Dec-23	08:59	08-Dec-23	16:16	262	< 2
pH@temp15 [pH Units]	11-Dec-23	13:30	11-Dec-23	15:45	---	7.61
Phosphorus (total) [mg/L]	07-Dec-23	16:09	08-Dec-23	10:50	3.65	0.04
Total Kjeldahl Nitrogen [as N mg/L]	07-Dec-23	17:52	08-Dec-23	14:37	32.6	1.5
Unionized Ammonia [mg/L as N]	07-Dec-23	21:03	08-Dec-23	10:02	---	< 0.001
Ammonia+Ammonium (N) [mg/L]	07-Dec-23	21:03	08-Dec-23	10:02	30.7	0.05
Nitrite (as N) [mg/L]	07-Dec-23	08:33	12-Dec-23	16:11	< 0.03	< 0.03
Nitrate (as N) [mg/L]	07-Dec-23	08:33	12-Dec-23	16:11	< 0.06	11.3
Nitrate + Nitrite (as N) [mg/L]	07-Dec-23	08:33	12-Dec-23	16:11	< 0.06	11.3
E. Coli [cfu/100mL]	06-Dec-23	17:06	08-Dec-23	08:12	---	0

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003562230

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15-December-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
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L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 12 December 2023
LR Report: **CA13485-DEC23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					11-Dec-23 07:40	11-Dec-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	7.25	---
Field Temperature [celcius]	---	---	---	---	13.1	---
Total Suspended Solids [mg/L]	13-Dec-23	11:47	14-Dec-23	11:52	3	261
Phosphorus (total) [mg/L]	13-Dec-23	16:05	14-Dec-23	10:57	0.03	3.12
Ammonia+Ammonium (N) [mg/L]	14-Dec-23	18:26	15-Dec-23	09:36	< 0.04	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003565090

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21-December-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Phone: 519-542-7900
Fax:

Date Rec. : 13 December 2023
LR Report: **CA12335-DEC23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					12-Dec-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Field pH [no unit]	---	---	---	---	7.17
Field Temperature [celcius]	---	---	---	---	12.8
Phosphorus (total) [mg/L]	13-Dec-23	16:05	14-Dec-23	10:55	< 0.03
Ammonia+Ammonium (N) [mg/L]	15-Dec-23	17:43	18-Dec-23	11:10	0.08
Unionized Ammonia [mg/L as N]	15-Dec-23	17:43	18-Dec-23	11:11	< 0.001
Nitrite (as N) [mg/L]	20-Dec-23	19:10	21-Dec-23	13:57	< 0.03
Nitrate (as N) [mg/L]	20-Dec-23	19:10	21-Dec-23	13:57	9.94
Nitrate + Nitrite (as N) [mg/L]	20-Dec-23	19:10	21-Dec-23	13:57	9.94

Note:
- Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.
- 7 day holding time for nitrates analysis was not met; results may be unreliable. (fee waived)

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003571368

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22-December-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

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Phone: 519-542-7900
Fax:

Date Rec. : 19 December 2023
LR Report: **CA13733-DEC23**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					18-Dec-23 06:55	18-Dec-23 06:45
Temperature Upon Receipt [°C]	---	---	---	---	5.0	5.0
Field pH [no unit]	---	---	---	---	7.31	---
Field Temperature [celcius]	---	---	---	---	13.1	---
Total Suspended Solids [mg/L]	19-Dec-23	16:09	22-Dec-23	09:23	5	269
Phosphorus (total) [mg/L]	19-Dec-23	16:30	20-Dec-23	14:44	0.08	3.22
Ammonia+Ammonium (N) [mg/L]	19-Dec-23	18:09	20-Dec-23	13:34	0.25	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

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27-December-2023

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

Date Rec. : 20 December 2023
LR Report: **CA13797-DEC23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					19-Dec-23 07:50
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Field pH [no unit]	---	---	---	---	7.19
Field Temperature [celcius]	---	---	---	---	13.3
Phosphorus (total) [mg/L]	22-Dec-23	16:05	27-Dec-23	10:25	0.08
Ammonia+Ammonium (N) [mg/L]	20-Dec-23	16:01	21-Dec-23	10:43	0.13
Nitrite (as N) [mg/L]	21-Dec-23	19:50	22-Dec-23	14:21	0.08
Nitrate (as N) [mg/L]	21-Dec-23	19:50	22-Dec-23	14:21	10.6
Nitrate + Nitrite (as N) [mg/L]	21-Dec-23	19:50	22-Dec-23	14:21	10.7
Unionized Ammonia [mg/L as N]	20-Dec-23	16:01	21-Dec-23	10:43	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Patti Stark
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003574606

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-January-2024

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 27 December 2023
LR Report: **CA12734-DEC23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent (QA/QC)	6: DS - Raw Sewage Influent (QA/QC)
Sample Date & Time					25-Dec-23 07:40	25-Dec-23 07:55
Temperature Upon Receipt [°C]	---	---	---	---	7.0	7.0
Field pH [no unit]	---	---	---	---	7.24	---
Field Temperature [celcius]	---	---	---	---	13.1	---
Total Suspended Solids [mg/L]	28-Dec-23	10:21	29-Dec-23	14:30	3	206
Phosphorus (total) [mg/L]	29-Dec-23	14:22	02-Jan-24	10:48	0.04	2.74
Ammonia+Ammonium (N) [mg/L]	28-Dec-23	16:09	29-Dec-23	11:14	0.06	---

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003578106

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

02-January-2024

Clearford Waterworks Inc. (Haliburton WPCP)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 27 December 2023
LR Report: **CA12733-DEC23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Sewage Effluent
Sample Date & Time					26-Dec-23 07:35
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Field pH [no unit]	---	---	---	---	7.28
Field Temperature [celcius]	---	---	---	---	13.8
Phosphorus (total) [mg/L]	29-Dec-23	14:22	02-Jan-24	10:48	0.04
Ammonia+Ammonium (N) [mg/L]	28-Dec-23	16:09	29-Dec-23	11:14	0.06
Nitrite (as N) [mg/L]	29-Dec-23	20:14	02-Jan-24	12:54	< 0.03
Nitrate (as N) [mg/L]	29-Dec-23	20:14	02-Jan-24	12:54	8.94
Nitrate + Nitrite (as N) [mg/L]	29-Dec-23	20:14	02-Jan-24	12:54	8.94
Unionized Ammonia [mg/L as N]	28-Dec-23	16:09	29-Dec-23	11:14	< 0.001

Note: Unionized ammonia calculated from field pH and temperature provided on the chain of custody form.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003578427

APPENDIX D.
FLOWMETER CALIBRATION REPORTS

CALIBRATION REPORT

Report No.:	ASI 2023 FIT-182
Date:	Dec. 14, 2023

SITE:	Haliburton WPCP	**SERVICE DATE:**	Dec. 14, 2023
PROCESS AREA:	RAS	**TECHNICIAN:**	M Manley
INSTR. TAG:	FIT-182	**JOB REFERENCE:**	ASI 2023
MANUFACTURER:	F & P		
MODEL:	50XM13BXAD		
SERIAL No.:	9409b2060		
INSTR. RANGE:	10m/s		

Input	**(Test)**	**Output**	**(Signal)**	**(Process)**
Type:	55XC4310A	**Type or EGU:**	mA	m3/hr
Min:	0.00	**Min:**	4.00	0.00
Max:	341.78	**Max:**	20.00	208.33
Meter Size (inch)	6			
Range Unit	m3/hr			
Cal. Factor	609.54000			

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P**	**Output**	**%Error**	**Output**	**%Error**
0	0.00%	4.00	3.99	-0.05%	3.99	-0.05%
85	24.87%	7.98	7.92	-1.49%	7.92	-1.49%
171	50.03%	12.01	11.94	-0.81%	11.94	-0.81%
256	74.90%	15.98	15.93	-0.45%	15.93	-0.45%
342	100.06%	20.01	19.95	-0.38%	19.95	-0.38%

Calibration Equipment

Type:	Simulator	Multimeter	
Manufacturer:	F & P	Fluke	
Model:	55XC4130A	87 V	
Serial No.:	57266	13440128	
Last Cal. Date:	Feb 16 2023	Feb 17 2023	

Comments: 6299795 m3 as found,
Mag meter total jumps on power reset when returned to service.

CALIBRATION REPORT

Report No.:	ASI 2023 FIT-132
Date:	14-Dec-23

SITE:	Haliburton WPCP	**SERVICE DATE:**	December 14, 2023
PROCESS AREA:	Raw		
INSTR. TAG:	FIT-132	**TECHNICIAN:**	M Manley
MANUFACTURER:	F & P		
MODEL:	50XM13BXAD	**JOB REFERENCE:**	ASI 2023
SERIAL No.:	9409b2060		
INSTR. RANGE:	10m/s		

Input	**(Test)**
Type:	55XC4310A
Min:	0.00
Max:	546.86
Meter Size (inch)	6
Range Unit	m3/hr
Cal. Factor	609.54000

Output	**(Signal)**	**(Process)**
Type or EGU:	mA	m3/hr
Min:	4.00	0.00
Max:	20.00	333.33

			Before Calibration		**After Calibration**	
Input (Y pos)	**Input %**	**Calc. O/P**	**Output**	**%Error**	**Output**	**%Error**
0	0.00%	4.00	3.97	-0.15%	3.97	-0.15%
137	25.05%	8.01	8.01	0.04%	8.01	0.04%
273	49.92%	11.99	11.99	0.03%	11.99	0.03%
410	74.97%	16.00	15.97	-0.22%	15.97	-0.22%
547	100.03%	20.00	19.99	-0.09%	19.99	-0.09%

Calibration Equipment			
Type:	Simulator	Multimeter	
Manufacturer:	F & P	Fluke	
Model:	55XC4130A	87 V	
Serial No.:	57266	13440128	
Last Cal. Date:	Feb 16 2023	Feb 17 2023	

Comments:

8722423m3, 8722431,

Jackson
Water Conditioning Limited
554 Woodville Road, R.R. #3
Woodville, ON K0M 2T0
705-439-2589 1-800-721-4921

CWQA
CANADIAN WATER QUALITY ASSOCIATION

RP, DCVA, PVB

TESTING AND INSPECTION REPORT
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY
DOUBLE CHECK VALVE ASSEMBLY AND PRESSURE VACUUM BREAKER

MAILING ADDRESS

LOCATION ADDRESS	OCCUPANT Haliburton WWTP	PARTY CONTACTED Randy Friesen	TELEPHONE NUMBER 705-854-0020
OWNER Clearford	ADDRESS OF OWNER 566 Arvin Ave	POSTAL CODE L8E 5P1	TELEPHONE NUMBER

TYPE OF ASSEMBLY	MAKE OF ASSEMBLY	MODEL NUMBER	SERIAL NUMBER	SIZE	INSTALL DATE
■ RP ☐ DCVA ☐ PVB	Watts	909QT	278545	1"1/4"	YY MM DD

LOCATION OF ASSEMBLY (i.e. BUILDING, ROOM NUMBER)	INSTALLED ON WHAT SYSTEM
Basement	Premise

TESTER'S CERTIFICATION NUMBER	TESTER'S EQUIPMENT NUMBER	NAME OF CERTIFIED TESTER	BUSINESS NAME	TELEPHONE NUMBER
13097R18	11142301	Darryl McGuckin	Jackson Water	705-439-2589

LOCATION ADDRESS	POSTAL CODE
554 Woodville Rd, Woodville	K0M 2T0

TYPE OF TEST (PLEASE CHECK ONE)
☐ INITIAL
■ ANNUAL
☐ REPLACEMENT

LINE PRESSURE AT TIME OF TEST 50 ☐ kPa ■ Psi

PRESSURE DIFFERENTIAL ACROSS FIRST CHECK VALVE (NO FLOW) 7.8 kPa ☐ Psi ■

MINUS THE OPENING POINT OF RELIEF VALVE 2.6 kPa ☐ Psi ■ = BUFFER 5.2 kPa ☐ Psi ■

TEST	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY						PRESSURE VACUUM BREAKER		TEST RESULTS
	DOUBLE CHECK VALVE ASSEMBLY								
	CHECK VALVE NUMBER 2		SHUT-OFF VALVE NUMBER 2	CHECK VALVE NUMBER 1		DIFFERENTIAL PRESSURE RELIEF VALVE	AIR INLET VALVE	CHECK VALVE	
	WITH FLOW	AGAINST FLOW		WITH FLOW	AGAINST FLOW				
TEST DATE 23/3/31	☐ LEAKED ■ CLOSED TIGHT	☐ LEAKED ■ CLOSED TIGHT	☐ LEAKED ■ CLOSED TIGHT	☐ LEAKED ■ CLOSED TIGHT	☐ LEAKED ■ CLOSED TIGHT	☐ FAILED TO OPEN kPa ☐ ■ OPENED AT 2.6 Psi ■	☐ FAILED TO OPEN ☐ OPENED AT	☐ LEAKED ☐ CLOSED TIGHT	■ PASSED ☐ FAILED

IF THE ASSEMBLY FAILS THE INITIAL TEST FOR ANY REASON, COMPLETE THIS SECTION AND NOTE REPAIR BELOW

REPAIRS				RESULTS
1 ☐ CLEANED **REPLACED**	20 ☐ CLEANED **REPLACED**	30 ☐ CLEANED **REPLACED**	50 ☐ CLEANED **REPLACED**	70 ☐ CLEANED **REPLACED**	
2 ☐ DISC	21 ☐ DISC	31 ☐ DISC	51 ☐ DISC, UPPER	71 ☐ VENT DISC	
3 ☐ SPRING	22 ☐ SEAT	32 ☐ SPRING	52 ☐ DISC, LOWER	72 ☐ VENT SPRING	
4 ☐ GUIDE	23 ☐ OTHER, DESCRIBE	33 ☐ GUIDE	53 ☐ SPRING	73 ☐ POPPET	
5 ☐ PIN RETAINER		34 ☐ PIN RETAINER	54 ☐ DIAPHRAGM, LARGE	74 ☐ RETAINER	
6 ☐ HINGE PIN		35 ☐ HINGE PIN	55 ☐ UPPER	75 ☐ SPRING	
7 ☐ SEAT		36 ☐ SEAT	56 ☐ LOWER	76 ☐ DISC	
8 ☐ DIAPHRAGM		37 ☐ DIAPHRAGM	57 ☐ DIAPHRAGM, SMALL	77 ☐ GUIDE	
9 ☐ OTHER, DESCRIBE		38 ☐ OTHER, DESCRIBE	58 ☐ UPPER	78 ☐ OTHER, DESCRIBE	
			59 ☐ LOWER		
			60 ☐ SPACER, LOWER		
			61 ☐ OTHER, DESCRIBE		

RE-TEST								RE-TEST RESULTS
			PRESSURE DIFFERENTIAL ACROSS FIRST CHECK VALVE (NO FLOW) RE-TEST _____ kPa ☐ Psi ☐					
RE-TEST DATE YY MM DD	☐ LEAKED ☐ CLOSED TIGHT	☐ LEAKED ☐ CLOSED TIGHT	☐ LEAKED ☐ CLOSED TIGHT	☐ LEAKED ☐ CLOSED TIGHT	☐ LEAKED ☐ CLOSED TIGHT	☐ FAILED TO OPEN kPa ☐ ☐ OPENED AT _____ Psi ☐	☐ FAILED TO OPEN kPa ☐ ☐ OPENED AT _____ Psi ☐	☐ LEAKED ☐ CLOSED TIGHT	☐ PASSED ☐ FAILED

REMARKS - REASON FOR FAILURE (IF APPARENT)

I CERTIFY THAT I HAVE TESTED THE ABOVE ASSEMBLY IN ACCORDANCE WITH THE TOWNSHIP OF BYLAW

SIGNATURE OF CERTIFIED TESTER

DATE 23/1/31

FOR OFFICE USE ONLY

ADDITIONAL NOTES

DISTRIBUTION-WHITE-CROSS CONNECTION CONTROL OFFICER | CANARY-CERTIFIED TESTER | PINK-OCCUPANT OR OWNER

APPENDIX E.
BIOSOILDS LABORATORY ANALYTICAL CERTIFICATES

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-January-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 04 January 2023
LR Report: **CA13058-JAN23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge
Sample Date & Time					03-Jan-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	19.0
Total Solids [mg/L]	06-Jan-23	19:25	10-Jan-23	09:59	25300
Total Kjeldahl Nitrogen [as N mg/L]	05-Jan-23	07:10	06-Jan-23	11:04	1070
Ammonia+Ammonium (N) [as N mg/L]	05-Jan-23	16:01	06-Jan-23	10:20	8.1
Nitrite (as N) [ug/g]	06-Jan-23	08:07	16-Jan-23	16:16	9.0
Nitrate (as N) [ug/g]	06-Jan-23	08:07	16-Jan-23	16:16	28
Nitrate + Nitrite (as N) [ug/g]	06-Jan-23	08:07	16-Jan-23	16:16	37
Aluminum [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	1300
Arsenic [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	< 0.1
Cadmium [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	0.023
Cobalt [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	0.05
Chromium [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	0.30
Copper [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	32
Mercury [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	0.031
Potassium [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	140
Molybdenum [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	0.23
Nickel [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	0.29
Phosphorus (Total) [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	710
Lead [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	0.3
Selenium [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	< 0.1
Zinc [mg/L]	12-Jan-23	18:27	16-Jan-23	10:05	11
E. Coli [cfu/1g dried wgt]	---	---	---	---	79051
E. Coli [cfu/100mL]	04-Jan-23	17:34	06-Jan-23	10:23	200000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

07-March-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 10 February 2023
LR Report: **CA12350-FEB23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS-Liquid Sludge
Sample Date & Time					09-Feb-23 13:55
Temperature Upon Receipt [°C]	---	---	---	---	11.0
Total Solids [mg/L]	14-Feb-23	20:15	16-Feb-23	12:55	29900
Total Kjeldahl Nitrogen [as N mg/L]	17-Feb-23	16:10	22-Feb-23	13:12	1580
Ammonia+Ammonium (N) [as N mg/L]	14-Feb-23	10:03	15-Feb-23	12:22	23.0
Nitrite (as N) [ug/g]	13-Feb-23	13:58	21-Feb-23	13:35	< 0.2
Nitrate (as N) [ug/g]	13-Feb-23	13:58	21-Feb-23	13:35	< 0.3
Nitrate + Nitrite (as N) [ug/g]	13-Feb-23	13:58	21-Feb-23	13:35	< 0.3
Aluminum [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	1300
Arsenic [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	< 0.1
Cadmium [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	0.021
Cobalt [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	0.06
Chromium [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	0.33
Copper [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	32
Mercury [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	0.035
Potassium [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	140
Molybdenum [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	0.22
Nickel [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	0.30
Phosphorus (Total) [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	740
Lead [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	0.3
Selenium [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	< 0.1
Zinc [mg/L]	21-Feb-23	17:51	23-Feb-23	10:30	10
E. Coli [cfu/1g dried wgt]	---	---	---	---	120401
E. Coli [cfu/100mL]	10-Feb-23	13:48	13-Feb-23	09:40	360000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003254128

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

21-March-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 09 March 2023
LR Report: **CA13416-MAR23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge
Sample Date & Time					08-Mar-23 10:58
Temperature Upon Receipt [°C]	---	---	---	---	9.0
Total Solids [mg/L]	10-Mar-23	22:04	15-Mar-23	09:48	29400
Total Kjeldahl Nitrogen [as N mg/L]	10-Mar-23	11:23	14-Mar-23	10:34	1850
Ammonia+Ammonium (N) [as N mg/L]	10-Mar-23	08:00	13-Mar-23	09:34	34.5
Nitrite (as N) [ug/g]	10-Mar-23	23:56	21-Mar-23	15:00	0.5
Nitrate (as N) [ug/g]	10-Mar-23	23:56	21-Mar-23	15:00	< 0.3
Nitrate + Nitrite (as N) [ug/g]	10-Mar-23	23:56	21-Mar-23	15:00	0.5
Aluminum [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	1300
Arsenic [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	< 0.1
Cadmium [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	0.016
Cobalt [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	0.06
Chromium [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	0.34
Copper [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	31
Mercury [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	0.040
Potassium [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	150
Molybdenum [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	0.19
Nickel [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	0.30
Phosphorus (Total) [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	730
Lead [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	0.2
Selenium [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	< 0.1
Zinc [mg/L]	13-Mar-23	13:28	13-Mar-23	16:33	10
E. Coli [cfu/1g dried wgt]	---	---	---	---	275510
E. Coli [cfu/100mL]	09-Mar-23	15:33	10-Mar-23	15:43	810000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003271908

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-April-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 05 April 2023
LR Report: **CA12189-APR23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge
Sample Date & Time					04-Apr-23 14:20
Temperature Upon Receipt [°C]	---	---	---	---	10.0
Total Solids [mg/L]	05-Apr-23	19:52	10-Apr-23	12:04	9340
Total Kjeldahl Nitrogen [as N mg/L]	10-Apr-23	17:36	12-Apr-23	11:43	486
Ammonia+Ammonium (N) [as N mg/L]	06-Apr-23	14:46	10-Apr-23	13:24	2.0
Nitrite (as N) [ug/g]	10-Apr-23	08:45	11-Apr-23	14:30	1.6
Nitrate (as N) [ug/g]	10-Apr-23	08:45	11-Apr-23	14:30	47
Nitrate + Nitrite (as N) [ug/g]	10-Apr-23	08:45	11-Apr-23	14:30	49
Aluminum [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	300
Arsenic [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	< 0.1
Cadmium [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	0.008
Cobalt [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	0.02
Chromium [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	0.10
Copper [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	9.3
Mercury [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	0.009
Potassium [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	44
Molybdenum [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	< 0.05
Nickel [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	0.09
Phosphorus (Total) [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	150
Lead [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	0.1
Selenium [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	< 0.1
Zinc [mg/L]	12-Apr-23	14:37	13-Apr-23	09:45	3
E. Coli [cfu/1g dried wgt]	---	---	---	---	299786
E. Coli [cfu/100mL]	05-Apr-23	13:50	06-Apr-23	16:21	280000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003297925

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-April-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 19 April 2023
LR Report: **CA12764-APR23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					17-Apr-23 14:05
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Total Solids [mg/L]	19-Apr-23	20:30	21-Apr-23	09:09	32400
Total Kjeldahl Nitrogen [as N mg/L]	20-Apr-23	14:35	24-Apr-23	08:54	2020
Ammonia+Ammonium (N) [as N mg/L]	20-Apr-23	16:36	21-Apr-23	10:46	105
Nitrite (as N) [ug/g]	21-Apr-23	20:15	28-Apr-23	11:01	0.5
Nitrate (as N) [ug/g]	21-Apr-23	20:15	28-Apr-23	11:01	< 0.3
Nitrate + Nitrite (as N) [ug/g]	21-Apr-23	20:15	28-Apr-23	11:01	0.5
Aluminum [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	1930
Arsenic [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	< 0.1
Cadmium [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	0.024
Cobalt [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	0.10
Chromium [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	0.53
Copper [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	41
Mercury [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	0.042
Potassium [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	200
Molybdenum [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	0.28
Nickel [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	0.47
Phosphorus (Total) [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	1061
Lead [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	0.4
Selenium [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	0.1
Zinc [mg/L]	25-Apr-23	17:06	27-Apr-23	15:49	13
E. Coli [cfu/1g dried wgt]	---	---	---	---	370370
E. Coli [cfu/100mL]	19-Apr-23	12:29	21-Apr-23	09:12	1200000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

04-May-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 26 April 2023
LR Report: **CA13897-APR23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					25-Apr-23 07:15
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Total Solids [mg/L]	27-Apr-23	18:44	01-May-23	09:36	25800
Total Kjeldahl Nitrogen [as N mg/L]	27-Apr-23	14:40	29-Apr-23	13:54	1580
Ammonia+Ammonium (N) [as N mg/L]	27-Apr-23	14:27	28-Apr-23	11:11	92.3
Nitrite (as N) [ug/g]	28-APR-23	06:58	03-May-23	14:53	< 0.2
Nitrate (as N) [ug/g]	28-APR-23	06:58	03-May-23	14:53	< 0.3
Nitrate + Nitrite (as N) [ug/g]	28-APR-23	06:58	03-May-23	14:53	< 0.3
Aluminum [mg/L]	03-May-23	00:31	03-May-23	17:21	1330
Arsenic [mg/L]	03-May-23	00:31	03-May-23	17:21	< 0.1
Cadmium [mg/L]	03-May-23	00:31	03-May-23	17:21	0.016
Cobalt [mg/L]	03-May-23	00:31	03-May-23	17:21	0.07
Chromium [mg/L]	03-May-23	00:31	03-May-23	17:21	0.37
Copper [mg/L]	03-May-23	00:31	03-May-23	17:21	30
Mercury [mg/L]	03-May-23	00:31	03-May-23	17:21	0.041
Potassium [mg/L]	03-May-23	00:31	03-May-23	17:21	160
Molybdenum [mg/L]	03-May-23	00:31	03-May-23	17:21	0.21
Nickel [mg/L]	03-May-23	00:31	03-May-23	17:21	0.33
Phosphorus (Total) [mg/L]	03-May-23	00:31	03-May-23	17:21	817
Lead [mg/L]	03-May-23	00:31	03-May-23	17:21	0.3
Selenium [mg/L]	03-May-23	00:31	03-May-23	17:21	< 0.1
Zinc [mg/L]	03-May-23	00:31	03-May-23	17:21	9
E. Coli [cfu/1g dried wgt]	---	---	---	---	337209
E. Coli [cfu/100mL]	26-Apr-23	15:29	28-Apr-23	08:57	870000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003322028

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

09-May-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 03 May 2023
LR Report: **CA13060-MAY23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					01-May-23 13:40
Temperature Upon Receipt [°C]	---	---	---	---	10.0
Total Solids [mg/L]	05-May-23	21:18	09-May-23	09:46	23900
Total Kjeldahl Nitrogen [as N mg/L]	04-May-23	16:12	08-May-23	10:17	1450
Ammonia+Ammonium (N) [as N mg/L]	04-May-23	17:19	09-May-23	13:18	31.7
Nitrite (as N) [ug/g]	04-May-23	21:52	08-May-23	16:10	0.6
Nitrate (as N) [ug/g]	04-May-23	21:52	08-May-23	16:10	0.6
Nitrate + Nitrite (as N) [ug/g]	04-May-23	21:52	08-May-23	16:10	1.2
Aluminum [mg/L]	05-May-23	15:57	09-May-23	10:08	1330
Arsenic [mg/L]	05-May-23	15:57	09-May-23	10:08	< 0.1
Cadmium [mg/L]	05-May-23	15:57	09-May-23	10:08	0.014
Cobalt [mg/L]	05-May-23	15:57	09-May-23	10:08	0.06
Chromium [mg/L]	05-May-23	15:57	09-May-23	10:08	0.36
Copper [mg/L]	05-May-23	15:57	09-May-23	10:08	30
Mercury [mg/L]	05-May-23	15:57	09-May-23	10:08	0.039
Potassium [mg/L]	05-May-23	15:57	09-May-23	10:08	150
Molybdenum [mg/L]	05-May-23	15:57	09-May-23	10:08	0.20
Nickel [mg/L]	05-May-23	15:57	09-May-23	10:08	0.32
Phosphorus (Total) [mg/L]	05-May-23	15:57	09-May-23	10:08	715
Lead [mg/L]	05-May-23	15:57	09-May-23	10:08	0.3
Selenium [mg/L]	05-May-23	15:57	09-May-23	10:08	< 0.1
Zinc [mg/L]	05-May-23	15:57	09-May-23	10:08	9
E. Coli [cfu/1g dried wgt]	---	---	---	---	217573
E. Coli [cfu/100mL]	03-May-23	10:29	05-May-23	08:37	520000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

29-May-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 17 May 2023
LR Report: **CA13598-MAY23**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					16-May-23 08:15
Temperature Upon Receipt [°C]	---	---	---	---	5.0
Total Solids [mg/L]	18-May-23	20:05	23-May-23	13:44	34500
Total Kjeldahl Nitrogen [as N mg/L]	18-May-23	16:39	23-May-23	10:51	1970
Ammonia+Ammonium (N) [as N mg/L]	18-May-23	16:08	19-May-23	13:32	216
Nitrite (as N) [ug/g]	18-May-23	12:54	29-May-23	09:49	12
Nitrate (as N) [ug/g]	18-May-23	12:54	29-May-23	09:49	< 0.3
Nitrate + Nitrite (as N) [ug/g]	18-May-23	12:54	29-May-23	09:49	12
Aluminum [mg/L]	19-May-23	15:36	24-May-23	12:45	2000
Arsenic [mg/L]	19-May-23	15:36	24-May-23	12:45	< 0.1
Cadmium [mg/L]	19-May-23	15:36	24-May-23	12:45	0.030
Cobalt [mg/L]	19-May-23	15:36	24-May-23	12:45	0.09
Chromium [mg/L]	19-May-23	15:36	24-May-23	12:45	0.51
Copper [mg/L]	19-May-23	15:36	24-May-23	12:45	42
Mercury [mg/L]	19-May-23	15:36	24-May-23	12:45	0.052
Potassium [mg/L]	19-May-23	15:36	24-May-23	12:45	213
Molybdenum [mg/L]	19-May-23	15:36	24-May-23	12:45	0.33
Nickel [mg/L]	19-May-23	15:36	24-May-23	12:45	0.44
Phosphorus (Total) [mg/L]	19-May-23	15:36	24-May-23	12:45	1190
Lead [mg/L]	19-May-23	15:36	24-May-23	12:45	0.4
Selenium [mg/L]	19-May-23	15:36	24-May-23	12:45	0.1
Zinc [mg/L]	19-May-23	15:36	24-May-23	12:45	14
E. Coli [cfu/1g dried wgt]	---	---	---	---	55072
E. Coli [cfu/100mL]	17-May-23	15:45	19-May-23	08:21	190000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-June-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 07 June 2023
LR Report: **CA12221-JUN23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge
Sample Date & Time					06-Jun-23 07:45
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Total Solids [mg/L]	08-Jun-23	19:00	12-Jun-23	12:47	16800
Total Kjeldahl Nitrogen [as N mg/L]	08-Jun-23	15:57	12-Jun-23	12:51	896
Ammonia+Ammonium (N) [as N mg/L]	09-Jun-23	16:58	12-Jun-23	09:48	11.2
Nitrite (as N) [ug/g]	09-Jun-23	22:27	13-Jun-23	09:48	7
Nitrate (as N) [ug/g]	09-Jun-23	22:27	13-Jun-23	09:48	86
Nitrate + Nitrite (as N) [ug/g]	09-Jun-23	22:27	13-Jun-23	09:48	93
Aluminum [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	700
Arsenic [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	< 0.1
Cadmium [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	0.008
Cobalt [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	0.03
Chromium [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	0.24
Copper [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	16
Mercury [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	0.017
Potassium [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	90
Molybdenum [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	0.13
Nickel [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	0.19
Phosphorus (Total) [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	397
Lead [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	0.2
Selenium [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	< 0.1
Zinc [mg/L]	14-Jun-23	14:23	16-Jun-23	13:35	5
E. Coli [cfu/1g dried wgt]	---	---	---	---	71429
E. Coli [cfu/100mL]	07-Jun-23	17:46	09-Jun-23	10:49	120000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003369636

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

13-July-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 05 July 2023
LR Report: **CA12050-JUL23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge
Sample Date & Time					04-Jul-23 07:40
Temperature Upon Receipt [°C]	---	---	---	---	11.0
Total Solids [mg/L]	05-Jul-23	20:25	07-Jul-23	09:47	21700
Total Kjeldahl Nitrogen [as N mg/L]	06-Jul-23	14:31	11-Jul-23	10:18	1210
Ammonia+Ammonium (N) [as N mg/L]	06-Jul-23	15:57	07-Jul-23	09:39	13.7
Nitrite (as N) [ug/g]	07-Jul-23	09:13	10-Jul-23	12:39	12
Nitrate (as N) [ug/g]	07-Jul-23	09:13	10-Jul-23	12:39	52
Nitrate + Nitrite (as N) [ug/g]	07-Jul-23	09:13	10-Jul-23	12:39	64
Aluminum [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	859
Arsenic [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	< 0.1
Cadmium [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	0.009
Cobalt [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	0.04
Chromium [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	0.22
Copper [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	19
Mercury [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	0.023
Potassium [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	103
Molybdenum [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	0.14
Nickel [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	0.21
Phosphorus (Total) [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	468
Lead [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	0.2
Selenium [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	< 0.1
Zinc [mg/L]	10-Jul-23	18:48	12-Jul-23	13:51	6
E. Coli [cfu/1g dried wgt]	---	---	---	---	41935
E. Coli [cfu/100mL]	05-Jul-23	19:02	07-Jul-23	10:38	91000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

01-August-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 26 July 2023
LR Report: **CA12947-JUL23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					24-Jul-23 14:50
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Total Solids [mg/L]	26-Jul-23	17:44	28-Jul-23	12:20	27300
Total Kjeldahl Nitrogen [as N mg/L]	27-Jul-23	13:51	31-Jul-23	09:29	1720
Ammonia+Ammonium (N) [as N mg/L]	27-Jul-23	14:27	28-Jul-23	10:59	187
Nitrite (as N) [ug/g]	27-Jul-23	15:37	31-Jul-23	14:30	< 3
Nitrate (as N) [ug/g]	27-Jul-23	15:37	31-Jul-23	14:30	< 3
Nitrate + Nitrite (as N) [ug/g]	27-Jul-23	15:37	31-Jul-23	14:30	< 3
Aluminum [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	1310
Arsenic [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	< 0.1
Cadmium [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	0.032
Cobalt [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	0.05
Chromium [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	0.35
Copper [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	29
Mercury [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	0.031
Potassium [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	102
Molybdenum [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	0.21
Nickel [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	0.30
Phosphorus (Total) [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	767
Lead [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	0.3
Selenium [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	< 0.1
Zinc [mg/L]	01-Aug-23	03:24	01-Aug-23	15:53	8
E. Coli [cfu/1g dried wgt]	---	---	---	---	179487
E. Coli [cfu/100mL]	26-Jul-23	12:45	31-Jul-23	14:59	490000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003419808

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

14-August-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 03 August 2023
LR Report: **CA13160-AUG23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS- Liquid Sludge
Sample Date & Time					02-Aug-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	19.0
Total Solids [mg/L]	04-Aug-23	21:26	09-Aug-23	16:00	15700
Total Kjeldahl Nitrogen [as N mg/L]	08-Aug-23	15:10	10-Aug-23	13:52	824
Ammonia+Ammonium (N) [as N mg/L]	04-Aug-23	15:17	08-Aug-23	09:05	10.2
Nitrite (as N) [ug/g]	04-Aug-23	07:36	08-Aug-23	17:24	< 3
Nitrate (as N) [ug/g]	04-Aug-23	07:36	08-Aug-23	17:24	15
Nitrate + Nitrite (as N) [ug/g]	04-Aug-23	07:36	08-Aug-23	17:24	15
Aluminum [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	660
Arsenic [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	< 0.1
Cadmium [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	0.025
Cobalt [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	0.03
Chromium [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	0.18
Copper [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	15
Mercury [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	0.021
Potassium [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	76
Molybdenum [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	0.11
Nickel [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	0.15
Phosphorus (Total) [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	354
Lead [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	0.2
Selenium [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	< 0.1
Zinc [mg/L]	08-Aug-23	13:22	14-Aug-23	10:23	5
E. Coli [cfu/1g dried wgt]	03-Aug-23	16:55	08-Aug-23	10:08	133758
E. Coli [cfu/100mL]	03-Aug-23	16:55	08-Aug-23	10:08	210000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

19-September-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 06 September 2023
LR Report: **CA13073-SEP23**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge
Sample Date & Time					05-Sep-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	12.0
Total Solids [mg/L]	06-Sep-23	21:31	08-Sep-23	11:23	24700
Total Kjeldahl Nitrogen [as N mg/L]	07-Sep-23	13:08	11-Sep-23	10:14	1210
Ammonia+Ammonium (N) [as N mg/L]	07-Sep-23	10:48	11-Sep-23	09:46	45.8
Nitrite (as N) [ug/g]	07-Sep-23	09:38	08-Sep-23	20:20	3
Nitrate (as N) [ug/g]	07-Sep-23	09:38	08-Sep-23	20:20	230
Nitrate + Nitrite (as N) [ug/g]	07-Sep-23	09:38	08-Sep-23	20:20	230
Aluminum [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	1510
Arsenic [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	< 0.1
Cadmium [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	0.017
Cobalt [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	0.06
Chromium [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	0.36
Copper [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	32
Mercury [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	0.040
Potassium [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	121
Molybdenum [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	0.20
Nickel [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	0.32
Phosphorus (Total) [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	787
Lead [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	0.3
Selenium [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	< 0.1
Zinc [mg/L]	16-Sep-23	16:47	19-Sep-23	10:24	11
E. Coli [cfu/1g dried wgt]	---	---	---	---	<405
E. Coli [cfu/100mL]	06-Sep-23	18:06	08-Sep-23	09:43	< 1000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

20-September-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 08 September 2023
LR Report: **CA13308-SEP23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					07-Sep-23 07:15
Temperature Upon Receipt [°C]	---	---	---	---	12.0
Total Solids [mg/L]	08-Sep-23	21:16	12-Sep-23	09:10	28600
Total Kjeldahl Nitrogen [as N mg/L]	11-Sep-23	12:32	14-Sep-23	13:36	1550
Ammonia+Ammonium (N) [as N mg/L]	11-Sep-23	18:01	12-Sep-23	13:01	56.7
Nitrite (as N) [ug/g]	09-Sep-23	10:18	12-Sep-23	18:56	< 3
Nitrate (as N) [ug/g]	09-Sep-23	10:18	12-Sep-23	18:56	< 3
Nitrate + Nitrite (as N) [ug/g]	09-Sep-23	10:18	12-Sep-23	18:56	< 3
Aluminum [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	1630
Arsenic [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	< 0.1
Cadmium [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	0.069
Cobalt [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	0.07
Chromium [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	0.43
Copper [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	36
Mercury [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	0.043
Potassium [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	133
Molybdenum [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	0.24
Nickel [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	0.33
Phosphorus (Total) [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	879
Lead [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	0.4
Selenium [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	0.1
Zinc [mg/L]	18-Sep-23	17:04	20-Sep-23	10:58	12
E. Coli [cfu/1g dried wgt]	---	---	---	---	146853
E. Coli [cfu/100mL]	08-Sep-23	14:50	11-Sep-23	12:19	420000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003472883

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

03-October-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 13 September 2023
LR Report: **CA13402-SEP23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					12-Sep-23 07:30
Temperature Upon Receipt [°C]	---	---	---	---	8.0
Total Solids [mg/L]	13-Sep-23	20:58	15-Sep-23	09:38	22800
Total Kjeldahl Nitrogen [as N mg/L]	15-Sep-23	11:04	21-Sep-23	10:47	950
Ammonia+Ammonium (N) [as N mg/L]	14-Sep-23	13:56	18-Sep-23	09:09	56.4
Nitrite (as N) [ug/g]	14-Sep-23	18:27	18-Sep-23	12:35	< 3
Nitrate (as N) [ug/g]	14-Sep-23	18:27	18-Sep-23	12:35	< 3
Nitrate + Nitrite (as N) [ug/g]	14-Sep-23	18:27	18-Sep-23	12:35	< 3
Aluminum [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	1040
Arsenic [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	< 0.1
Cadmium [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	0.047
Cobalt [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	0.05
Chromium [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	0.26
Copper [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	23
Mercury [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	0.043
Potassium [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	94
Molybdenum [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	0.13
Nickel [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	0.23
Phosphorus (Total) [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	565
Lead [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	0.3
Selenium [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	< 0.1
Zinc [mg/L]	29-Sep-23	14:59	03-Oct-23	15:05	8
E. Coli [cfu/1g dried wgt]	---	---	---	---	127193
E. Coli [cfu/100mL]	13-Sep-23	10:46	18-Sep-23	08:26	290000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

10-October-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 28 September 2023
LR Report: **CA15423-SEP23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					27-Sep-23 07:37
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Total Solids [mg/L]	28-Sep-23	20:21	02-Oct-23	09:06	23600
Total Kjeldahl Nitrogen [as N mg/L]	02-Oct-23	14:15	05-Oct-23	12:50	802
Ammonia+Ammonium (N) [as N mg/L]	29-Sep-23	09:56	02-Oct-23	09:51	16.2
Nitrite (as N) [ug/g]	29-Sep-23	10:23	03-Oct-23	10:44	< 3
Nitrate (as N) [ug/g]	29-Sep-23	10:23	03-Oct-23	10:44	360
Nitrate + Nitrite (as N) [ug/g]	29-Sep-23	10:23	03-Oct-23	10:44	360
Aluminum [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	1490
Arsenic [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	< 0.1
Cadmium [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	0.016
Cobalt [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	0.05
Chromium [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	0.36
Copper [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	28
Mercury [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	0.036
Potassium [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	126
Molybdenum [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	0.20
Nickel [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	0.31
Phosphorus (Total) [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	767
Lead [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	0.4
Selenium [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	< 0.1
Zinc [mg/L]	06-Oct-23	14:48	10-Oct-23	16:25	11
E. Coli [cfu/1g dried wgt]	---	---	---	---	<424
E. Coli [cfu/100mL]	28-Sep-23	16:32	02-Oct-23	08:25	< 1000

OnLine LIMS

0003494536

Note:

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

17-October-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 04 October 2023
LR Report: **CA13152-OCT23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge
Sample Date & Time					03-Oct-23 06:40
Temperature Upon Receipt [°C]	---	---	---	---	9.0
Total Solids [mg/L]	05-Oct-23	21:34	09-Oct-23	10:55	17600
Total Kjeldahl Nitrogen [as N mg/L]	12-Oct-23	13:16	16-Oct-23	11:49	1200
Ammonia+Ammonium (N) [as N mg/L]	06-Oct-23	15:34	10-Oct-23	10:49	9.3
Nitrite (as N) [ug/g]	05-Oct-23	07:10	06-Oct-23	19:43	< 3
Nitrate (as N) [ug/g]	05-Oct-23	07:10	06-Oct-23	19:43	32
Nitrate + Nitrite (as N) [ug/g]	05-Oct-23	07:10	06-Oct-23	19:43	32
Aluminum [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	947
Arsenic [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	< 0.1
Cadmium [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	0.034
Cobalt [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	0.03
Chromium [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	0.23
Copper [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	21
Mercury [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	0.015
Potassium [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	170
Molybdenum [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	0.12
Nickel [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	0.17
Phosphorus (Total) [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	606
Lead [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	0.2
Selenium [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	< 0.1
Zinc [mg/L]	13-Oct-23	15:19	17-Oct-23	10:57	6
E. Coli [cfu/1g dried wgt]	---	---	---	---	79545
E. Coli [cfu/100mL]	04-Oct-23	16:30	06-Oct-23	07:27	140000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003502427

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

16-November-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 07 November 2023
LR Report: **CA12266-NOV23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS Liquid Sludge
Sample Date & Time					06-Nov-23 13:05
Temperature Upon Receipt [°C]	---	---	---	---	10.0
Total Solids [mg/L]	09-Nov-23	19:58	14-Nov-23	09:00	23900
Total Kjeldahl Nitrogen [as N mg/L]	10-Nov-23	12:52	15-Nov-23	10:34	1130
Ammonia+Ammonium (N) [as N mg/L]	09-Nov-23	11:13	13-Nov-23	09:18	9.8
Nitrite (as N) [ug/g]	10-Nov-23	09:55	16-Nov-23	13:35	< 3
Nitrate (as N) [ug/g]	10-Nov-23	09:55	16-Nov-23	13:35	13
Nitrate + Nitrite (as N) [ug/g]	10-Nov-23	09:55	16-Nov-23	13:35	13
Aluminum [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	1310
Arsenic [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	< 0.1
Cadmium [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	0.040
Cobalt [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	0.05
Chromium [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	0.32
Copper [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	28
Mercury [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	0.026
Potassium [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	141
Molybdenum [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	0.17
Nickel [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	0.28
Phosphorus (Total) [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	742
Lead [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	0.3
Selenium [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	< 0.1
Zinc [mg/L]	15-Nov-23	20:33	16-Nov-23	15:42	9
E. Coli [cfu/1g dried wgt]	---	---	---	---	83682
E. Coli [cfu/100mL]	07-Nov-23	18:13	09-Nov-23	15:39	200000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003535087

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-November-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 17 November 2023
LR Report: **CA13750-NOV23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge Hauled
Sample Date & Time					16-Nov-23 09:18
Temperature Upon Receipt [°C]	---	---	---	---	12.0
Total Solids [mg/L]	17-Nov-23	21:13	21-Nov-23	09:46	23900
Total Kjeldahl Nitrogen [as N mg/L]	18-Nov-23	10:53	22-Nov-23	14:08	1290
Ammonia+Ammonium (N) [as N mg/L]	20-Nov-23	16:15	21-Nov-23	10:31	39.9
Nitrite (as N) [ug/g]	22-Nov-23	14:50	27-Nov-23	09:50	< 3
Nitrate (as N) [ug/g]	22-Nov-23	14:50	27-Nov-23	09:50	< 3
Nitrate + Nitrite (as N) [ug/g]	22-Nov-23	14:50	27-Nov-23	09:50	< 3
Aluminum [mg/L]	23-Nov-23	15:59	28-Nov-23	12:58	1260
Arsenic [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	< 0.1
Cadmium [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	0.047
Cobalt [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	0.05
Chromium [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	0.34
Copper [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	31
Mercury [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	0.040
Potassium [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	139
Molybdenum [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	0.18
Nickel [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	0.29
Phosphorus (Total) [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	777
Lead [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	0.3
Selenium [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	0.1
Zinc [mg/L]	23-Nov-23	15:59	28-Nov-23	13:13	10
E. Coli [cfu/1g dried wgt]	---	---	---	---	192469
E. Coli [cfu/100mL]	17-Nov-23	13:58	20-Nov-23	13:12	460000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003547539

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

19-December-2023

Clearford Waterworks Inc. (Haliburton WPCP-Sludge)
Attn : Clearford Compliance

566 Arvin Avenue
Stoney Creek, ON
L8E 5P1, Canada

Phone: 519-542-7900
Fax:

Date Rec. : 06 December 2023
LR Report: **CA13191-DEC23**

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: DS - Liquid Sludge
Sample Date & Time					05-Dec-23 09:48
Temperature Upon Receipt [°C]	---	---	---	---	7.0
Total Solids [mg/L]	06-Dec-23	19:20	08-Dec-23	11:15	8880
Total Kjeldahl Nitrogen [as N mg/L]	08-Dec-23	13:24	12-Dec-23	14:13	468
Ammonia+Ammonium (N) [as N mg/L]	08-Dec-23	19:34	11-Dec-23	11:43	6.9
Nitrite (as N) [ug/g]	11-Dec-23	07:58	14-Dec-23	16:55	< 3
Nitrate (as N) [ug/g]	11-Dec-23	07:58	14-Dec-23	16:55	< 3
Nitrate + Nitrite (as N) [ug/g]	11-Dec-23	07:58	14-Dec-23	16:55	< 3
Aluminum [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	386
Arsenic [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	< 0.1
Cadmium [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	0.016
Cobalt [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	0.02
Chromium [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	0.11
Copper [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	9.5
Mercury [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	0.008
Potassium [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	88
Molybdenum [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	0.05
Nickel [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	0.09
Phosphorus (Total) [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	225
Lead [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	< 0.1
Selenium [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	< 0.1
Zinc [mg/L]	13-Dec-23	14:02	18-Dec-23	16:05	3
E. Coli [cfu/1g dried wgt]	---	---	---	---	101351
E. Coli [cfu/100mL]	06-Dec-23	17:05	11-Dec-23	07:05	90000

Note: Metals and mercury were analyzed on the as-received sample.
The E.coli value reported in CFU/1g dried weight was calculated using Total Solids and CFU/100ml.

OnLine LIMS

0003567962

APPENDIX F.
CERTIFICATES OF APPROVAL FOR SHEPHERD ENTERPRISES INC.

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 0834-4K8GXB
Issue Date: November 30, 2015

Shepherd Enterprises Inc
6798 Highway 35
Post Office Box, No. 68
Coboconk, Ontario
K0M 1K0

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

a waste management system for the management of hauled sewage (septage) serving:

the Province of Ontario

For the purpose of this environmental compliance approval, the following definitions apply:

a. **"Act"** means the *Environmental Protection Act,* R.S.O. 1990, C.E-19, as amended;

b. **"Approval"** means this entire Environmental Compliance Approval including its schedules, if any, issued under section 20.3 of II.1 of the Act;

c. **"Company"** means Shepherd Enterprises Inc, or its agents or assignees;

d. **"Director"** means any Ministry employee appointed by the Minister pursuant to Section 5 of the Act;

e. **"District Manager"** means the District Manager of the Ministry for the geographic area in which a Site is located;

f. **"Hauled Sewage"** is as defined in Ontario Regulation 347, R.R.O. 1990, as amended by Ontario Regulation 157, R.R.O. 1998, as amended from time to time;

g. **"Hauled Sewage Disposal Site"** means a Hauled Sewage Disposal Site, the location of which is approved by the Ministry;

h. **"Hauled Sewage Disposal Site Information Form"** means a document in the form of an application set out in the attached Schedule "C";

i. **"Ministry"** means the Ministry of the Environment and Climate Change;

j. **"Professional Engineer"** means an engineer licensed under the *Professional Engineers Act;*

k. **"Sensitive use"** means residential, commercial, recreational or institutional uses, and locations at which people regularly congregate;

l. **"Sewage Works"** means a Sewage Works approved under Part II.1 of the Act;

m. **"Site"** means a Site approved to receive Hauled Sewage under the Approval;

n. **"Waste Disposal Site"** means a Waste Disposal Site which is not a Hauled Sewage Disposal Site, a Sewage Works or a Waste Stabilization Pond; and

o. **"Waste Management System"** is as defined in the Act, as amended.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

GENERAL

1. a. The requirements of this Approval are severable. If any requirement of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid, the application of such requirement to other circumstances and the remainder of this Approval shall not be affected in any way; and

   b. The requirements specified in this Approval are the requirements under the Act. The issuance of this Approval in no way abrogates the Company's legal obligations to take all reasonable steps to avoid violating other applicable provisions of this legislation and other legislation and regulations.

2. a. Except as otherwise provided by these conditions, the Waste Management System shall be operated in accordance with the application submitted for this Approval and with the supporting documentation submitted to the Ministry as part of the application listed in Schedule "A".

   b. Where there is a conflict between a provision of any document referred to in Schedule "A", and the other conditions of this Approval, the other conditions of this Approval shall take precedence;

c. Where there is a conflict between documents listed in Schedule "A", the document bearing the most recent date shall prevail; and

d. The Company and any owner or operator of the Waste Management System shall ensure that it is constructed and operated in accordance with these conditions.

3. The Company shall ensure that any communication/correspondence made in relation to the Waste Management System or to this Approval includes reference to this Approval number.

4. The Company shall notify the Director in writing of any of the following changes within thirty (30) days of the change occurring:

a. change of Company or operator of the Waste Management System or both;

b. change of address or address of the new Company or operator;

c. change of partners where the Company or operator is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Business Names Act,* 1991 shall be included in the notification to the Director; and

d. any change of name of the corporation where the Company or operator is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" (Form 1 or 2 of Ontario Regulation 182, as amended from time to time), filed under the *Corporations Information Act* shall be included in the notification to the Director.

5. In the event of any change in ownership of the Waste Management System, the Company shall forthwith notify in writing the succeeding owner of the existence of this Approval, and provide the successor with an up-to-date copy of this Approval and a copy of such notice shall forthwith be forwarded to the Director.

6. All records and monitoring data required by the conditions of this Approval must be kept on the premises of the Company and of the operator of the Waste Management System for a minimum period of five (5) years from the date of their creation.

SPILL PREVENTION PROCEDURES

7. a. Prior to operating a new or amended Waste Management System, the Company shall develop written procedures covering the following:

i. spill prevention procedures for routine pick-up of wastes, including procedures to clean up spills when they occur;

ii. operating procedures for pick-up of domestic Hauled Sewage from other Waste

Management Systems in accordance with condition 30, including procedures to prevent spills and to clean up spills when they occur;

iii. procedures for reporting to the Ministry, and municipal authorities as required;

iv. inspection programs for the Waste Management System;

v. complaint procedures for receiving and responding to public complaints, including what steps the Company took to determine the cause of the complaint and what corrective measures were taken to alleviate the cause and prevent its recurrence;

vi. a list of the personnel responsible for the operation of the Waste Management System, along with the training these personnel have received; and,

vii. a list of equipment, material and personnel that will be available to deal with spills.

b. The Company shall ensure that all personnel operating the system are aware of the requirements of this Approval and are trained in Spill Prevention Procedures outlined in this condition.

OPERATIONS

8. The Company must ensure that no unnecessary off-site effects, such as vermin, vectors, odour, dust, litter, noise and traffic, result from the spreading, hauling, storage or disposal of Hauled Sewage. This condition does not reduce the Company's obligations to comply with the Act or the *Ontario Water Resources Act.*

9. Spills and upsets that cause an adverse effect, spills that are likely to enter or enter any waters, as defined in the *Ontario Water Resources Act,* directly or through drainage structures, or spills of greater than 100 litres on land accessible by the public shall be immediately reported to the Ministry's Spills Action Centre at (416) 325-3000 or 1-800-268-6060 and the Company shall take appropriate remedial action to limit the impact. Information regarding all spills shall be recorded in the log book, referred to in condition 27 of this Approval.

10 a. Every vehicle utilized to collect and transport waste pursuant to this Approval shall be clearly marked with the name and number appearing on the Approval that authorizes the transportation. For greater certainty, the provisions of s. 16(1) 12 of Ontario Regulation 347 do not apply to vehicles that are part of this Approval.

b. Every vehicle utilized to collect and transport waste pursuant to this Approval shall be insured under a vehicle liability policy for a minimum of one million dollars ($1,000,000.00) until such time as this Approval is revoked.

11. The Company shall ensure that its vehicle liability policy, or the combination of its vehicle

liability insurance policy and environmental liability insurance policy, cover accidents, including spills, associated with each vehicle and the use and operation of equipment on each vehicle while the vehicle is stationary or in motion.

12. The following documents shall be maintained with each vehicle operated pursuant to this Approval at all times that the vehicle is being operated or contains any wastes:

    a. a copy of this Approval. For greater certainty, the documents listed in Schedule "A" and completed Schedule "C' are not required to be carried with each vehicle; provided that they are maintained at the Company's place of business;

    b. a certificate verifying the driver's successful completion of a training and safety program, if required by Ontario Regulation 347; and

    c. a certificate of vehicle liability insurance specifying that it provides coverage of a minimum of one million dollars ($1,000,000.00) until such time as this Approval is revoked.

13. Hauled Sewage hauled by the Waste Management System may only be deposited at Sites approved to receive that type of waste.

14. Subject to condition 13, Hauled Sewage may be deposited:

    a. With the consent of the operating authority at a sewage works for which an approval under Part II.1 of the Act has been issued; and

    b. At Hauled Sewage Sites, for which a completed Hauled Sewage Disposal Site Information Form, as provided in Schedule "C", has been submitted by the Company and accepted by the District Manager or other Director; and

    c. At Waste Stabilization Ponds for which a completed Hauled Sewage Disposal Site Information Form, as provided in Schedule "C", has been submitted to the District Manager along with a copy of the consent, including any rules, signed by the owner of the Waste Stabilization Pond, and a copy of the Environmental Compliance Approval for the Waste Stabilization Pond, and having these accepted by the District Manager or other Director; and

    d. During times when Hauled Sewage is deposited at a Hauled Sewage Site where Hauled Sewage is land applied, a copy of Schedule "C" accepted by the District Manager, shall be maintained at the site that the District Manager approved for disposal of Hauled Sewage;

    e. In the event that Hauled Sewage cannot be disposed of at Sites approved to receive that type of waste during one business day, Hauled Sewage may be stored in vehicles forming part of this Waste Management System at your designated truck storage yards until the

next business day.

15. Any addition, deletion or other change to the fleet of vehicles, trailers and equipment (i.e., year, make, model, serial number, licence number and ownership of each vehicle, railer or piece of equipment) in particular those which are leased or rented, shall be reported to the Director within fourteen (14) days of any such change.

TRANSITIONAL

16. No Hauled Sewage hauled by the Waste Management System shall be deposited at a Hauled Sewage Disposal Site, Waste Disposal Site, or Waste Stabilization Pond at a location set out in an accepted and signed Schedule "C" after any expiry or other termination date specified in the most recent approval for the Site unless a new application for an Environmental Compliance Approval for the use of such Site has been submitted in accordance with condition 14, and an approval has been issued by the Director for that location with a later expiry date specified on it.

HAULED SEWAGE SITES

17. The portion of the Hauled Sewage Disposal Site, or Waste Stabilization Pond approved for spreading, or storage is subject to the setbacks and requirements defined in Schedule "D", which is attached to and is part of this Approval, unless the Site approval specifies different setbacks for the location, in which cases the different setbacks shall apply.

18. To avoid run-off from the Site,

    a. Unless otherwise provided for a particular Site in this Approval, no Hauled Sewage shall be spread or disposed at a Hauled Sewage Disposal Site when the ground is frozen, ice-covered or snow covered;

    b. The Director may reduce the minimum separation distance to a water course to sixty (60) metres where the Site is generally flat (slopes 0-3%) and the risk of run-off has been determined to be minimal; and

    c. Spreading shall be suspended during the period when run-off conditions are such that the Hauled Sewage may run off the Site.

19. Hauled Sewage shall only be spread on a Hauled Sewage Disposal Site at the lower of fifteen (15) litres per square meter per seven (7) days or such other lower rate which ensures that ponding at, puddling on or runoff from the Site does not occur.

20. Spreading of Hauled Sewage is prohibited at times where there is water either ponded on the field or running off the field.

21. No processed organic waste, grease trap waste or other waste, other than Hauled Sewage, shall be stored at a Waste Stabilization Pond or spread or disposed at a Hauled Sewage Disposal Site,

unless specifically provided for that Site in Schedule "C" or the approval issued for that Site by the District Office.

22. The Company shall not use a Waste Stabilization Pond or Hauled Sewage Disposal Site for the disposal of Hauled Sewage if any other person has used the Site for the disposal of any waste during a sixty (60) month period preceding the intended application of the Hauled Sewage.

23. No Hauled Sewage shall be disposed or stored pursuant to this approval at a Hauled Sewage Disposal Site, Waste Disposal Site, or Waste Stabilization Pond more than sixty (60) months after the approval date of the completed Schedule "C", unless a later date is specified in writing by the Director for that Site.

24. a. The amount of Hauled Sewage, based on a single application of the Hauled Sewage Disposal Site, received at a Site at any point in time shall not exceed the maximum amount to be spread on the Site over a six (6) month period as approved in Schedule "C" or the Site Approval issued by the District Office; and

    b. Hauled Sewage may not be stored at a Hauled Sewage Disposal Site for longer than thirty (30) days prior to its being spread at the Site, unless this time frame is amended as a condition of approval for a Site approved in Schedule "C" or the Site Approval issued by the District Office.

25. The Company shall not spread, dispose or temporarily store Hauled Sewage at any location that is not in accordance with conditions 13 and 14, that is not listed in Schedule "B", or without an accepted and signed Schedule "C".

RECORD KEEPING

26. The Company shall conduct regular inspections of the equipment under their care and control to ensure that all equipment is maintained and operated in a manner that the Hauled Sewage will not negatively impact the environment. Any deficiencies, that might negatively impact the environment, detected during these regular inspections, shall be promptly corrected. A written record shall be maintained in a log book, which includes the following:

    a. name and signature of personnel conducting the inspection;

    b. date and time of the inspection(s); and

    c. recommendations for remedial action and actions undertaken.

27. a. The Company shall keep written records in the log book referred to in condition 26, in order to complete an Annual Report by March 31 of each year, covering the previous calendar year. The Report shall be prepared and retained at the Company's place of business. This Report shall include, but is not limited to:

i. a list of all Sites and their locations where Hauled Sewage was spread, stored or disposed;

ii. a complete and up-to-date record showing when and how much Hauled Sewage was spread, stored or disposed at each approved Site;

iii. a weekly record of how much Hauled Sewage was contained in the in-transit storage facilities listed in Schedule "B", including compliance with condition 28(f);

iv. at every such occurrence, a record of where, when and how much Hauled Sewage was transferred to the Waste Management System from another Waste Management System pursuant to condition 30, the owner and Environmental Compliance Approval number of the other Waste Management System;

v. details as to the nature of any spill or upset occurring at the Site, or during the transfer of Hauled Sewage to the Waste Management System from a vehicle in another Waste Management System, and the action taken for clean-up, correction and prevention of future occurrences;

vi. the spill prevention procedures developed in accordance with condition 7;

vii. this Approval, all associated schedules and notices, and all supporting documentation; and

viii. a record of all complaints received, and the action taken to address the complaint.

b. It is a condition of this Approval under the Act that the Company must forthwith, upon the request of a Provincial Officer or other authorized ministry employee, permit Provincial Officers to carry out inspections authorized by section 156, 157 or 158 of the Act, section 15, 16 or 17 of the *Ontario Water Resources Act,* R.S.O. 1990 or section 19 or 20 of the *Pesticides Act,* R.S.O. 1990 of any place, other than any room actually used as a dwelling, to which this Approval relates.

IN-TRANSIT STORAGE

28. a. Subject to all the provisions of this section, Hauled Sewage transported by the Waste Management System may be temporarily stored at a facility listed in Schedule "B", during transportation of the Hauled Sewage to a receiver in accordance with conditions 13 and 14.

b. Works for the in-transit storage of Hauled Sewage serving the Waste Management System may be added to those listed in Schedule "B" by submitting an Application for an Environmental Compliance Approval for the management of Hauled Sewage (septage), supporting documentation and information, and an estimate of financial assurance, and

having these approved, in writing, by the Director.

c. No waste shall be stored in the in-transit storage facility until the Director has acknowledged the receipt, in writing, the appropriate amount of financial assurance.

d. The amount of financial assurance is subject to review at any time by the Director and may be amended at his/her discretion. If any financial assurance is scheduled to expire or notice is received, indicating financial assurance will not be renewed, and satisfactory methods have not been made to replace the financial assurance at least sixty (60) days before the financial assurance terminates, the Company shall forthwith replace the financial assurance with cash.

e. The works for the in-transit storage of domestic Hauled Sewage shall be exclusively used by the Waste Management System, and for greater certainty, no other Waste Management System may store Hauled Sewage at the works or transport stored Hauled Sewage from the works, without the approval of the District Manager.

f. No waste shall be stored in the in-transit storage facility for more than fourteen (14) days. For greater certainty, the Company shall empty the storage facility at least once every fourteen (14) days.

g. Prefabricated tanks for the in-transit storage of domestic Hauled Sewage shall:

   i. meet the requirements for a Class 5 Sewage System under the Ontario Building Code, Ontario Regulation 403/97, as amended; or,

   ii. conform to CAN/CSA-B66-10 (Design, Material and Manufacturing Requirements for Prefabricated Septic Tanks and Sewage Holding Tanks), or equivalent.

h. Non-prefabricated (built on-site) tanks for the in-transit storage of domestic Hauled Sewage shall be up to a maximum of 100,000 litres and certified by a Professional Engineer.

IN-TRANSIT PROCESSING

29. a. Hauled Sewage transported by the Waste Management System may be processed by stabilization within vehicles forming part of the Waste Management System, or at a facility listed in Schedule "B", during transportation of the Hauled Sewage to a receiver approved in accordance with conditions 13 and 14.

b. Works, equipment or methods for the in-transit stabilization of Hauled Sewage serving the Waste Management System may be added to those listed in Schedule "B" by submitting an Application for an Environmental Compliance Approval for the management of Hauled Sewage (septage) and having this approved by the Director.

c. The works for the in-transit processing of Hauled Sewage shall be exclusively used by the Waste Management System, and for greater certainty, no other Waste Management System may process Hauled Sewage at the works or transport processed Hauled Sewage from the works, without the approval of the District Manager.

SYSTEM TO SYSTEM TRANSFER

30. a. Hauled Sewage may be transferred to vehicles forming part of the Waste Management System, from vehicles in another Waste Management System, during transportation of the domestic Hauled Sewage to a receiver approved in accordance with conditions 13 and 14.

b. Except during emergencies, the Company shall ensure that the transfer occurs at a location and time that does not cause an adverse effect or a nuisance to the public. The Company shall ensure that transfers do not occur in the vicinity of surface waters, wells or other sources of drinking water, where the distance from these is sixty (60) metres or less.

c. At all times, the Company shall ensure that the transfer of Hauled Sewage from one vehicle to another takes place in accordance with the procedures developed in condition 7, and shall ensure that any spills that occur are promptly reported and cleaned up.

PILOT PROJECTS

31. Pilot projects lasting no more than twelve (12) months in duration, may be undertaken as part of the Waste Management System by submitting a completed Application for an Environmental Compliance Approval for the management of Hauled Sewage (septage), and required supporting documentation, and having these approved by the Director.

SYSTEM CLEAN OUT PROCEDURE

32. The Company shall ensure that:

(a) any part of the system that comes into contact with Hauled Sewage is cleaned prior to being used for hauling other types of waste; and

(b) any part of the system that comes into contact with other types of waste is cleaned prior to being used for hauling Hauled Sewage.

FINANCIAL ASSURANCE

33. a. For each site the Company shall maintain the Ministry, Financial Assurance as defined in Section 131 of the Act, in the amount of three thousand two hundred and eight dollars and sixty three cents (CAD $3208.63). This Financial Assurance shall be in a form acceptable to the Director and shall provide sufficient funds for the analysis, transportation, Site clean-up, monitoring and disposal of all quantities of waste on the Site at any one time.

Financial assurance will be provided for at least one site, regardless of whether or not either site is in operation.

For clarity, if the applicant is not operating storage facilities on a second site, Financial Assurance is not required for that site. Should a second site be put into operation, additional Financial Assurance for that site must be provided no later than thirty (30) days **before** receiving waste at that site. Once both sites are in operation, Financial Assurance must be provided for both sites until such time as the Approval is amended to remove the site(s).

b. Commencing on December 15, 2018 and at intervals of three (3) years thereafter, the Owner shall submit to the Director, a re-evaluation of the amount of Financial Assurance to implement the actions required under Condition 33 a). The re-evaluation shall include an assessment based on any new information relating to the environmental conditions of the Site and shall include the costs of additional monitoring and/or implementation of contingency plans required by the Director upon review of the closure plan and annual reports. The Financial Assurance must be submitted to the Director within ten (10) days of written acceptance of the re-evaluation by the Director.

c. Commencing on December 15, 2016, the Owner shall prepare and maintain at the Site an updated re-evaluation of the amount of Financial Assurance required to implement the actions required under Condition 33 a) for each of the intervening years in which a re-evaluation is not required to be submitted to the Director under Condition 33 b). The re-evaluation shall be made available to the Ministry, upon request.

d. The amount of Financial Assurance is subject to review at any time by the Director and may be amended at his/her discretion. If any Financial Assurance is scheduled to expire or notice is received, indicating Financial Assurance will not be renewed, and satisfactory methods have not been made to replace the Financial Assurance at least sixty (60) days before the Financial Assurance terminates, the Financial Assurance shall forthwith be replaced by cash.

SCHEDULE "A"

This Schedule "A" forms part of this Approval:

1. The submitted Environmental Compliance Approval Application, all supporting documentation and information associated with the application, and all previously submitted documentation and applications.

SCHEDULE "B"

IN-TRANSIT STORAGE, PROCESSING, AND PILOT PROJECTS

This Schedule "B" forms part of this Approval:

The following described in-transit storage facilities serving the Waste Management System:

A. Hauled Sewage Storage:

6798 Highway 35,
City of Coboconk, County of Kawartha Lakes,
Ontario, K0M 1K0

and

Lot 1, Concession 2, Guilford, except H90782; Township of Dysart et al
County of Haliburton
Lat/Long
44.669432, -78.80324636226231

Site Specific terms and Conditions:
None

The following describes in-transit processing of Hauled Sewage, serving the Waste Management System:

B. Sewage Processing:
None

Site Specific terms and Conditions:
None

The following describes temporary pilot projects, serving the Waste Management System:

C. Pilot Projects:
None

Site Specific terms and Conditions:
None

SCHEDULE "C"

HAULED SEWAGE DISPOSAL SITE INFORMATION FORM

The form entitled "Schedule "C" - Hauled Sewage Disposal Site Information Form" forms part of this Approval and has been attached hereto .

SCHEDULE "D"

SITE SETBACK REQUIREMENTS

This Schedule "D" forms part of this Provisional Certificate of Approval:

The portion of each Site approved for spreading or storage is subject to the following setbacks, unless these reduced setbacks are approved by the Director on the part of Schedule "C" that relates to that Site:

a. a minimum of 450 meters from sensitive uses, or 90 metres from a single residence, unless the Hauled Sewage is injected or incorporated into the soil within 24 hours of application, in which case the separation distance may be reduced to 25 metres from a single residence or 50 metres from a group of three or more residences;

b. a minimum of 30 meters from a public roadway;

c. a minimum of 90 meters from water wells; and

d. a minimum of 120 meters from lakes, streams, swamps and seasonally wet areas, including ditches, swales and intermittent streams.

These setbacks represent a minimum distance when defining the usable area of a parcel of land on which it is intended to apply Hauled Sewage. Site specific criteria may require increased distances. The setbacks shown are for the spreading or storage of Hauled Sewage directly onto the surface of the ground. With respect to spreading operations, these setbacks are reduced 50% if the sewage is injected into the soil, or is placed in a furrow or trench and then promptly covered over.

Setbacks from surface waters[1]

Maximum Sustained Slope	For Hauled Sewage Application May - November	For Hauled Sewage Application During Periods When the Ground is Frozen or Snow Covered[2]
0 - 3%	60 metres	180 metres
3 - 6%	120 metres	180 metres
6 - 9%	180 metres	No sewage to be applied
greater than 9%	No sewage to be applied	No sewage to be applied

[1]These clearances relate to the spreading of Hauled Sewage on the surface of soils in the rapid to moderately rapid permeability range and are doubled for soils of moderate to slow permeability (see Slope/Soil Permeability Table below). This increase will not pertain when Hauled Sewage

is injected into the soil or placed in a trench or furrow.

[2]Any applications of Hauled Sewage Sludge that are proposed during periods when the ground is frozen or snow covered, must be approved by the Director on the part of Schedule "C" that relates to that Site.

Slope/Soil Permeability

Maximum Sustained Slope	Soil Permeability[2]	Allowable Duration of Application (see notes)
		Southern Ontario/Northern Ontario
0 to 3%	Any (where Percolation Time[1] >1)	12 mon/yr
3 to 6%	Rapid to moderately rapid	12 mon/yr
3 to 6%	Moderate to slow	10 mon/yr (May to February) 9 mon/yr (June to February)
6 to 9%	Rapid to moderately rapid	7 mon/yr (May to November) 6 mon/yr (June to November)
6 to 9%	Moderate to slow	None

[1]Percolation Time means the average time in minutes that is required for water to drop one (1) centimetre during a soil percolation test as determined by the test or other appropriate means.

[2]The Company (or qualified consultant) is responsible for ensuring that the soil permeability of the soils is properly classified in accordance with currently accepted engineering and hydrogeological practices and submitting documentation as to the classification, if a classification greater then "slow" is claimed.

Agricultural Use of Spreading Areas

Note: It is the responsibility of the Company to ensure that the future intended uses of the Site are known and to make decisions for spreading based on this information. The use of the spreading area, as approved under Schedule "C", subsequent to the application of Hauled Sewage, is limited as follows, unless amended by the Director:

a. harvest of crops for domestic consumption shall not occur within twelve (12) months, and only after working the Hauled Sewage into the soil;

b. grazing of livestock shall not occur within six (6) months of Hauled Sewage application;

c. feed crop harvests shall not occur within three (3) weeks of Hauled Sewage application; and

d. commercial sod harvest shall not occur within 12 months of Hauled Sewage application.

The reasons for the imposition of these terms and conditions are as follows:

1. The reason for conditions 1, 2, 3, 4, 5, and 6 is to clarify the legal rights and responsibilities of the Company.

2. The reason for conditions 7 and 9 is to ensure that staff can identify Site problems and deal promptly and effectively with any spills and upsets, and any public complaints that may occur.

3. The reason for condition 8 is to ensure that the Waste Management System is operated in a manner which does not result in a nuisance or a hazard to the health and safety of the environment or people.

4. The reason for condition 10 is to ensure that every vehicle operated under this Approval is adequately insured under a vehicle liability policy. The transportation of Hauled Sewage in a vehicle that has not been adequately insured under a vehicle liability policy would not be in the public interest.

5. The reason for condition 11 is to ensure that adequate insurance is available to effect suitable remedial action if an event occurs which may create a nuisance or result in a hazard to the health or safety of any person or the natural environment.

6. The reason for condition 12 is to ensure that all waste carriers have met and are operating in compliance with the standards for Waste Management Systems outlined in Ontario Regulation 347.

7. The reason for conditions 13, 14, 24, 25 and 27 is to ensure that the Waste Management System is operated in accordance with the application and supporting information submitted by the Company, and not in a manner which the Director has not been asked to consider.

8. The reason for condition 15 is to ensure that all vehicles, trailers and equipment including those leased or rented for operation under this Approval have been approved as part of a suitable waste transportation system to collect and transport waste as an unsuitable waste transportation system could result in a hazard to the health and safety of any person or the natural environment.

9. The reason for condition 16 is to permit the continued use of previously approved Sites pending expiry or updated requests for renewal.

10. The reason for condition 17 is to ensure that only the area reviewed and recommended in the Site assessment, subject to the listed setbacks, is used for spreading.

11. The reason for condition 18 is to ensure that the restriction on the period of use in any calendar year will limit the application period to the part of the year where the Hauled Sewage will seep down into the underlying overburden. The prohibition will prevent Hauled Sewage spreading when there is a risk of runoff.

12. The reason for condition 19 is to ensure that the type and amount of Hauled Sewage accepted for spreading on agricultural lands, and the spreading activities, are in accordance with that approved under this Approval.

13. The reason for condition 20 is to ensure Hauled Sewage application is not to take place at times when the ground is saturated or when runoff could occur.

14. The reason for condition 21 is to ensure that loading rates on the soil are strictly controlled under the sludge utilization program for Hauled Sewage. Fields used for this program cannot be used for Hauled Sewage spreading and vice versa.

15. The reason for condition 22 is to ensure that the application was made on behalf of the Company therefore the Site's use is restricted to this Company.

16. The reason for conditions 23 and 26 is to ensure periodic review of the Site operations and associated impacts to ensure that no adverse effects on the land as a consequence or continuous long term use.

17. The reason for condition 28 is to permit temporary in-transit storage, to ensure storage is in agreement with the application and supporting information submitted by the Company, and to ensure that adequate funds are available to effect suitable remedial action if an event occurs which may create a nuisance or result in a hazard to the health and safety of any person or the natural environment.

18 The reason for condition 29 is to allow in-transit processing by stabilization and to ensure that the works for the in-transit processing is in agreement with the application and supporting information submitted by the Company.

19. The reason for condition 30 is to allow Hauled Sewage transfer from one Waste Management System to another and to ensure that transfer is done in accordance with the procedures developed as per condition 7.

20. The reason for condition 31 is to allow for pilot projects and to ensure that pilot projects are in agreement with the application and supporting information submitted by the Company.

21. The reason for condition 32 is to ensure that the system is thoroughly cleaned between the transportation of Hauled Sewage and other types of waste.

22. The reason for condition 33 is to ensure that adequate funds are available to effect suitable remedial action if an event occurs which may create a nuisance or result in a hazard to the health and safety of any person or the natural environment.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 0834-4K8GXB issued on July 5, 2012

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment and
Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 30th day of November, 2015

THIS APPROVAL WAS MAILED
ON Dec. 2, 2015
(Signed)

Gregory Zimmer, P.Eng.
Director
appointed for the purposes of Part II.1 of the

BH/

c: District Manager, MOECC Peterborough
Doug Elliot, Shepherd Enterprises Inc ✓

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A710160
Notice No. 1
Issue Date: March 7, 2016

Shepherd Enterprises Inc.
P.O. Box 68 Coboconk
Kawartha Lakes, Ontario
K0M 1K0

Site Location: Shepherd Hauled Sewage Storage Structure
311 County Road #41
Lot Part 8, Concession 3
City of Kawartha Lakes

You are hereby notified that I have amended Approval No. A710160 issued on December 15, 2011 for a Waste Disposal Site (Transfer and Storage), which includes a reinforced concrete storage tank to be used only for the storage of processed organic waste and a lined storage structure to be used only for the storage of hauled sewage, *as follows:*

The definition of "*Certificate* " is hereby revoked and replaced with the following:

The definition of "*Certificate* " or *"Approval"* means this Environmental Compliance Approval and any Schedules to it, including the application and supporting documentation listed in Schedule "A"

The Condition 38 is hereby revoked and replaced with the following:

38. **Financial Assurance**

(a) Within 20 days of issuance of this Approval, the Owner shall submit financial assurance as defined in Section 131 of the EPA, in the amount of **$77,108** CDN. This Financial Assurance shall provide sufficient funds for the analysis, transportation, Site clean-up, monitoring and disposal of all quantities of waste on the Site at any one time;

(b) Commencing on March 31, 2020 and at intervals of four (4) years thereafter, the *Owner* shall submit to the *Director* , a re-evaluation of the amount of Financial Assurance to implement the actions required under Condition 38 (a). The re-evaluation shall include an assessment based on any new information relating to the environmental conditions of the *Site* and shall include the costs of additional monitoring and/or implementation of contingency plans required by the *Director* upon review of the closure plan and annual reports. The Financial

Assurance must be submitted to the *Director* within twenty (20) days of written acceptance of the re-evaluation by the *Director* ;

(c) Commencing on March 31, 2017, the *Owner* shall prepare and maintain at the *Site* an updated re-evaluation of the amount of Financial Assurance required to implement the actions required under Condition 38 (a) for each of the intervening years in which a re-evaluation is not required to be submitted the *Director* under 38 (b). The re-evaluation shall be made available to the *Ministry* , upon request; and

(d) The amount of Financial Assurance is subject to review at any time by the *Director* and may be amended at his/her discretion. If any Financial Assurance is scheduled to expire or notice is received, indicating Financial Assurance will not be renewed, and satisfactory methods have not been made to replace the Financial Assurance at least sixty (60) days before the Financial Assurance terminates, the Financial Assurance shall forthwith be replaced by cash.

The reason for this amendment to the Environmental Compliance Approval is as follows:

The reason for Condition 38 is to ensure that sufficient funds are available to the *Ministry* to clean up the *Site* in the event that the *Owner* and/or any future *Owners* are unable or unwilling to do so.

This Notice shall constitute part of the approval issued under Approval No. A710160 dated December 15, 2011

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment and
Climate Change
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 7th day of March, 2016

Dale Gable, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

NB/

c: District Manager, MOECC Peterborough
Douglas Elliot, Shepherd Enterprises Inc.

Ontario

Ministry of the Environment
Ministère de l'Environnement

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A710148
Issue Date: July 19, 2012

Shepherd Enterprises Inc.
6798 Highway 35, Ward 2
P.O. Box 68 Coboconk
Kawartha Lakes, Ontario
K0M 1K0

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

a waste management system for the management of non-agricultural source material and processed organic waste serving:

the Province of Ontario

For the purpose of this environmental compliance approval, the following definitions apply:

a. "**Approval**" means this entire Approval document and any Schedules to it, including the application and Supporting Documentation ;

b. "**Company**" means Shepherd Enterprises Inc., or its agents or assignees;

c. "**Director**" means a person appointed by the Minister pursuant to section 5 of the *EPA* for the purposes of Part II.1 of the EPA;

d. "**District Manager**" means the District Manager of the MOE district office in the geographic area for which Soil Conditioners are to be applied on Sites;

e. "**EPA**" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;

f. " **EPA Land Application Approval**" means a certificate of approval or provisional certificate of approval under Part V of the EPA for land application of a Soil Conditioner that has been issued by the Director;

g. " **EPA Land Application Approval Site**" means a site that has a valid EPA Land Application Approval;

h. "**Guidelines**" refers to the publication entitled "Guidelines for the Utilization of Biosolids and Other

Wastes on Agricultural Land", dated March 1996, as amended.

i. "**Ministry**" and "**MOE**" means the ministry of the government of Ontario responsible for the EPA and includes all officials, employees or other persons acting on its behalf;

j. "**NASM Plan Area**" means a NASM plan area as defined by O. Reg. 267/03 under the NMA.

k. "**NMA NASM Site**" means a NASM Plan Area that has been established in accordance with O. Reg. 267/03 under the NMA and complies with Section 8.3 of that regulation.

l. "**NMA**" means the *Nutrient Management Act 2002,* S.O, 2002 Chapter 4

m. "**NASM**" means non-agricultural source material as defined by O. Reg. 267/03 under the NMA

n. "**Land Application Site**" means a NMA NASM Site or EPA Land Application Approval Site.

o. "**Land Application Site Operator**" means the person or persons responsible for managing the farming operations or land application of Soil Conditioner at a Land Application Site and may include the Land Application Site Owner;

p. "**Land Application Site Owner**" means the owner of the land where a Land Application Site is located;

q. "**Processed Organic Waste**" means processed organic waste as defined by Regulation 347 under the EPA.

r. "**Soil Conditioner**" means NASM, processed organic waste, or other materials including biosolids applied to land to improve its characteristics for crop or ground cover growth;.

s. "**Site**" means a NMA NASM Site, EPA Land Application Approval Sites, a Waste Disposal Site Approved Under Part V of the EPA, or a sewage works approved under Section 53 of the Ontario Water Resources Act.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

TERMS AND CONDITIONS

GENERAL

1. This Approval supersedes and replaces all previously issued Certificates of Approval or any other Environmental Compliance Approval issued under Part V of the EPA with respect to this specific operation.

2. This Soil Conditioning Waste Management System shall be operated in accordance with the application for the Environmental Compliance Approval, the supporting information, and the specifications listed on Schedule "A".

3. The requirements specified in this Approval are requirements under the EPA. Issuance of this Approval in no way abrogates the Company's legal obligations to take all reasonable steps to avoid violating other applicable provisions of this legislation and other legislations and regulations.

4. The requirements of this Approval are severable. If any requirement of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid, the application of such requirement to other circumstances and the remainder of this Approval shall not be affected in any way.

5. The Company must ensure compliance with all terms and conditions of this Approval. Any non-compliance constitutes a violation of the EPA and is grounds for enforcement.

6. a. The Company shall, forthwith upon request of the Director, District Manager, or Provincial Officer (as defined in the EPA), furnish any information requested by such persons with respect to compliance with this Approval, including but not limited to, any records required to be kept under this Approval; and

   b. In the event the Company provides the Ministry with information, records, documentation or notification in accordance with this Approval (for the purposes of this condition referred to as "Information"),

      i. the receipt of Information by the Ministry;
      ii. the acceptance by the Ministry of the Information's completeness or accuracy; or
      iii. the failure of the Ministry to prosecute the Company, or to require the Company to take any action, under this Approval or any statute or regulation in relation to the Information;

   shall not be construed as an approval, excuse or justification by the Ministry of any act or omission of the Company relating to the Information, amounting to non-compliance with this Approval or any statute or regulation.

7. When a conflict exists between the conditions of this Approval and the items listed on Schedule "A", the provisions of this Approval shall prevail. When a conflict exists between items on Schedule "A", the most recent item shall prevail.

8. The Company shall ensure that all communications/correspondence made in relation to this waste management system or to this Approval includes reference to this Approval number.

9. The Company shall notify the Director in writing of any of the following changes, within thirty (30) days of the change occurring:

   a. a change of partners where the Company is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, shall be included in the notification to the Director;

   b. a change of name of the corporation where the Company is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" (form 1 or 2 under Regulation 182 made under the Corporations Information Act, R.S.O. 1990 c. C.39,)

and filed under the Corporations Information Act, shall be included in the notification to the Director; and

c. a change in directors or officers of the corporation where the Company is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" as referred to in 10(b), supra.

d. Change of owner/address of the Company truck storage yard(s).

10. Any information relating to this Approval and contained in Ministry files may be made available to the public in accordance with the provisions of the Freedom of Information and Protection of Privacy Act, R.S.O. 1990, C. F-31.

11. All records and monitoring data required by the conditions of this Approval must be kept on the Company's premises for a minimum period of five (5) years from the date of their creation.

OPERATING CONDITIONS

12. Soil conditioners shall only be delivered to an NMA NASM Site, EPA Land Application Approval Site, a Waste Disposal Site Approved Under Part V of the EPA, or a sewage works approved under Section 53 of the Ontario Water Resources Act.

13. Soil Conditioner may only be collected, transported or handled from facilities for which a valid contract is in place between the generator of the Soil Conditioner and the Company.

NMA NASM Sites

14. This approval does not authorize land application or storage of Soil Conditioner at a NMA NASM Site. For clarity, once transferred to a NMA NASM Site the Soil Conditioner must be managed and land applied in accordance with O. Reg. 267/03 under the NMA.

EPA Land Application Approval Sites

15. Soil Conditioners transferred to an EPA Land Application Approval Site; may only be transferred to a site that is approved to receive the Soil Conditioner.

16. a. The application rate, timing, and operational procedures for applying Soil Conditioner to EPA Land Application Approval Sites shall be done in accordance with the following:

i. nitrogen fertilizer recommendation for the crop, as described in the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) Publications 811 (Agronomy Guide for Field Crops) and 360 (Fruit Production Recommendations), which are revised annually;
ii. the conditions of this Approval;
iii. the application and supporting information for the EPA Land Application Approval Site submitted to the District Manager to obtain Site approval;
iv. the conditions set out in the approval for the EPA Land Application Approval Site

issued by the Director; and,

v. the Guidelines.

In no case shall the application rate exceed that prescribed in the Guidelines unless specifically approved in the EPA Land Application Approval Site.

b. The application of Soil Conditioner shall be such that it does not cause surface runoff or result in groundwater contamination.

c. Soil Conditioner shall not be applied when the depth to the water table is less than 0.9 metres.

d. If subsurface injection is used, the depth to the water table, at the time of application, less the depth of injection must be equal to or greater than 0.9 metres.

e. Application of Soil Conditioner shall not be carried out:

i. when frozen ground conditions prevent the immediate infiltration or incorporation of Soil Conditioner into the soils;

ii. on ice or snow covered soils; or

iii. during rain causing runoff.

f. For spring application, fields shall only be used after spring flooding has receded.

g. The Company shall ensure that each Site is designed such that the Land Application Site Owner/Operator is capable of complying with the appropriate waiting periods between the application of Soil Conditioner and cropping and pasturing as specified in the Guidelines.

h. If at any time the results of the monthly Soil Conditioner analysis (12 month moving average) exceeds the standards identified in the Guidelines, the Company will immediately notify the District Manager and no further Soil Conditioner application from that facility will take place without the District Manager's express written approval.

i. The Company shall notify the District Manager in writing of any of the following changes, within thirty (30) days of becoming aware of the change occurring:

i. change of the Land Application Site Owner or Land Application Site Operator or both;

ii. address of the new Land Application Site Owner or change of address; and

j. Further application of the Soil Conditioner to the Land Application Site requires the written consent of the new owner or his/her legally designated agent.

VEHICLES AND EQUIPMENT

17. Only vehicles approved for the collection and transportation of the Soil Conditioner under this Approval shall be used. Any addition, deletion or other change to the fleet of vehicles, trailers and equipment including year, make, model, serial number, licence number and ownership of each vehicle, trailer or piece of equipment including any of the forgoing that are leased or rented shall be reported, in writing, to the Director within fourteen (14) days of any such change.

18. The Company shall ensure that its staff are trained in the operation and maintenance of the specific equipment which they operate in conjunction with the collection transport and handling of Soil Conditioner and in emergency procedures in the event of a spill.

19. The Company shall conduct regular inspections of the equipment under its care and control to ensure that all equipment is operated in a manner that will not cause and adverse effect on the environment. Any deficiencies that could have an adverse effect on the environment shall be promptly corrected. A written record shall be maintained which shall include, as a minimum, the following:

    a. name and signature of the trained personnel conducting the inspection;

    b. date and time of the inspection;

    c. list of equipment inspected and all deficiencies observed that could have an adverse effect on the environment;

    d. recommendations for remedial action and actions undertaken;

    e. date and time of maintenance activity; and

    f. a detailed description of the maintenance activity.

20. Every vehicle utilized to collect and transport waste pursuant to this Approval shall be insured under a vehicle liability policy for a minimum of one million dollars ($1,000,000.00) until such time as this Approval is revoked.

21. The Company shall ensure that its vehicle liability policy, or combination of vehicle and environmental liability insurance policies, cover accidents, including spills, associated with each vehicle and the use and operation of equipment on each vehicle while the vehicle is stationary or in motion.

22. The following documents shall be maintained with each vehicle operated pursuant to this Approval at all times that the vehicle is being operated or contains any wastes:

    a. a copy of this Approval;

    b. a certificate verifying the driver's successful completion of a training and safety program, if required by Regulation 347 under the EPA; and

    c. a certificate of vehicle liability insurance specifying that it provides coverage of a minimum of one million dollars ($1,000,000.00) until such time as this Approval is revoked.

23. Soil Conditioner shall not be collected, handled or transported from a facility unless a valid contract is in place between the generator of the Soil Conditioner and the Company.

RECORD KEEPING

24. When a Soil Conditioner is collected by the Company, the Company shall make a record that includes:

a. the name and location of the facility from which the soil conditioner was collected;

b. the type and quantity of Soil Conditioner collected;

c. the date the Soil Conditioner is collected;

d. the name and the applicable approval number of the intended Site to which the soil conditioner will be delivered;

25. A copy of the record described in Condition 24 shall be provided to the operator of the facility from which the Soil Conditioner was collected and a copy shall be retained in the vehicle during transport of the Soil Conditioner.

26. Upon delivery of Soil Conditioner to a Site the record referenced in Condition 24 shall be updated to identify the actual receiving Site if different from the intended receiving Site and a copy shall be provided to the receiving Site and the record shall be retained by the Company for a period of five years.

ANNUAL REPORT

27. The Company must keep written records in order to complete an Annual Report by March 31st of each year, covering the previous calendar year. The Report shall be prepared and retained at the Company's place of business. This Report shall include, but is not limited to:

a. a list of all Sites and their locations where Soil Conditioner was applied or disposed;

b. a complete and up-to-date record showing when, and the source and quantity of Soil Conditioner applied or disposed at each Site;

c. details as to the nature of any spill or upset occurring, and the action taken for clean-up, correction and prevention of future occurrences; and

d. a statement as to the compliance with all conditions of this Approval and with the inspections, monitoring, and reporting requirements of the conditions herein.

e. results of all analysis conducted on Soil Conditioners, soil and water as required by the conditions of this Approval and the EPA Land Application Approval Site.

28. The Company shall promptly take all necessary steps to contain and clean up any spills which result from operations. All spills and upsets shall be immediately reported to the Ministry's Spills Action Centre at (416) 325-3000 or 1-800-268-6060, and shall be recorded as part of the records required under condition 24 of this Approval as to the nature of the spill or upset, and the action taken for clean-up, correction and prevention of future occurrences.

SYSTEM CLEAN-OUT PROCEDURE

29. The Company shall ensure that:

a. any part of the system that comes into contact with Soil Conditioner is cleaned prior to being

used for hauling other types of waste or materials; and

b. any part of the system that comes into contact with other types of waste or materials is cleaned prior to being used for hauling Soil Conditioner.

SCHEDULE "A"

This Schedule "A" forms part of this Environmental Compliance Approval:

1. Application dated February 2, 2012 and all supporting documentation and information submitted therewith for an amendment to Provisional Certificate of Approval to allow the transport of NASM materials to agricultural lands, signed by Mr. Michael Shepherd, Business Manager of Shepherd Enterprises Inc.
2. Email dated November 4, 2010, containing a request to include source facilities in Schedule "B", from Doug Elliot of Shepherd Environmental Services.
3. Email dated October 21, 2010, containing a request to include source facilities in Schedule "B", from Sarah Bellamy of the District Office.
4. Email dated October 14, 2010, containing a request to include source facilities in Schedule "B", from Doug Elliot of Shepherd Environmental Services.
5. Letter dated August 10, 2010, containing a request to include the Haliburton WPCP in Schedule "B", from Doug Elliot of Shepherd Environmental Services.
6. Letter dated July 9, 2010, containing a request to ammend Condition 14 (a) (ii), from Doug Elliot of Shepherd Environmental Services.
7. Electronic mail dated July 25, 2008, containing comments regarding draft Certificate and request to add Biosolids source facilities listed in three (3) Notices, from Doug Elliot of the Company.
8. Facsimile dated July 21, 2008, containing a revised vehicle list, proof of vehicle ownership and vehicle insurance and system clean-out procedure, from Doug Elliot, of the Company.
9. Letter dated June 6, 2008, containing a request to remove from the Certificate the requirement for the individual listing of disposal sites on Schedule "B", from George W. J. Shepherd of the Company.
10. Application dated January 24, 2005, submitted by Mr. George Shepherd, President, Shepherd Enterprises Incorporated, requesting the amendment.
11. Application dated September 23, 2002, submitted by Mr. Michael L. Shepherd, Shepherd Enterprises Incorporated, requesting the amendment.
12. Application dated August 15, 2001 submitted by Michael L. G. Shepherd, Shepherd Enterprises Inc., requesting the amendment.
13. Application dated August 14, 2000 submitted by George W. J. Shepherd, Shepherd Enterprises Inc., requesting an amendment.
14. Facsimile dated July 30, 1998, to Karen Wassink, Approvals Branch, MOE, from V. Shepherd, enclosing site address information.
15. Facsimile dated July 24, 1998, to Karen Wassink, Approvals Branch, MOE, from V. Shepherd, enclosing Certificate of Incorporation.

16. Letter dated July 24, 1998, from Karen Wassink, Approvals Branch, MOE, to Mr. George Shepherd, Shepherd Septic Service, acknowledging receipt of application and the application fee in the amount of $300.00.

17. Application for Certificate of Approval, dated July 6, 1998, from George Shepherd, Shepherd Septic Service (Division of Shepherd Enterprises Inc.), 6798 Highway #35, P.O. Box 68, Cobocok, Ontario, K0M 1K0, to use Biosolids from the following Water Pollution Control Plant(s): Bobcaygeon, Fenelon Falls, Minden and Bark Lake for spreading on farmland.

The reasons for the imposition of these terms and conditions are as follows:

1. The reason for conditions 1, 3, 4, 5, 7, 8, 9, 10, 11, 13 and 22 is to clarify the legal responsibilities and obligations imposed by this Approval.

2. The reason for conditions 2, 23, 24, 25, 26 and 27 is to ensure that this Waste Management System is operated in accordance with the application submitted by the Company, and not in a manner which the Director was not asked to consider.

3. The reason for conditions 6 is to ensure that appropriate Ministry staff have ready access to the system in order to confirm that the system is being operated according to this Approval. The condition is supplementary to the powers afforded a Provincial Officer pursuant to the EPA ,the Ontario Water Resources Act, and the Pesticides Act, as amended.

4. The reason for condition 12 is to ensure that this Waste Management System is used only to transport waste to sites that have been established in accordance with the, NMA and Ontario Water Resources Act and that may receive Soil Conditioners.

5. The reason for condition 14 is to clarify that Soil Conditioners transferred to a NMA NASM Site must be managed, stored and land applied in accordance with the requirements of O. Reg. 267/03 under the NMA.

6. The reason for conditions 15 and 16 is to ensure that Soil Conditioners transferred to an EPA Land Application Approval Site are managed in a manner that is protective of human health and the environment.

7. The reason for condition 17, 18 and 19 is to ensure that all vehicles, trailers and equipment including those leased or rented for operation under this Approval have been approved as part of a suitable waste transportation system to collect and transport waste as an unsuitable waste transportation system could result in a hazard to the health and safety of any person or the natural environment.

8. The reason for condition 20 is to ensure that every vehicle operated under this Approval is adequately insured under a vehicle liability policy. The transportation of Soil Conditioner in a vehicle that has not been adequately insured under a vehicle liability policy would not be in the

public interest.

9. The reason for condition 21 is to ensure that adequate insurance is available to effect suitable remedial action if an event occurs which may create a nuisance or result in a hazard to the health or safety of any person or the natural environment.

10. The reason for condition 28 is to ensure that the Company notifies the Ministry forthwith of any spills as required in Part X of the EPA so that the appropriate spills response can be determined.

11. The reason for condition 29 is to ensure that the system is thoroughly cleaned between the transportation of Soil Conditioner and other types of waste or material.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). A710148 issued on November 10, 2010

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-4506 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 19th day of July, 2012

Sherif Hegazy, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

SJ/
c: District Manager, MOE Peterborough District
Doug Elliot/Michael Shepherd, Shepherd Enterprises Inc.

Ontario

Ministry of the Environment, Conservation and Parks
Ministère de l'Environnement, de la Protection de la nature et des Parcs

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A710160
Issue Date: July 29, 2021

Shepherd Enterprises Inc
6798 Highway 35
Post Office Box, No. 68
Coboconk, Ontario
K0M 1K0

Site Location: Shepherd Pine Grove Farms Inc.
311 County Road #41
Lot Part 8, Concession 3
Kawartha Lakes City, Ontario

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

a Waste Disposal Site (Transfer and Storage), which includes a reinforced concrete storage tank to be used only for the storage of processed organic waste (biosolids) and a lined storage structure to be used only for the storage of hauled sewage.

For the purpose of this environmental compliance approval, the following definitions apply:

"**Approval**" means this Environmental Compliance Approval and any Schedules to it, including the application and supporting documentation listed in Schedule "A";

"**Biosolids**", within the context of this Approval, means the organic materials resulting from treatment of sewage at an approved Water Pollution Control Plant for the collection, transmission, treatment and disposal of sewage or any part of such works, but does not include plumbing to which the *Building Code Act,* 1992 applies;

"**Director**" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;

"**District Manager**" means the District Manager of the appropriate local district office of the Ministry where the Site is geographically located or such other official of the Ministry as may be assigned the

duties of the District Manager;

"**EPA**" means the *Environmental Protection Act,* R.S.O. 1990, c.E.19, as amended;

"**EPA Site**" means a waste disposal site that has a valid EPA Land Application Approval for land application of the Soil Conditioner on non-agricultural land;

"**EPA Land Application Approval**" means an Environmental Compliance Approval under Part V of the EPA for land application of a Soil Conditioner that has been issued by the Director;

"**Guidelines**" refers to the publication entitled "Guidelines for the Utilization of Biosolids and Other Wastes on Agricultural Land", dated March 1996, as amended or the most recent revision;

"**Hauled Sewage**" is as defined in Regulation 347;

"**Hauled Sewage Approval**" means an Environmental Compliance Approval issued under s.20.3 of Part II.1 of the EPA by the Director;

"**Hauled Sewage Site**" means a site that has a valid Environmental Compliance Approval issued under the EPA for a hauled sewage waste disposal site;

"**Ministry**" means the ministry of the government of Ontario responsible for the EPA and includes all officials, employees or other persons acting on its behalf;

"**NASM**" means a non-agricultural source material as defined in O. Regulation 267/03. Within the context of this Approval, the NASM means the Processed Organic Waste limited to Biosolids;

"**NASM Site**" means a NASM Plan area that has been established in accordance with O. Regulation 267/03 and complies with Section 8.3 of that regulation for land application of the Soil Conditioner on agricultural land;

"**NMA**" means the *Nutrient Management Act,* 2002, S.O, 2002 Chapter 4, as amended;

"**Land Application Site**" means a NASM Site or an EPA Approval Site for land application of the Soil Conditioner;

"**Land Application Site Operator**" means the person or persons responsible for managing the farming operations or land application of Soil Conditioner at a Land Application Site and may include the Land Application Site Owner;

"**Land Application Site Owner**" means the owner of the land where a Land Application Site is located;

"**O. Regulation 267/03**" means Ontario Regulation 267/03, General, made under the NMA, as amended;

"**Owner**" means Shepherd Septic Service a division of Shepherd Enterprises Inc.;

"**OWRA**" means the *Ontario Water Resources Act,* R.S.O. 1990, c. O.40, as amended;

"**PA**" means the *Pesticides Act,* R.S.O. 1990, c.P. 11, as amended;

"**Processed Organic Waste**" is as defined in Regulation 347. Processed Organic Waste includes Biosolids ;

"**Provincial Officer**" means any person designated in writing by the Minister as a provincial officer pursuant to Section 5 of the OWRA or Section 5 of the EPA or Section 17 of the PA or Section 4 of the NMA or Section 8 of the SDWA;

"**Regulation 347**" means Regulation 347, R.R.O. 1990, General - Waste Management, made under the EPA, as amended;

"**SDWA**" means the *Safe Drinking Water Act,* 2002, S.O. 2002, c. 32, as amended from time to time;

"**Soil Conditioner**" means a Processed Organic Waste limited to Biosolids to be applied to land to improve its characteristics for crop or ground cover growth;

"**Site**" means this waste disposal site referred to as Shepherd Hauled Sewage Storage Structure and located at 311 County Road #41, Lot Part 8, Concession 3 in Kawartha Lakes City, Ontario;

"**Spill**" is as defined in the EPA;

"**Structure**" means the lined storage structure for storage of Hauled Sewage;

"**Tank**" means the reinforced concrete storage tank for the Soil Conditioner;

"**Trained Personnel**" means knowledgeable in the following through instruction/or practice:

a. relevant waste Management legislation, regulations and guidelines;
b. major environmental concerns pertaining to the waste to be handled;
c. occupational health and safety concerns pertaining to the processes and wastes to be handled;
d. management procedures including the use and operation of equipment for the processes and wastes to be handled;
e. emergency response procedures;
f. specific written procedures for the control of nuisance conditions; and
g. the requirements of this Approval; and

"**Waste**" means the Soil Conditioner and the Hauled Sewage approved for receipt at this Site.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. COMPLIANCE

(1) The Owner shall ensure compliance with all the conditions of this Approval and shall ensure that any person authorized to carry out work on or operate any aspect of the Site, is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Any person authorized to carry out work on or operate any aspect of the Site shall comply with the conditions of this Approval.

2. BUILD in ACCORDANCE

(1) Except as otherwise provided by the Conditions in this Approval, the Site shall be operated in accordance with the plans, specifications and information listed in the attached Schedule "A".

3. INTERPRETATION

(1) Where there is a conflict between a provision of any document, including the application referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence.

(2) Where there is a conflict between the application and a provision in any documents listed in Schedule "A", the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the Ministry approved the amendment.

(3) Where there is a conflict between any two documents listed in Schedule "A", other than the application, the document bearing the most recent date shall take precedence.

(4) The requirements of this Approval are severable. If any requirement of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this Approval shall not be affected thereby.

4. OTHER LEGAL OBLIGATIONS

(1) The issuance of, and compliance with the conditions of this Approval does not:

a. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement; or

b. limit in any way the authority of the Ministry to require certain steps be taken or to require the Owner to furnish any further information related to compliance with this Approval.

(2) Despite an Owner or any other person fulfilling any obligations imposed by this Approval, the person remains responsible for any contravention of any other condition of this Approval or any applicable statute, regulation, or other legal requirement resulting from any act or omission that caused the Adverse Effect or impairment of water quality.

(3) The Owner shall ensure that the Site is not operated unless all approvals for activities under Section 9 of the EPA, where applicable, have been obtained.

5. ADVERSE EFFECTS

(1) The Site shall be constructed, operated and maintained in a manner which ensures the health and safety of all persons and prevents generation of negative environmental impacts including but not limited to dust, odours, vectors, pests, birds, litter, vibration, noise and any other negative environmental effects that may cause an Adverse Effect.

(2) If at any time dust, including dust from vehicles leaving the Site, odours, vectors, pests, birds, litter, vibration, noise or other such negative environmental effects are generated at the Site and cause an Adverse Effect, the Owner shall take immediate and appropriate remedial action(s) that is/are necessary to alleviate the Adverse Effect, including suspension of all Waste management activities and removal of Waste from the Site, if necessary.

(3) The Owner shall take steps to minimize and ameliorate any Adverse Effect on the natural environment or impairment of water quality resulting from the approved operations at the Site, including such steps as accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.

6. CHANGE OF OWNER

(1) The Owner shall notify the Director in writing, and forward a copy of the notification to the District Manager, within thirty (30) days of the occurrence of any change in:

a. the ownership of the Site;

b. the operator of the Site;

c. the address of the Owner;

d. the partners, where the Owner is or at any time becomes a partnership and a copy of the most recent declaration filed under the *Business Names Act,* R.S.O. 1990, c. B.17, as amended, shall be included in the notification; or

e. the name of the corporation where the Owner is or at any time becomes a corporation, other than a municipal corporation, and a copy of the most current information filed under the *Corporations Information Act,* R.S.O. 1990, c. C.39, as amended, shall be included in the

notification.

(2) No portion of this Site shall be transferred or encumbered prior to or after closing of the Site unless the Director is notified in advance. In the event of any change in ownership of the Site, other than change to a successor municipality, the Owner shall notify the successor of and provide the successor with a copy of this Approval, and the Owner shall provide a copy of the notification to the District Manager and the Director.

7. INSPECTIONS by the MINISTRY

(1) No person shall hinder or obstruct a Provincial Officer from carrying out any and all inspections authorized by the OWRA, the EPA, the PA, the SDWA or the NMA of any place to which this Approval relates, and without limiting the foregoing:

a. to enter upon the premises where the approved storage is undertaken, or the location where the records required by the conditions of this Approval are kept;

b. to have access to, inspect, and copy any records required to be kept by the conditions of this Approval;

c. to inspect the Site, related equipment and appurtenances;

d. to inspect the practices, procedures, or operations required by the conditions of this Approval;

e. to conduct interviews with staff, contractors, agents and assignees of the Owner; and

f. to sample and monitor for the purposes of assessing compliance with the terms and conditions of this Approval or the EPA, the OWRA, the PA, the SDWA or the NMA.

8. INFORMATION and RECORD RETENTION

(1) Any information requested by the Ministry, concerning the operation of the Site and its operation under this Approval, including but not limited to any records required to be kept by this Approval shall, upon request, be provided to the Ministry in a timely manner and in a format specified by the Ministry. All records shall be retained for two (2) years except as otherwise authorized in writing by the Director.

(2) The receipt of any information by the Ministry or the failure of the Ministry to prosecute any person or to require any person to take any action, under this Approval or under any statute, regulation or other legal requirement, in relation to the information, shall not be construed as:

a. an approval, waiver, or justification by the Ministry of any act or omission of any person that contravenes any term or condition of this Approval or any statute, regulation or other legal requirement; or

b. acceptance by the Ministry of the information's completeness or accuracy.

(3) The Owner shall ensure that a copy of this Approval, in its entirety and including all its Notices of Amendment, and the documentation listed in Schedule "A", are retained at the premises of the Owner at all times.

(4) All records and monitoring data required by the Conditions of this Approval must be available at the premises of the Owner for a minimum of five (5) years, unless a different requirement is stated in this Approval for the records.

(5) The Owner shall ensure that all communications/correspondence made pursuant to this Approval references the Number A710160.

9. FINANCIAL ASSURANCE

(1) The Owner shall,

a. within twenty (20) days of issuance of this Approval, submit Financial Assurance as defined in Section 131 of the EPA, in the amount of CAN$78,383.00. This Financial Assurance shall provide sufficient funds for the analysis, transportation, the Site clean-up, monitoring and disposal of all quantities of Waste on the Site at any one time;

b. no later than March 31, 2025 and at intervals of three (3) years thereafter, submit to the Director, a re-evaluation of the amount of Financial Assurance to implement the actions required under Condition 9.(1)a. The re-evaluation shall include an assessment based on any new information relating to the environmental conditions of the Site and shall include the costs of additional monitoring and/or implementation of contingency plans required by the Director upon review of the closure plan and annual reports; and

c. commencing on March 31, 2022, the Owner shall prepare and maintain at the Site an updated re-evaluation of the amount of Financial Assurance required to implement the actions required under Condition 9.(1)a. for each of the intervening years in which a re-evaluation is not required to be submitted to the Director under Condition 9.(1)b. The re-evaluation shall be made available to the Ministry, upon request.

(2) The amount of Financial Assurance is subject to review at any time by the Director and may be amended at his/her discretion. If any Financial Assurance is scheduled to expire or notice is received, indicating Financial Assurance will not be renewed, and satisfactory methods have not been made to replace the Financial Assurance at least sixty (60) days before the Financial Assurance terminates, the Financial Assurance shall forthwith be replaced by cash.

10. SITE SECURITY

(1) The Site must be maintained in a secure manner, such that unauthorized persons cannot enter the

Site.

11. SERVICE AREA and WASTE AMOUNTS

(1) The Owner shall ensure that only the Waste generated in the Province of Ontario is received at the Site.

(2) The maximum rate at which the Soil Conditioner is received at the Site does not exceed 500 m^3 (500,000 litres) per day.

(3) The total volume of the Soil Conditioner stored in the Tank shall not exceed 3,600 m^3, at any one time.

(4) The total volume of the Hauled Sewage stored in the Structure shall not exceed 3,945 m^3 (the stated operating capacity of the Structure), at any time.

12. WASTE TRANSPORT and MANAGEMENT

(1) All Soil Conditioner and all Hauled Sewage shall be transported to and from the Site in accordance with Regulation 347 and O. Regulation 267/03.

(2) All Soil Conditioner and all Hauled Sewage managed at the Site shall be managed in accordance with this Approval, Regulation 347 and O. Regulation 267/03.

(3) The Soil Conditioner, or a mixture of the Soil Conditioner from multiple generators, shall not be mixed or blended with any Hauled Sewage, at any time.

Conditions 12.(4) to 12.(7) only apply to Soil Conditioner Facility

(4) Soil Conditioner Facility encompasses Soil Conditioner pumping area and the Tank.

(5) Only Soil Conditioner shall be stored and blended in the Tank and under the following provisions:

a. only Soil Conditioner which is generated and remains as a liquid residue from an approved Water Pollution Control Plant, and which meet the quality criteria referred to in Condition 12.(5)b. prior to mixing or blending, may be taken into storage in the Tank;

b. the quality of all Soil Conditioner transferred to and from the Site shall meet the criteria specified in the Guidelines and/or the criteria specified in O. Regulation 267/03;

c. the Owner shall obtain and maintain copies of the current analyses for the Soil Conditioner from its generator or hauler;

d. prior to land application, Soil Conditioner must be thoroughly mixed and analyzed for the

parameters identified in the Guidelines and/or O. Regulation 267/03;

e. procedures for collecting the samples and the frequency of the analysis shall be in accordance with the Guidelines and/or O. Regulation 267/03;

f. no Soil Conditioner shall be applied on land if its quality does not meet the criteria specified in the Guidelines and/or O. Regulation 267/03; and

g. in the event that Soil Conditioner does not meet the criteria, the District Manager shall be notified, and if directed, the Soil Conditioner must be disposed of at a waste disposal site which is approved to receive that type of waste.

(6) Soil Conditioner transferred from the Site for land-application at a NASM Site or an EPA Site, shall be land-applied at a rate that does not exceed those prescribed in the Guidelines, the Environmental Compliance Approval for the EPA Site, or O. Regulation 267/03.

(7) The Owner shall ensure that:

a. the Site is constructed, operated and maintained in an environmentally safe and secure manner; and

b. that Soil Conditioner is properly stored in the Tank so as not to pose a threat or nuisance to the health and safety of the public, Site personnel and the environment;

c. Soil Conditioner is properly transported to and land-applied only on a NASM Site or an EPA Site, that are approved to receive the Soil Conditioner only, and in accordance with the conditions and limitations of the Guidelines, the Environmental Compliance Approval for the EPA Site, or O. Regulation 267/03;

d. Soil Conditioner stored in the Tank shall not exceed the maximum storage capacity of the Tank; 0.3 freeboard.

e. the Contingency Plan identified in Condition 15 is utilized, if either the Tank limit is exceeded or access to, or use of, an approved EPA Site is not available;

f. the Site personnel trained in spill contingency planning shall be on duty at all times when Soil Conditioner is being discharged to, or pumped from, the Tank;

g. the Site meets all the design requirements and specifications identified in Item 2 of Schedule "A" of this Approval;

h. in addition, once the Site is in operation, that the Site is inspected on a routine basis and after heavy rainfall to ensure spillage or leakage has not occurred; and

i. the Tank shall be periodically emptied and an internal inspection of the Tank shall be carried

out to ensure the integrity of its structure.

Conditions 12.(8) to 12.(17) only apply to Hauled Sewage Facility

(8) Hauled Sewage Facility encompasses Hauled Sewage pumping area and the Structure.

(9) The liquid depth within the Structure shall not exceed a level 0.5 metres below the top of the Structure (freeboard).

(10) Portable toilet waste shall not be transferred into this Structure. Portable toilet waste shall be managed in accordance with Regulation 347.

(11) The Structure shall be emptied by no later than November 30th of each year, to facilitate visual inspection of the interior condition of the Structure for evidence of fracture failure or leakage and to ensure that there is storage capacity available for the subsequent winter. A record of the results of the visual inspection of the interior of the Structure must be created and maintained.

(12) The Owner shall retain the services of a qualified consultant to submit, by March 31st each year, to the District Manager, the annual Monitoring Report covering the previous calendar year and documenting the results or the monitoring program currently in place. The annual Monitoring Report shall include, but not be limited to the following:

a. the results and an interpretive analysis of the results of all groundwater and surface water monitoring, currently being performed which includes one spring, summer or fall sample collection, including an assessment of the need to amend the monitoring programs or to implement potential contingency measures;
b. a general groundwater impact assessment, a general surface water impact assessment, and an assessment of off-site impacts;
c. a summary of the results of the inspections required by this Approval, including a discussion of any operational problems encountered at the Hauled Sewage Facility and the corrective action taken;
d. the amount of the Hauled Sewage deposited into and removed from the Structure and where it was disposed of;
e. a summary of any complaints received at the Site and the responses made;
f. the status of compliance with all of the conditions of this Approval; and
g. a copy of the Report(s) must be maintained on the premises of the Owner on a permanent basis.

(13) Following review of any of the analytical results or any of the reports required by this Approval, the District Manager may alter the frequencies and locations of sampling and parameters for analysis required if he/she considers it necessary for proper assessment of the operation of the Site and its impact on the environment.

(14) The current minimum sampling requirements, as stated above, are to be carried out for a minimum period of one (1) year. If after that time, the Owner can demonstrate that the storage

structure has been performing satisfactorily and without any adverse impact to the environment, the Owner can make a written request to the District Manager for alteration to the operating or monitoring conditions. The Owner must obtain written concurrence or written revised requirements, from the District Manager, prior to altering the operating or monitoring conditions.

(15) The Hauled Sewage transferred out of the Structure may be disposed of at a Water Pollution Control Plant and/or may be land applied on a Hauled Sewage Site.

(16) The maximum amount of the Hauled Sewage that may be applied to land is 15 litres per square metre per 7 days, unless a different maximum amount is stated in the Environmental Compliance Approval for the Hauled Sewage Site.

(17) The Owner shall not transfer any Hauled Sewage from the Site for land application, unless a written notification from the District Manager is given to the Environmental Compliance Approval for Hauled Sewage Site holder to provide instructions for the Hauled Sewage land application or other activities as directed by the District Manager and within the time frame specified by the District Manager.

13. Staff Training

(1) The Owner shall ensure that all operators at the Site have been trained with respect to:

a. the terms, conditions and operating requirements of this Approval;

b. the operation and management of all transfer, storage and contingency measures equipment;

c. any environmental concerns pertaining to the Site and the Waste to be transferred; and

d. relevant waste management legislation and Regulations under the EPA and OWRA.

14. Complaint Response Procedure

(1) If at any time, the Owner receives complaints regarding the operation of the Site, the Owner shall respond to these complaints according to the following procedure:

a. the Owner shall record each complaint. The information recorded shall include the nature of the complaint, the name, address and the telephone number of the complainant and the time and date of the complaint;

b. verbally notify the Ministry's District Office;

c. the Owner, upon notification of the complaint shall initiate appropriate steps to determine all possible causes of the complaint, proceed to take the necessary actions to eliminate the cause of the complaint and forward a formal reply to the complainant; and

d. within one (1) week of the complaint date, the Owner shall submit to the District Manager and retain on-site a report written listing the actions taken to resolve the complaint and any recommendations for remedial measures, and managerial or operational changes to reasonably avoid the re-occurrence of similar incidents.

15. Contingency Plan

(1) If at any time, problems such as odours, noise, vermin, vector, litter, dust and/or any other nuisances are generated at the Site, resulting in impact on the environment and the public and/or complaint(s) received by this Ministry and validated by a Provincial Officer, then upon request of the Ministry, immediately take appropriate remedial action to rectify the problem. Appropriate remedial action may include temporary stoppage of all operations until the problem has been rectified and measures have been undertaken to prevent future occurrences.

(2) Within thirty (30) days of the issuance date of this Approval, the Owner must submit, for approval by the District Manager, a detailed written Contingency Plan for this Site. The approved Plan shall be implemented in the event of an emergency or spill at the Site.

(3) The Owner shall ensure that contingency equipment and materials necessary for emergency response in the event of a spill is immediately available and that operating personnel are trained in its use and the methods and procedures to be employed in the event of a spill.

(4) The Owner shall promptly take all necessary steps to contain and clean up any spills which result from the operation of the Site. All spills and upsets shall be immediately reported to the Ministry's Spills Action Centre at (416) 325-3000 or 1-800-268-6060 and shall be recorded in a written log or an electronic file, referred to in Condition 16.(3) of this Approval, as to the nature of the spill or upset, and the action taken for clean-up, correction and prevention of future occurrences.

16. Maintenance, Inspections and Record Keeping

(1) The Owner shall ensure that regular inspections of the Site, by a Trained Personnel, as identified in Condition 13., is conducted, to ensure that all the Site is operated in a manner that will not cause an adverse effect on the environment. Any deficiencies, that might negatively impact the environment, detected during these regular inspections, shall be promptly corrected. A written record must be maintained at the Site, which includes the following:

a. name and signature of the Trained Personnel conducting the inspection;

b. date and time of the inspection;

c. list of equipment inspected and all observed deficiencies that might cause an adverse effect to the environment;

d. recommendations for remedial action and actions undertaken, including a schedule for action

to be undertaken in the future;

e. date and time of maintenance activity; and

f. a detailed description of the maintenance activity.

(2) The Owner must ensure that a Trained Personnel conducts, on each operating day, a visual inspection of the following areas to ensure the Site is secure and that no off-site impacts such as vermin, vectors, odour, dust, litter and noise, result from the operation of the Site:

a. visual inspection of external condition of the Tank for evidence of structural failure, seepage, or overflowing;
b. inspection of the Soil Conditioner level in the Tank to ensure that a minimum 0.3 metre freeboard (distance between the liquid surface and top of the storage structure) is maintained at all times;
c. inspection of the Hauled Sewage level in the Structure to ensure that a minimum 0.5 meter freeboard (distance between the liquid surface and top of the Structure) is maintained at all times;
a. loading/unloading areas;
b. storage/transfer areas; and
c. security fence or barriers and property line.

(3) The Owner shall maintain, at the office of the Owner, for a minimum of five (5) years, a log book or electronic file which records daily the following information for each storage structure:

a. date of record;

b. client name, address, telephone number and contact person;

c. volume, date and source of the Soil Conditioner and/or the Hauled Sewage received;

d. volume, date and destination of the Soil Conditioner and/or the Hauled Sewage shipped from the Site;

e. results of all analysis carried out for the Soil Conditioner and/or the Hauled Sewage, as required by this Approval, the Guideline, O. Regulation 267/03, the NASM Plan, the EPA Land Application Approval, the Hauled Sewage Site Approval, the Hauled Sewage System Approval, and as directed by the District Manager;

f. all complaint(s) received and action(s) taken to rectify the problem; and

g. description of any spill including the nature of the spill or upset, and the action taken for clean-up, correction and prevention of future occurrences.

17. Annual Report

(1) By March 31, 2012, and on an annual basis thereafter, the Owner shall prepare an annual written report, covering the previous calendar year (12 month period). Each report shall be maintained for a minimum of five (5) years at the Site and include, as a minimum, the following:

a. the result of the Soil Conditioner and/or the Hauled Sewage analysis;

b. summary of operation of the Site over the year including maintenance requirements for the Tank and the Structure and their repair, or the like, if any;

c. summary of volumes of the Soil Conditioner and/or the Hauled Sewage and approximate annual quantity from each source;

d. the location of each land application site or Water Pollution Control Plant, volume and date on which land application (or transfer to a Water Pollution Control Plant) occurred, including the field number, for the Soil Conditioner and/or the Hauled Sewage.

e. report of any operational difficulties during removal and land application of the Soil Conditioner and/or the Hauled Sewage.

f. a detailed monthly summary of the quantity of the Soil Conditioner and/or the Hauled Sewage received into and transferred out from the storage;

g. the results of any analysis performed for ground water monitoring, surface water monitoring, domestic well(s) on or adjacent to the Site and Site soils;

h. the record of the results of the visual inspection of both the exterior area and the interior area of the Tank and the Structure;

i. any environmental and operational problems, that could negatively impact the environment, encountered during the operation of the Site and during the Site inspections and any actions taken to mitigate the problem;

j. a statement as to compliance with all Conditions of this Approval and with the inspection and reporting requirements of the Conditions herein; and

k. any recommendations to minimize environmental impacts from the operation of the Site and to improve the Site operations and monitoring programs in this regard.

18. Closure Plan

(1) The Owner shall,

a. submit, for approval by the Director, a written Closure Plan for the Site four (4) months prior

to closure of the Site. This plan must include, as a minimum, a description of the work that will be done to facilitate closure of the Site and a schedule for completion of that work; and

b. within ten (10) days of closure of the Site, notify the District Manager, in writing, that the Site is closed and that the Closure Plan has been implemented.

19. Odour Management

(1) The Owner shall put in place measures to control odours generated from the Site. These measures may include the use of Biologic SR2 Wastewater Treatment product, or a product equivalent in efficacy, composition and toxicity.

SCHEDULE "A"

This Schedule "A" forms part of Approval No. A 710160.

1. Application for Approval of a Waste Disposal Site, dated June 20, 1997.
2. Supporting documentation submitted along with the June 20, 1997 Application, entitled Shepherd Septic Service, Sludge Transfer Facility (STF-A), Preliminary Design Brief), dated May 30, 1997, prepared by Hydro-Mech Consulting Engineers.
3. Letter and its attachment, dated June 11, 1997, from George W. J. Shepherd and Michael L. G. Shepherd, Shepherd Septic Service to Director of Approvals Branch, MOE, re: Shepherd Septic Service - Sludge Transfer Facility (STF-A), Application for Environmental Compliance Approval.
4. Letter dated June 11, 1997, from George W. J. Shepherd, re: the consent of the landowner for the use of the property for sludge transfer facility.
5. Letter from George Shepherd and Michael Shepherd, Shepherd Septic Service, to Ms. Helen Russell, Clerk - Treasurer, Township of Bexley, re: Shepherd Septic Service - Proposed Transfer Facility.
6. Letter dated July 16, 1997, from Helen Russell, Clerk - Treasurer, Township of Bexley to Shepherd Septic Service, re: Council Meeting held July 14, 1997.
7. Letter dated July 18, 1997, from J. R. Mulder, MOE to Ms. Helen Russell, Township of Bexley.
8. Letter dated July 18, 1997, from J. R. Mulder, MOE to Mr. D. L. Leighton, County of Victoria.
9. Memorandum dated July 29, 1997, from F. Crossley, Hydrogeologist, MOE to J. R. Mulder, MOE.
10. Memorandum dated September 09, 1997, from Victor Castro, Planner, MOE to J. R. Mulder, MOE.
11. Letter dated July 31, 1998, from Michael L. Shepherd, Shepherd Septic Service to J. R. Mulder, MOE.
12. Letter dated March 24, 1999, from Mohsen Keyvani, MOE to Mr. M. Shepherd, Shepherd Septic Service, re: Application for Sludge Transfer Facility (Waste Transfer Site), located at Lot 8, Concession 3, Township of Bexley.
13. Facsimile dated March 24, 1999, from Cameron Smith, P. Eng., Simcoe Engineering Group Limited, to Mohsen Keyvani, MOE, re: Shepherd Septic Service STF-A.
14. Facsimile and its attachment dated August 9, 1999, from Mike Shepherd, Shepherd Septic Service to Mohsen Keyvani, MOE, including a copy of the letter dated May 26, 1999, from Helen Russell, Clerk - Treasurer, Township of Bexley, re: Declaration Under Section 34(20) of the Planning Act. S.O. 1983.
15. Letter dated September 1, 1999, from Mohsen Keyvani, MOE to Mr. M. Shepherd, Shepherd Septic Service, re: Application for Sludge Transfer Facility (Waste Transfer Site).
16. Letter and its attachment from Michael L. Shepherd, Manager, Shepherd Septic Service to the Director, Environmental Assessment and Approvals Branch, MOE, dated August 14, 2000, Re:

Request for Amendment to Environmental Compliance Approval A710160 (Transfer Site).

17. Letter from Brad Ross, MOE to George W. J. Shepherd, Shepherd Enterprises Inc., dated August 22, 2000, Re: Application for Approval of Waste Disposal Sites, Increase Storage Capability to 3600 cubic metres, Bexley Township, County of Victoria, MOE Reference Number 2834-4NFN66.
18. Letter from Mohsen Keyvani, MOE to George W. J. Shepherd, Shepherd Enterprises Inc., dated September 22, 2000, Re: Application for Approval of Waste Disposal Sites, Increase Storage Capability to 3600 cubic metres, Bexley Township, County of Victoria, MOE Reference Number 2834-4NFN66.
19. Letter and its attachment from Michael L. Shepherd, Manager, Shepherd Septic Service to Mohsen Keyvani, MOE, dated October 16, 2000, Re: Application for Approval of Waste Disposal Sites, Increase Storage Capability to 3600 cubic metres, Bexley Township, County of Victoria, MOE Reference Number 2834-4NFN66.
20. Facsimile and its attachment from Mike Shepherd, Shepherd Septic Service to Mohsen Keyvani, MOE, dated November 16, 2000, Re: Engineering drawing for the Soil Conditioner storage tank.
21. Application to re-evaluate Financial Assurance, dated April 26, 2010 and signed by Michael L. Shepherd, General Manager, Shepherd Enterprises Inc
22. Environmental Compliance Approval application, signed by Mr. Michael Shepherd, dated March 6, 2017.
23. SciCorp International Corporation Biologic SR2 product sheet and Material Safety Data Sheet.
24. E-mail dated August 4, 2020 (4:49 p.m.) from Douglas Elliot, Land Application Coordinator, Shepherd Environmental Services, including an attachment entitled "2020FinancialAssuranceA710160.pdf".

The reasons for the imposition of these terms and conditions are as follows:

Conditions 1, 3, 4, 5 and 8 are included to clarify the legal rights and responsibilities of the Owner.

Condition 2 is included to ensure that the Site is build and operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider.

Condition 6 is included to ensure that the Site is operated under the corporate name which appears on the application form submitted for this approval and to ensure that the Director is informed of any changes. Condition 6 is included to restrict potential transfer or encumbrance of the Site without the approval of the Director and to ensure that any transfer of encumbrance can be made only on the basis that it will not endanger compliance with this Approval.

Condition 7 is included to ensure that the appropriate Ministry staff have ready access to the operations of the Site which are approved under this Approval. This Condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the OWRA, the EPA, the PA, the SDWA or the NMA.

Condition 9 is included to ensure that if for any reason the Owner should cease operations or abandon

the Site sufficient funds will be available for the Site to be closed down and the Waste disposed of in an acceptable manner.

Condition 10 is included to ensure that the Site is sufficiently secured, supervised and operated by properly Trained Personnel and to ensure controlled access and integrity of the Site by preventing unauthorized access when the Site is closed and no Site personnel is on duty.

Condition 11 is included to specify the approved Waste receipt rate and the storage amounts and the approved service area from which the Waste may be accepted at the Site based on the Owner's application and supporting documentation.

Condition 12 is included to specify the Waste management requirements to ensure that environmental quality, consumer and animal health, food quality and productivity of the land is protected, before the Soil Conditioner or the Hauled Sewage can be applied on land.

Condition 13 is included to ensure that all operators working at the Site have been trained so that the Site is operated in a safe and environmentally acceptable manner and does not pose a threat to the health and safety of people or the natural environment.

Condition 14 is included to ensure that complaints are properly and quickly resolved, and that the complaints and follow-up actions have been documented.

Condition 15 is included to ensure that the Owner has done proper planning for an emergency situation response and that the Owner is prepared and properly equipped to take action in the event of a spill or another emergency situation. Condition 15 is also included to ensure that staff promptly report spills and to minimize the possibility of off-site impacts and to ensure staff deal promptly and effectively with any spills that do occur.

Condition 16 is included to require the Site to be maintained and inspected thoroughly and on a regular basis to ensure that the operations at the Site are undertaken in a manner which does not result in an adverse effect or a hazard to the health and safety of the environment or any person.

Condition 17 is included to maintain at the Site an annual record of the Site operation and a summary of the quantities and types of the Waste handled at the Site.

Condition 18 is included to ensure that the Site is closed in accordance with Ministry standards and to protect the health and safety of the public and the environment.

Condition 19 is included to approve the use of products intended to control adverse odour effects generated by the activities at this Site.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). A710160 issued on December 15, 2011, as amended.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 29th day of July, 2021

Mohsen Keyvani, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

MW/
c: District Manager, MECP Peterborough
Douglas Elliot, Shepherd Enterprises Inc

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A710160
Notice No. 1
Issue Date: March 7, 2016

Shepherd Enterprises Inc.
P.O. Box 68 Coboconk
Kawartha Lakes, Ontario
K0M 1K0

Site Location: Shepherd Hauled Sewage Storage Structure
311 County Road #41
Lot Part 8, Concession 3
City of Kawartha Lakes

You are hereby notified that I have amended Approval No. A710160 issued on December 15, 2011 for a Waste Disposal Site (Transfer and Storage), which includes a reinforced concrete storage tank to be used only for the storage of processed organic waste and a lined storage structure to be used only for the storage of hauled sewage, *as follows:*

The definition of "*Certificate* " is hereby revoked and replaced with the following:

The definition of "*Certificate* " or *"Approval"* means this Environmental Compliance Approval and any Schedules to it, including the application and supporting documentation listed in Schedule "A"

The Condition 38 is hereby revoked and replaced with the following:

38. **Financial Assurance**

(a) Within 20 days of issuance of this Approval, the Owner shall submit financial assurance as defined in Section 131 of the EPA, in the amount of **$77,108** CDN. This Financial Assurance shall provide sufficient funds for the analysis, transportation, Site clean-up, monitoring and disposal of all quantities of waste on the Site at any one time;

(b) Commencing on March 31, 2020 and at intervals of four (4) years thereafter, the *Owner* shall submit to the *Director* , a re-evaluation of the amount of Financial Assurance to implement the actions required under Condition 38.(a). The re-evaluation shall include an assessment based on any new information relating to the environmental conditions of the *Site* and shall include the costs of additional monitoring and/or implementation of contingency plans required by the *Director* upon review of the closure plan and annual reports. The Financial

Assurance must be submitted to the *Director* within twenty (20) days of written acceptance of the re-evaluation by the *Director* ;

(c) Commencing on March 31, 2017, the *Owner* shall prepare and maintain at the *Site* an updated re-evaluation of the amount of Financial Assurance required to implement the actions required under Condition 38 (a) for each of the intervening years in which a re-evaluation is not required to be submitted the *Director* under 38 (b). The re-evaluation shall be made available to the *Ministry* , upon request; and

(d) The amount of Financial Assurance is subject to review at any time by the *Director* and may be amended at his/her discretion. If any Financial Assurance is scheduled to expire or notice is received, indicating Financial Assurance will not be renewed, and satisfactory methods have not been made to replace the Financial Assurance at least sixty (60) days before the Financial Assurance terminates, the Financial Assurance shall forthwith be replaced by cash.

The reason for this amendment to the Environmental Compliance Approval is as follows:

The reason for Condition 38 is to ensure that sufficient funds are available to the *Ministry* to clean up the *Site* in the event that the *Owner* and/or any future *Owners* are unable or unwilling to do so.

This Notice shall constitute part of the approval issued under Approval No. A710160 dated December 15, 2011

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment and
Climate Change
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 7th day of March, 2016

Dale Gable, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

NB/

c: District Manager, MOECC Peterborough
Douglas Elliot, Shepherd Enterprises Inc.