

COCHRANE

WATER / WASTE WATER SERVICES



WASTEWATER TREATMENT PLANT

2022 ANNUAL REPORT

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2022 Annual Report

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ANNUAL
PERFORMANCE
REPORT

Annual Performance Report

This report is prepared to comply with Amended Environmental Compliance Approval Number 2737-BD4JYH issued June 28, 2019. The report shall contain:

- (a) A summary and interpretation of all Influent monitoring data, including sewage characteristics, flow rates and a comparison to the values used in the design of the Works;

FLOWS	
Total Flow	<i>699,113 cubic meters</i>
Average Daily Flow	<i>1,925 cubic meters</i>
Peak Hydraulic Flow	<i>3,666 cubic meters</i>

RAW SEWAGE RESULTS

RAW SEWAGE	MONTHLY AVERAGE RESULTS
BOD ₍₅₎	157 mg/l
TOTAL SUSPENDED SOLIDS	224.57 mg/l
TOTAL PHOSPHORUS	4.30 mg/l
TKN (as N)	64.33 mg/l
AMMONIA & AMMONIA NITROGEN	30.26 mg/l
pH	7.45 mg/L

- (b) A summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;

FINAL EFFLUENT RESULTS

FINAL EFFLUENT	ANNUAL AVERAGE RESULTS
BOD ₍₅₎	15.23 mg/l
TOTAL SUSPENDED SOLIDS	6.25 mg/l
TOTAL PHOSPHORUS	0.29 mg/l
TKN (as N)	17.89 mg/l
AMMONIA	0.59 mg/l
CHLORINE RESIDUAL	0.0 mg/l
NITRITE	0.08 mg/l
NITRATE	19.20 mg/l
CBOD ₍₅₎	5.58 mg/l
E.COLI	25,923 CFU/100ml
WAS pH MAINTAINED BETWEEN 6.0-9.5 @ ALL TIMES?	Yes

The total flow in 2022 was 699,113 cubic meters which represents a 27 % increase from 2021. The total flow in 2021 was 35 % of the average day flow design capacity.

The following represents removal efficiencies for the year 2022.

BOD ₍₅₎	83.94%
TOTAL SUSPENDED SOLIDS	95.99%
TOTAL PHOSPHORUS	93.46%
TKN (as N)	74.0%
AMMONIA	98.29%
AVERAGE REMOVAL EFFICIENCY	89.14%

The above represents a decrease in overall operating efficiency of 3.6 % over the year 2022.

- (c) A summary of any deviations from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year;

None

- (d) A summary of all operating issues encountered and corrective actions taken;

None

- (e) A summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;

1. *Drained and cleaned Contact Chamber*
2. *Cleaned out Grit Chamber*
3. *Changed hose on Ferric Pump*
4. *Replaced bulbs on ultraviolet system*
5. *Replaced filters on Blower*

Other maintenance involved routine oiling, greasing, cleaning, servicing etc.

- (f) A summary of any effluent quality assurance or control measures undertaken;

The monitoring program consists of regular daily rounds ensuring all equipment is functioning and that daily temperature, pH levels, chlorine residuals, dissolved oxygen, Phosphorus and Ammonia tests are recorded, and controlled. Sludge Blanket levels are also monitored and controlled on a daily basis along with scum removal. Monthly samples are taken for BOD, Suspended Solids, TKN, Nitrite, Nitrate, Weekly Samples were taken for E.Coli and Quarterly Samples were taken for Acute Lethality.

- (g) A summary of the calibration and maintenance carried out on all Influent and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in the Approval or recommended by the manufacturer;

Attached to this report is the 2022 calibration records for the instrumentation at the Waste Water Treatment Plant. In 2023 the instruments will once again be checked for their accuracy.

- (h) A summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any required under the following situations: (i) when any of the design objectives is not achieved more than 50% of the time in a year or there is an increasing trend in deterioration of Final Effluent quality and (ii) when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;

The attached Data Summary shows the Cochrane Waste Water Treatment Plant has not exceeded the effluent concentrations for the Biochemical Oxygen Demand (20 mg/l), Total Suspended Solids (20 mg/L) and Phosphorus Criteria (1.0 mg/l), as specified in Schedule C of the aforementioned certificate of approval. The pH level has been maintained.

Compliance - (Certificate of Approval) The peak hydraulic flow capacity of 11,500 cu. Meters / day was not exceeded during the year 2022.

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

It is anticipated that sludge volume haulage for the year 2023 should be equal to or less than that of 2022 as the Plant is operating at or close to its maximum efficiency.

SLUDGE VOLUME HAULED

YEAR	SLUDGE AMOUNT HAULED
2018	2685 M3
2019	3504 M3
2020	3161 M3
2021	4325 M3
2022	1372 M3

The Town of Cochrane has retained C & H Hauling of Matheson Ontario (C of A 9477-5MGIMT, ECA # H11000003605) to haul and handle the sludge from the Water Pollution Control Plant. C&H Pumping advises that the sludge is dumped at the Landfill Sites (Lot 2, Con2 Fournier Township and Lot 2, Con 4 Carr Township) and not used for any other purpose.

- (j) A summary of any complaints received and any steps taken to address the complaints;

None

- (k) A summary of all Bypass, spill, Overflows within the meaning of Part X of EPA and abnormal discharge events and other abnormal operating conditions;

The bypass alarm signaled 8 overflows for the year 2022.

DATE	TYPE	DURATION (hours)	FLOW (m3)
2022-04-12	Overflow	67.5	443.64
2022-04-24	Overflow	45.5	408
2022-05-12	Overflow	13	11
2022-06-11	Overflow	13	269
2022-06-22	Overflow	7.15	45
2022-10-18	Overflow	16	2650.37

2022-11-05	Overflow	15.5	12260
2022-12-30	Overflow	8.25	1300

The Overflow events were triggered by spring runoff and heavy rains. All bypass /overflow events have been tested for all specified parameters, as per attached Bypass Summary.

The log date, time and duration of any bypasses (overflow) or upset condition will be recorded and sampled for BOD, suspended Solids and Total Phosphorus. Further, the Spills Action Centre (SAC) will be notified, with the completed form sent to the MOE District Office, which is a requirement.

- (l) A copy of all Notice of Modifications to Sewage Works submitted to the Water Supervisor under paragraph 1.d. of Condition 10, with a summary report on status of implementation of all modifications;

None

- (m) A summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overflow Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflow with estimated budget forecast for the year following that for which the report is submitted.

None

This is the report on the Cochrane Waste Water Treatment Plant for the year 2022. I certify that the information in this document and all the attachments are correct, accurate and complete to the best of my knowledge.

Prepared by,
Melissa Hoogenhoud
Asset Coordinator

ANNUAL SUMMARY

ANNUAL SUMMARY 2022

Municipality: **Cochrane (PUC)**
 Project Name: **Cochrane Water Pollution Control Plant**
 Project Number: **120000355**
 Project Location: **Cochrane, ON**

Month	Parameter	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL	AVERAGE	MAXIMUM	MINIMUM
	Total Flow	17115.36	16850.45	31484.49	119440.96	90191.39	55234.58	59942.94	46227.57	45209.84	78591.27	85917.78	52906.79	699113.42	58259.452	119440.96	16850.45
Influent	Peak Rate	901.1	1096	1912.3	6782.5	5604	4029	2987	2601	2262	5329	5875	4616	43994.9	3666.24	6782.5	901.1
Bypass	Plant-Vol.	0	0	0	851.94	11	314				2650.37	12260	1300	17387.31	1931.92	12260	0
	Time - Hrs	0	0	0	113.5	13	20.5				16	15.5	8.25	186.75	20.75	113.5	0
Raw	Susp. solids	80	144	110	98	64	533	290	313	310	640	64	48.8	2694.8	224.57	640	48.8
	BOD	130	140	190	89	45	110	210	120	1884	230	140	160	1884	157.00	320	45
	TKN	130	68.2	122	41.3	16.1	45.6	0.8	25.5	48	139	87.2	48.2	771.9	64.33	139	0.8
	Phosphorus	3.89	4.06	4.32	2.09	4.56	4.77	6.19	2.87	4.8	8.23	3.05	2.8	51.63	4.30	8.23	2.09
	Ammonia	37.7	38.6	47.9	16.2	7.99	31.7	40.8	16.3	25.1	45	32.7	23.1	363.09	30.26	47.9	7.99
	Nitrate	0.05	0.05	0.05	0.05	0.68	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1.23	0.10	0.68	0.05
	Nitrite	0.05	0.05	0.05	0.05	0.6	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1.15	0.10	0.6	0.05
	Phosphate	5.55	6.07	5.86	0.0094	1.25	9.2	11.2	2.69	2.87	14	4.53	4.83	68.0594	5.67	14	0.0094
	pH	7.19	7.54	6.97	7.45	7.7	7.43	7.82	7.61	7.52	7.65	7	7.56	89.44	7.45	7.82	6.97
	CBOD	80	140	170	5.9	40	96	210	99	170	380	130	130	1650.9	137.58	380	5.9
Effluent	Susp. solids	6	11.3	6.4	5.7	2	11.5	3.7	9	8.67	4.3	1.7	4.7	74.97	6.25	11.5	1.7
	BOD	2.4	4.2	5	150	1.6	4.5	1.4	4.6	3	1.9	1	3.2	182.8	15.23	150	1
	Phosphorus	0.1246	0.1778947	0.2055909	0.1586842	0.17	0.3542632	0.4286	0.3995	0.4645789	0.415	0.374619	0.2026667	3.4758476	0.29	0.4645789	0.1246
	Ammonia	0.1528571	0.3758824	3.9247619	0.114375	0.1036842	0.6572727	0.385	0.4882353	0.2952632	0.1592857	0.163	0.2192308	7.0388483	0.59	3.9247619	0.1036842
	Nitrate	34	25.8	10.8	16.2	6.35	14.1	16.7	3.08	32.3	24.2	25.1	21.8	230.43	19.20	34	3.08
	Nitrite	0.05	0.26	0.05	0.05	0.05	0.25	0.05	0.05	0.05	0.05	0.05	0.05	1.01	0.08	0.26	0.05
	TKN	12	13.8	26.1	7.4	4.3	7.9	86	16.2	3.4	12.1	17.2	8.3	214.7	17.89	86	3.4
	CBOD	1.5	3.4	46	1.4	1.6	1.3	1.1	3.8	2.1	1.6	0.9	2.2	66.9	5.58	0.651	0.002
	Phosphate	0.101	0.239	0.3	0.002	0.031	0.386	0.266	0.227	0.651	0.277	0.107	0.133	2.72	0.18	309055.5	0.002
	E.Coli	309055.5	13.75	88.4	234	76.6	65.25	1410.75	63.2	2	5	32.75	30.5	311077.7	25923.14	309055.5	2
	Acute Lethality		0			0			0			0		0	0.00	0	0
Date	Air Used																
	Influent Temp	11.6545	11.5	11.377273	9.8894737	12.665	14.915789	15.2625	17.005	15.711111	14.805882	14.584211	12.642105	162.01284	13.50	17.005	9.8894737
	Influent pH	10.7195	7.9210526	7.94	7.5294737	7.527	7.5715789	7.4215	7.1452381	7.6083333	7.63	7.6468421	7.9126316	94.57315	7.88	10.7195	
	Aeration Temp.	7.2611111	7.6941176	9.7894737	9.2722222	12.938889	16.30625	17.833333	18.65	17.0875	14.8375	12.822222	10.112778	154.6054	12.88	18.65	7.2611111
	30 Min. S.S.	37.5	48.66667	53.710526	37.27778	38.77778	39.53333	43.176471	68.35	60.466667	68.571429	64.315789	72.833333	633.17977	52.76	72.833333	37.27778
	D.O. % Level	4.5731579	4.52375	2.7505263	4.8244444	3.2938889	2.8286667	3.4647368	3.425	4.1252941	3.4617647	5.9305263	5.4161111	48.617867	4.05	5.9305263	2.7505263
	Effluent pH	6.4447368	6.6582353	6.6731579	7.1072222	6.9716667	6.8875	6.8968421	6.567	6.8275	7.121875	7.3168421	7.2927778	82.765356	6.90	7.3168421	6.4447368
	Effluent Temp	7.58	7.9842105	9.8318182	9.4578947	12.925	17.036842	17.925	18.495455	17.077778	14.982353	12.95	10.421053	156.6674	13.06	18.495455	7.58
Plant	Wasting Vol. m3	22549.76	23175.34	40660.05	145140.69	99097.88	61427.149	60691.58	51852.79	49273.78	82420.75	88906.78	46354.1	771550.65	64295.89	0	0
	Chlorine (Kg)													0			
	Cl Dosage (mg/l)													0		0	0
	Cl Residual(mg/l)	0	0.000325	0	0	0.0000	0	0	0.005	0.0000625	0.0286667	0	0.005	0.0390542	0.00	0.0286667	0
	Cl2 in Creek													0	#DIV/0!	0	0
Grit	Hauled (Volume)													0	0.00	0	0
Sludge Hauled	Liquid Volume	153.68772		327.81666	269.52131				261		136.2748		223.33929	1371.6398			
Loading mg/L	Phosphorus	0.0687927	0.1070574	0.208804	0.6317798	0.4941615	0.6522526	0.8287595	0.5957392	0.7779089	1.0521089	1.0732904	0.3458853	6.8365402	0.5697117	1.0732904	0.0687927
	BOD	1.3250601	2.5275675	5.0781435	597.2048	4.6550395	8.285187	2.7071005	6.8595749	5.0233156	4.8168843	2.863926	5.4613461	646.80795	53.900662	597.2048	1.3250601
	Suspended Solids	3.3126503	6.8003602	6.5000237	22.693782	5.8187994	21.173256	7.1544799	13.420907	14.517382	10.90137	4.8686742	8.021352	125.18304	10.43192	22.693782	3.3126503

PERFORMANCE

ASSESSMENT

REPORTS

BYPASS SUMMARY

NOTIFICATION AND LAB RESULTS

1

FACILITY NAME: **Cochrane Waste Water Treatment Plant** YEAR: **2022**

DATE:

Date (yy/mm/dd)	Location	Type (PB/SB/STPO /CSO/SSO/STWO)	Start Time	Duration (hours)	Volume (m3)	M/E	Disinfection (Y/N)	Treatment (Y/N)	Reason Code*	Sample Results			
										BOD5 (mg/L)	SS (mg/L)	TP (mg/L)	E.Coli (/100ml)
2022-04-12	STP	STPO	19:13	67.5	443.64	E	N	N	2	25.32	87.53	0.876	3510000
2022-04-24	STP	STPO	17:05	45.5	408	E	N	N	2	26.5	76.21429	0.733429	2014286
2022-05-12	STP	STPO	9:57	13	11	E	N	N	1	106.3	600.3	2.281667	3666667
2022-06-11	STP	STPO	18:48	13	269	E	N	N	1	77.46	172.6667	2.203333	5866667
2022-06-22	STP	STPO	15:45	7.15	45	E	N	N	1	274.5	625	4.185	3600000
2022-10-18	STP	STPO	14:35	16	2650.37	E	N	N	1	38	121.1	1.392	534966
2022-11-05	STP	STPO	14:55	15.5	12260	E	N	N	1	29.66667	97.13333	0.767	1889000
2022-12-30	STP	STPO	12:50	8.25	1300	E	N	N	1	155	4101	2.025	4400000

Legend

PB = Primary Bypass	M = Measured	Y = Yes	*Reason Codes:
SB = Secondary Bypass	E = Estimated	N = No	1 = Heavy Precipitation
STPO = Sewage Treatment Plant Overflow			2 = Spring Runoff
CSO = Combined Sewer Overflow			3 = Infiltration
SSO = Sanitary Sewer Overflow			4 = Mechanical/Equipment Failure
STWO = Satellite Treatment Works Overflow			5 = Pipe Failures(break/leak/plugged)
			6 = Process Upsets
			7 = Power Outages
			8 = Unknown
			9 = Other, please comment below.

Comments:

503 Waterplant

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: April 12/22 Time of Call: 7:13 a.m./p.m.

ECO SAC Reference #: 1-1RDITR Person Who Called: Chris Crawford

Called SAC at: 7:19pm Reported By: Jewny Weiss

Called MOH at: 7:30pm Reported By: Trish (Answering Service)

Bypass: _____ Spill: _____ Leak: _____ Overflow:

Location of Incident: Cochrane STP

Time of Incident: 5:30 a.m./p.m. Receiver: Liabelle Creek

Details of Incident: Spring thaw

Downstream Users: NONE

Possible Effects on Receiver, Environment or Downstream Users: NO

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

- 1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272- 4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: April 15 2022 Time of Call: 14:40 Person Contacted: Jon Kowba

Time of Termination: 14:30 Approximate Volume: 443.67 Cu. Meters

Duration of Bypass: 67.5 hrs

Current Status: Chlorinating? Yes: _____ No: Explain: _____

Further Action Required: NONE

Reported By: _____



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CERTIFICATE OF ANALYSIS

Client:	Lynn Chapleau	Work Order Number:	459843
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-5067 / (705) 272-2634	Project #:	Overflow
Email:	lynn.chapleau@cochraneontario.com	DWS #:	
		Sampled By:	Benoit Parent
Date Order Received:	4/13/2022	Analysis Started:	4/13/2022
Arrival Temperature:	14 °C	Analysis Completed:	4/20/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1743770	Wastewater	Grab		4/12/2022	7:12 PM
Sewage Plant Overflow	1743771	Wastewater	Grab		4/13/2022	1:30 AM
Sewage Plant Overflow	1743772	Wastewater	Grab		4/13/2022	7:30 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day.	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2.
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 459843

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 459843

WORK ORDER RESULTS

Sample Description	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow	Units
Sample Date	4/12/2022 7:12 PM	0.05	4/13/2022 1:30 AM	4/13/2022 7:30 AM	0.05	4/13/2022 7:30 AM	mg/L
Lab ID	1743770	0.05	1743771	1743772	0.05	1743772	mg/L
Ammonia (as N)	2.48	0.01	4/12/2022 7:12 PM	4/13/2022 7:30 AM	0.01	4/13/2022 7:30 AM	mg/L
pH	7.44	N/A	4/12/2022 7:12 PM	4/13/2022 7:30 AM	N/A	4/13/2022 7:30 AM	pH
Total Kjeldahl Nitrogen	7.5	0.4	4/12/2022 7:12 PM	4/13/2022 7:30 AM	0.4	4/13/2022 7:30 AM	mg/L
Total Phosphorus (as P)	0.888	0.002	4/12/2022 7:12 PM	4/13/2022 7:30 AM	0.002	4/13/2022 7:30 AM	mg/L
Sample Date	4/12/2022 7:12 PM	100000	4/13/2022 1:30 AM	4/13/2022 7:30 AM	100000	4/13/2022 7:30 AM	CFU/100mL
Lab ID	1743770	100000	1743771	1743772	100000	1743772	CFU/100mL
Escherichia coli	820000 [9800000]	100000	4/12/2022 7:12 PM	4/13/2022 7:30 AM	100000	4/13/2022 7:30 AM	CFU/100mL



TESTMARK Laboratories Ltd.

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 459843

Sample Description	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow	Units
Sample Date	4/12/2022 7:12 PM		4/13/2022 1:30 AM		4/13/2022 7:30 AM		
Lab ID	1743770		1743771		1743772		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	33	6	48	6	48	6	mg/L
Carbonaceous BOD	63.2	6	38	6	39	6	mg/L
Sample Description	Result	MDL	Result	MDL	Result	MDL	Units
Sample Date	4/12/2022 7:12 PM		4/13/2022 1:30 AM		4/13/2022 7:30 AM		
Lab ID	1743770		1743771		1743772		
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	206	2	107	2	59.3	1.3	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.
MDL: Method detection limit or minimum reporting limit.
[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.
Quality Control: All associated Quality Control data is available on request.
Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.
Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.
Reproduction of Report: Report shall not be reproduced, except in full, without the approval of Testmark Laboratories Ltd.
ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	459995
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
Date Order Received:	4/14/2022	Sampled By:	Chris Crawford
Arrival Temperature:	17 °C	Analysis Started:	4/14/2022
		Analysis Completed:	4/22/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1744300	Wastewater	Grab		4/13/2022	3:30 PM
Sewage Plant Overflow	1744301	Wastewater	Grab		4/13/2022	11:30 AM
Sewage Plant Overflow	1744302	Wastewater	Grab		4/14/2022	7:45 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 459995

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 459995

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	Result	MDL	Result	MDL	Result	MDL
Lab ID	1744300					
Anions						
Nitrate (as N)	<0.05	0.05	2.29	0.05	1.89	0.05
Nitrite (as N)	<0.05	0.05	0.49	0.05	0.28	0.05

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	Result	MDL	Result	MDL	Result	MDL
Lab ID	1744301					
Ammonia (as N)	7.33	0.02	3.90	0.01	8.74	0.02
pH	7.48	N/A	7.49	N/A	7.75	N/A
Total Kjeldahl Nitrogen	10.7	0.4	11.5	0.4	16.4	0.4
Total Phosphorus (as P)	1.08	0.02	0.853	0.002	1.91	0.02

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	Result	MDL	Result	MDL	Result	MDL
Lab ID	1744302					
Escherichia coli	1070000	100000	4000000	100000	1800000	100000

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	Result	MDL	Result	MDL	Result	MDL
Lab ID	1744301					
Escherichia coli	1070000	100000	4000000	100000	1800000	100000

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	Result	MDL	Result	MDL	Result	MDL
Lab ID	1744302					
Escherichia coli	1070000	100000	4000000	100000	1800000	100000

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	Result	MDL	Result	MDL	Result	MDL
Lab ID	1744302					
Escherichia coli	1070000	100000	4000000	100000	1800000	100000

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	Result	MDL	Result	MDL	Result	MDL
Lab ID	1744302					
Escherichia coli	1070000	100000	4000000	100000	1800000	100000



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 459995

Sample Description	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow	Units
Sample Date	1744300		4/13/2022 3:30 PM	1744301		4/14/2022 7:45 AM	
Lab ID	1744300		1744301	1744302			
Oxygen Demand							
BOD (5 day)	18	6	24	41	6	6	mg/L
Carbonaceous BOD	33	6	14	42	6	6	mg/L
Sample Description							
Sample Date	1744300		4/13/2022 3:30 PM	1744301		4/14/2022 7:45 AM	
Lab ID	1744300		1744301	1744302			
Solids							
Total Suspended Solids	155	2	52.00	65.3	1.3	1.3	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/yyyy throughout this report.
 MDL: Method detection limit or minimum reporting limit.
 Quality Control: All associated Quality Control data is available on request.
 Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.
 Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.
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 ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.



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CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	460224
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Mike Nelson
Date Order Received:	4/19/2022	Analysis Started:	4/19/2022
Arrival Temperature:	20 °C	Analysis Completed:	4/25/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1744981	Wastewater	Grab		4/14/2022	3:00 PM
Sewage Plant Overflow	1744982	Wastewater	Grab		4/14/2022	11:00 PM
Sewage Plant Overflow	1744983	Wastewater	Grab		4/15/2022	7:00 AM
Sewage Plant Overflow	1744984	Wastewater	Grab		4/15/2022	2:30 PM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 460224

Method	Lab	Description	Reference
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540

REPORT COMMENTS

Samples received past recommended hold time. Proceed with analysis as per client. 04/20/22 L.T.

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 460224

WORK ORDER RESULTS

Sample Description	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow	Units
Sample Date	4/14/2022 3:00 PM		4/14/2022 11:00 PM	4/15/2022 7:00 AM	4/15/2022 2:30 PM					
Lab ID	1744981		1744982	1744983	1744984					
Anions										
Nitrate (as N)	0.15	0.05	1.29	2.56	<0.05	0.05	0.05	0.05		mg/L
Nitrite (as N)	0.18	0.05	0.62	0.46	<0.05	0.05	0.05	0.05		mg/L
Sample Description										
Sample Date	4/14/2022 3:00 PM		4/14/2022 11:00 PM	4/15/2022 7:00 AM	4/15/2022 2:30 PM					
Lab ID	1744981		1744982	1744983	1744984					
General Chemistry										
Ammonia (as N)	2.82	0.01	2.33	3.47	3.78	0.01	0.01	0.01		mg/L
pH	7.34	N/A	7.49	7.87	7.56	N/A	N/A	N/A		pH
Total Kjeldahl Nitrogen	6.3	0.4	3.8	5.3	5.8	0.4	0.4	0.4		mg/L
Total Phosphorus (as P)	0.446	0.002	0.446	0.567	0.757	0.002	0.002	0.002		mg/L
Sample Description										
Sample Date	4/14/2022 3:00 PM		4/14/2022 11:00 PM	4/15/2022 7:00 AM	4/15/2022 2:30 PM					
Lab ID	1744981		1744982	1744983	1744984					
Microbiology										
Escherichia coli	200000	100000	100000	100000	100000	100000	100000	100000	100000	CFU/100mL



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 460224

Sample Description	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow
Sample Date			4/14/2022 3:00 PM			4/14/2022 11:00 PM			4/15/2022 7:00 AM
Lab ID			1744981			1744982			1744983
Oxygen Demand									
BOD (5 day)	12.1	1		8	1		6.3	1	
Carbonaceous BOD	8.6	1		6.9	1		4.3	1	
Sample Description									
Sample Date			4/14/2022 3:00 PM			4/14/2022 11:00 PM			4/15/2022 7:00 AM
Lab ID			1744981			1744982			1744983
Solids									
Total Suspended Solids	93	2		51	2		40.7	1.3	
							46.0	1.3	

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.
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 Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.
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 ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: April 24 2022 Time of Call: 17:05 a.m./p.m.

SAC Reference #: 1-1R435M Person Who Called: Mica Nedger

Called SAC at: 17:05 Reported By: JAN Kowba

Called MOH at: 17:12 Reported By: _____

Bypass: _____ Spill: _____ Leak: _____ Overflow:

Location of Incident: West water pond

Time of Incident: 16:15 a.m./p.m. Receiver: Antibetter creek

Details of Incident: spring Thaw Run

Downstream Users: NONE

Possible Effects on Receiver, Environment or Downstream Users: NO

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272- 4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: 04/26/22 Time of Call: 0918 Person Contacted: Marc Harris

Time of Termination: 0920 Approximate Volume: 408.3 Cu. Meters

Duration of Bypass: 45h 55min

Current Status: Chlorinating? Yes: _____ No: Explain: _____

Further Action Required: N/A

Reported By: _____



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CERTIFICATE OF ANALYSIS

Client: Melissa Hoogenhoud
Company: Town of Cochrane - Wastewater
Address: 171 Fourth Ave, Box 490
Cochrane, ON, P0L 1C0
Phone/Fax: (705) 272-4232 / (705) 272-2634
Email: Melissa.Hoogenhoud@cochraneontario.com

Work Order Number: 460759
PO #:
Regulation: Information not provided
Project #: Overflow
DWS #:
Sampled By: Benoit Parent

Date Order Received: 4/25/2022
Arrival Temperature: 18 °C

Analysis Started: 4/25/2022
Analysis Completed: 5/2/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1746706	Wastewater	Grab		4/24/2022	4:45 PM
Sewage Plant Overflow	1746707	Wastewater	Grab		4/24/2022	11:00 PM
Sewage Plant Overflow	1746708	Wastewater	Grab		4/25/2022	7:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day.	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NOR-G-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2.
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



TESTMARK Laboratories Ltd.
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Town of Cochrane - Wastewater

CERTIFICATE OF ANALYSIS

Work Order Number: 460759

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 460759

WORK ORDER RESULTS

Sample Description	Sample Date	Lab ID	Result	MDL	Result	MDL	Result	MDL	Units
Sewage Plant Overflow	4/24/2022 4:45 PM	1746706	<0.05	0.05	2.68	0.05	2.94	0.05	mg/L
Sewage Plant Overflow	4/24/2022 11:00 PM	1746707	<0.05	0.05	0.12	0.05	<0.05	0.05	mg/L
Sewage Plant Overflow	4/24/2022 4:45 PM	1746706	<0.05	0.05	0.12	0.05	<0.05	0.05	mg/L
Sewage Plant Overflow	4/24/2022 11:00 PM	1746707	<0.05	0.05	0.12	0.05	<0.05	0.05	mg/L
Sewage Plant Overflow	4/25/2022 7:00 AM	1746708	<0.05	0.05	0.12	0.05	<0.05	0.05	mg/L
Ammonia (as N)			2.57	0.01	1.43	0.01	2.12	0.01	mg/L
pH			7.32	N/A	7.47	N/A	7.63	N/A	pH
Total Kjeldahl Nitrogen			9.0	0.4	6.2	0.4	8.1	0.4	mg/L
Total Phosphorus (as P)			1.01	0.02	0.496	0.002	0.687	0.006	mg/L
Sewage Plant Overflow	4/24/2022 4:45 PM	1746706	5200000	100000	1000000	100000	600000 [900000]	100000	CFU/100mL
Sewage Plant Overflow	4/24/2022 11:00 PM	1746707	5200000	100000	1000000	100000	600000 [900000]	100000	CFU/100mL
Sewage Plant Overflow	4/25/2022 7:00 AM	1746708	5200000	100000	1000000	100000	600000 [900000]	100000	CFU/100mL



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CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	460940
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0 (705) 272-4232 / (705) 272-2634	Regulation:	Information not provided
Phone/Fax:		Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
Date Order Received:	4/26/2022	Analysis Started:	4/26/2022
Arrival Temperature:	14 °C	Analysis Completed:	5/2/2022
		Sampled By:	Benoit Parent

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1747463	Wastewater	Grab		4/25/2022	3:00 PM
Sewage Plant Overflow	1747464	Wastewater	Grab		4/25/2022	11:00 PM
Sewage Plant Overflow	1747465	Wastewater	Grab		4/26/2022	7:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day.	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2.
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



TESTMARK Laboratories Ltd.
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Town of Cochrane - Wastewater

CERTIFICATE OF ANALYSIS

Work Order Number: 460940

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 460940

WORK ORDER RESULTS

Sample Description	Sample Date	Lab ID	Result	MDL	Result	MDL	Result	MDL	Units
Sewage Plant Overflow	4/25/2022 3:00 PM	1747463	2.70	0.05	2.97	0.05	2.92	0.05	mg/L
Sewage Plant Overflow	4/25/2022 11:00 PM	1747464	0.06	0.05	0.08	0.05	0.17	0.05	mg/L
Sewage Plant Overflow	4/25/2022 3:00 PM	1747463	1.80	0.01	1.55	0.01	2.49	0.01	mg/L
Sewage Plant Overflow	4/25/2022 11:00 PM	1747464	7.6	N/A	7.63	N/A	7.61	N/A	pH
Sewage Plant Overflow	4/25/2022 11:00 PM	1747464	6.8	0.4	9.1	0.4	13.4	0.4	mg/L
Sewage Plant Overflow	4/26/2022 7:00 AM	1747465	0.36	0.02	0.463	0.002	0.748	0.002	mg/L
Microbiology	4/25/2022 3:00 PM	1747463	1800000	100000	1000000	100000	1900000	100000	CFU/100mL



TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	460937
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0 (705) 272-4232 / (705) 272-2634	Regulation:	Information not provided
Phone/Fax:		Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Benoit Parent
Date Order Received:	4/26/2022	Analysis Started:	4/26/2022
Arrival Temperature:	14 °C	Analysis Completed:	5/2/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1747452	Wastewater	Grab		4/26/2022	8:20 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day.	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 460937

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 460937

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow		
Sample Date	4/26/2022 8:20 AM		
Lab ID	1747452		
Anions	Result	MDL	Units
Nitrate (as N)	2.34	0.05	mg/L
Nitrite (as N)	0.21	0.05	mg/L
Sample Description	Sewage Plant Overflow		
Sample Date	4/26/2022 8:20 AM		
Lab ID	1747452		
General Chemistry	Result	MDL	Units
Ammonia (as N)	3.53	0.01	mg/L
pH	7.59	N/A	pH
Total Kjeldahl Nitrogen	14.6	0.4	mg/L
Total Phosphorus (as P)	1.370	0.006	mg/L
Sample Description	Sewage Plant Overflow		
Sample Date	4/26/2022 8:20 AM		
Lab ID	1747452		
Microbiology	Result	MDL	Units
Escherichia coli	2600000	100000	CFU/100mL



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 460937

Sewage Plant Overflow			
Sample Description	Sewage Plant Overflow		
Sample Date	4/26/2022 8:20 AM		
Lab ID	1747452		
Oxygen Demand	Result	MDL	Units
BOD (5 day)	42	6	mg/L
Carbonaceous BOD	23	6	mg/L
Sewage Plant Overflow			
Sample Date	4/26/2022 8:20 AM		
Lab ID	1747452		
Solids	Result	MDL	Units
Total Suspended Solids	158	4	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.
MDL: Method detection limit or minimum reporting limit.
Quality Control: All associated Quality Control data is available on request.
Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.
Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.
Reproduction of Report: Report shall not be reproduced, except in full, without the approval of Testmark Laboratories Ltd.
ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: 05/12/22 Time of Call: 0957 (a.m./p.m.)
SAC Reference #: 1-15W4P1 Person Who Called: Benoit Parent
Called SAC at: 0957 Aaron Reported By: Benoit Parent
Called MOH at: 1003 message duty inspector Reported By: Benoit Parent
Bypass: _____ Spill: _____ Leak: _____ Overflow:
Location of Incident: Cochrane STP 503 water plant rd.
Time of Incident: 0945 a.m./p.m. Receiver: Lilabelle creek
Details of Incident: rain/wet weather

Downstream Users: N/A
Possible Effects on Receiver, Environment or Downstream Users: N/A

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272-4361 Fax No. 272-6068 Time of Call: 1005 reception
Details of Call: Lynn looking into paper work. 1006 Lynn Chaplean

Termination of Incident

Date: 05/12/22 Time of Call: 2305 Person Contacted: Carley
Time of Termination: 2302 Approximate Volume: 11 m³ Cu. Meters
Duration of Bypass: 13h 5min
Current Status: Chlorinating? Yes: _____ No: Explain: _____
Further Action Required: N/A
Reported By: Benoit Parent



CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	462690
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Benoit Parent
Date Order Received:	5/13/2022	Analysis Started:	5/13/2022
Arrival Temperature:	19 °C	Analysis Completed:	5/30/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1753402	Wastewater	Grab		5/12/2022	9:49 AM
Sewage Plant Overflow	1753403	Wastewater	Grab		5/12/2022	3:00 PM
Sewage Plant Overflow	1753404	Wastewater	Grab		5/12/2022	11:00 PM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Garson	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day.	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 462690

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.
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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 462690

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	5/12/2022 9:49 AM	5/12/2022 3:00 PM	5/12/2022 3:00 PM	5/12/2022 11:00 PM	5/12/2022 11:00 PM	5/12/2022 11:00 PM
Lab ID	1753402		1753403		1753404	
Anions	Result	MDL	Result	MDL	Result	MDL
Nitrate (as N)	0.06	0.05	0.22	0.05	<0.05	0.05
Nitrite (as N)	<0.05	0.05	0.53	0.05	<0.05	0.05
Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	5/12/2022 9:49 AM		5/12/2022 3:00 PM		5/12/2022 11:00 PM	
Lab ID	1753402		1753403		1753404	
General Chemistry	Result	MDL	Result	MDL	Result	MDL
Ammonia (as N)	4.19	0.01	3.17	0.01	7.31	0.02
pH	6.72	N/A	7.81	N/A	7.83	N/A
Total Kjeldahl Nitrogen	119	1	7.9	0.4	10.8	0.4
Total Phosphorus (as P)	4.98	0.02	0.745	0.002	1.12 [1.14]	0.02
Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	5/12/2022 9:49 AM		5/12/2022 3:00 PM		5/12/2022 11:00 PM	
Lab ID	1753402		1753403		1753404	
Microbiology	Result	MDL	Result	MDL	Result	MDL
Escherichia coli	2600000	100000	3500000	100000	4900000 [52000000]	100000
						CFU/100mL



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 462690

Sample Description	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow	Units
Sample Date	1753402		5/12/2022 9:49 AM	1753403		5/12/2022 3:00 PM	
Lab ID	1753402						1753404
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	220	50	41	6	58 [42]	6	mg/L
Carbonaceous BOD	280	50	24	6	49	6	mg/L
Sample Description	Result	MDL	Result	MDL	Result	MDL	Units
Sample Date	1753402		1753403		1753404		
Lab ID	1753402						1753404
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	1590	10	131.0	2.2	80.0	2.5	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/yyyy throughout this report.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

Reproduction of Report: Report shall not be reproduced, except in full, without the approval of Testmark Laboratories Ltd.

ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: 06-11-22 Time of Call: 18:46 a.m./p.m.
SAC Reference #: 1-14A75R Person Who Called: Mike Nelson
Called SAC at: 18:43 Reported By: J. [unclear]
Called MOH at: 18:50 Reported By: [unclear]
Bypass: _____ Spill: _____ Leak: _____ Overflow:
Location of Incident: waste
Time of Incident: 18:00 a.m./p.m. Receiver: L.L. [unclear]
Details of Incident: overflow due to rain
Downstream Users: None
Possible Effects on Receiver, Environment or Downstream Users: NIL

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272- 4361 Fax No. 272-6068 Time of Call: _____
Details of Call: _____

Termination of Incident

Date: 06-12-22 Time of Call: 8:00 Person Contacted: _____
Time of Termination: 07:00 Approximate Volume: 26? Cu. Meters
Duration of Bypass: 13 hrs
Current Status: Chlorinating? Yes: _____ No: Explain: _____
Further Action Required: None
Reported By: Mike



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CERTIFICATE OF ANALYSIS

Client: Melissa Hoogenhoud
Company: Town of Cochrane - Wastewater
Address: 171 Fourth Ave, Box 490
Cochrane, ON, P0L 1C0
Phone/Fax: (705) 272-4232 / (705) 272-2634
Email: Melissa.Hoogenhoud@cochraneontario.com

Work Order Number: 465997
PO #: Information not provided
Regulation: Overflow
Project #: Mike Nelson
DWS #: Information not provided
Sampled By: Mike Nelson

Date Order Received: 6/13/2022
Arrival Temperature: 21 °C

Analysis Started: 6/13/2022
Analysis Completed: 6/21/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1765046	Wastewater	Grab		6/11/2022	6:10 PM
Sewage Plant Overflow	1765047	Wastewater	Grab		6/11/2022	11:00 PM
Sewage Plant Overflow	1765048	Wastewater	Grab		6/12/2022	7:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 465997

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 465997

WORK ORDER RESULTS

Sample Description	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow	Result	MDL	Units
Sample Date	6/11/2022 6:10 PM		6/11/2022 11:00 PM	6/12/2022 7:00 AM					
Lab ID	1765046		1765047	1765048					
Anions									
Nitrate (as N)	<0.05	0.05	Result <0.05	MDL 0.05	Result <0.05	MDL 0.05	Result <0.05	MDL 0.05	mg/L
Nitrite (as N)	0.36	0.05	Result <0.05	MDL 0.05	Result <0.05	MDL 0.05	Result <0.05	MDL 0.05	mg/L
Sample Description									
Sample Date	6/11/2022 6:10 PM		6/11/2022 11:00 PM	6/12/2022 7:00 AM					
Lab ID	1765046		1765047	1765048					
General Chemistry									
Ammonia (as N)	13.5	0.1	Result 15.5	MDL 0.1	Result 19.8	MDL 0.1	Result 19.8	MDL 0.1	mg/L
pH	6.61	N/A	Result 7.11	MDL N/A	Result 7.36	MDL N/A	Result 7.36	MDL N/A	pH
Total Kjeldahl Nitrogen	70.0	0.8	Result 31.3	MDL 0.4	Result 37.2	MDL 0.4	Result 37.2	MDL 0.4	mg/L
Total Phosphorus (as P)	2.21	0.02	Result 1.86	MDL 0.02	Result 2.54	MDL 0.02	Result 2.54	MDL 0.02	mg/L
Sample Description									
Sample Date	6/11/2022 6:10 PM		6/11/2022 11:00 PM	6/12/2022 7:00 AM					
Lab ID	1765046		1765047	1765048					
Microbiology									
Escherichia coli	7300000	100000	Result 4700000	MDL 100000	Result 5600000	MDL 100000	Result 5600000	MDL 100000	CFU/100mL

CERTIFICATE OF ANALYSIS

Work Order Number: 465997

Town of Cochrane - Wastewater

Sample Description	Result	MDL	Sewage Plant Overflow	Result	MDL	Sewage Plant Overflow	Units
Sample Date	6/11/2022 6:10 PM		1765046	6/11/2022 11:00 PM		1765047	6/12/2022 7:00 AM
Lab ID	1765046		1765047		1765048		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	54	10	71.4	6	107	10	mg/L
Carbonaceous BOD	3.0	0.5	28	6	67	10	mg/L
Sample Description	6/11/2022 6:10 PM		6/11/2022 11:00 PM		6/12/2022 7:00 AM		
Sample Date	1765046		1765047		1765048		
Lab ID	Result	MDL	Result	MDL	Result	MDL	Units
Solids	314	4	64	4	140	4	mg/L
Total Suspended Solids							

LEGEND

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 ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: 06-30-22 Time of Call: _____ a.m./p.m.

SAC Reference #: 1-10FGDA Person Who Called: _____

Called SAC at: 15:45 Reported By: IG

Called MOH at: 15:53 Reported By: _____

Bypass: _____ Spill: _____ Leak: _____ Overflow:

Location of Incident: Wastewater plant

Time of Incident: 15:15 a.m./p.m. Receiver: L.L. Belle

Details of Incident: overflow due to Rain

Downstream Users: none

Possible Effects on Receiver, Environment or Downstream Users: none

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272-4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: 06-30-22 Time of Call: 22:48 Person Contacted: Doerly

Time of Termination: 10:30 Approximate Volume: 45 Cu. Meters

Duration of Bypass: 7 hours 20 min

Current Status: Chlorinating? Yes: _____ No: Explain: _____

Further Action Required: none

Reported By: Milca Nelson



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CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	468118
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
Date Order Received:	7/2/2022	Sampled By:	Mike Nelson
Arrival Temperature:	21 °C	Analysis Started:	7/2/2022
		Analysis Completed:	7/11/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1772200	Wastewater	Grab		6/30/2022	3:20 PM
Sewage Plant Overflow	1772201	Wastewater	Grab		6/30/2022	10:35 PM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NOR-G-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 468118

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 468118

WORK ORDER RESULTS

Sample Description		Sewage Plant Overflow		
Sample Date	Lab ID	Result	MDL	MDL
6/30/2022 3:20 PM	1772200	<0.05	0.05	0.05
Anions		Result	MDL	MDL
Nitrate (as N)		<0.05	0.05	0.05
Nitrite (as N)		<0.05	0.05	0.05
Sample Description		Sewage Plant Overflow		
Sample Date	Lab ID	Result	MDL	MDL
6/30/2022 3:20 PM	1772200	<0.05	0.05	0.05
General Chemistry		Result	MDL	MDL
Ammonia (as N)		14.1	0.1	0.1
pH		5.79	N/A	N/A
Total Kjeldahl Nitrogen		105 [104]	1	1
Total Phosphorus (as P)		3.76	0.02	0.02
Sample Description		Sewage Plant Overflow		
Sample Date	Lab ID	Result	MDL	MDL
6/30/2022 3:20 PM	1772200	3800000 [4000000]	100000	100000
Microbiology		Result	MDL	MDL
Escherichia coli		3400000	100000	100000
				CFU/100mL



TESTMARK Laboratories Ltd.

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 468118

Sample Description		Sewage Plant Overflow			Sewage Plant Overflow		
Sample Date		6/30/2022 3:20 PM			6/30/2022 10:35 PM		
Lab ID		1772200			1772201		
Oxygen Demand		Result	MDL	Result	MDL	Units	
BOD (5 day)		349	30	200	30	mg/L	
Carbonaceous BOD		346	30	210	30	mg/L	
Sample Description		Sewage Plant Overflow			Sewage Plant Overflow		
Sample Date		6/30/2022 3:20 PM			6/30/2022 10:35 PM		
Lab ID		1772200			1772201		
Solids		Result	MDL	Result	MDL	Units	
Total Suspended Solids		637.0	6.7	613.0	6.7	mg/L	

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

Reproduction of Report: Report shall not be reproduced, except in full, without the approval of Testmark Laboratories Ltd.

ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: 10-18-22 Time of Call: 14:35 a.m./p.m.

SAC Reference #: F-281760 Person Who Called: Mike

Called SAC at: 14:35 Reported ~~By~~ DBlake

Called MOH at: 14:48 Reported ~~By~~ to

Bypass: _____ Spill: _____ Leak: _____ Overflow:

Location of Incident: WWTP

Time of Incident: 14:30 a.m./p.m. Receiver: L.L. belle creek

Details of Incident: overflow due to weather

Downstream Users: None

Possible Effects on Receiver, Environment or Downstream Users: None

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272-4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: 10-18-22 Time of Call: 0900 Person Contacted: Stephanie

Time of Termination: 07:00 Approximate Volume: 2650.37 Cu. Meters

Duration of Bypass: 16 hrs

Current Status: Chlorinating? Yes: _____ No: Explain: _____

Further Action Required: None

Reported By: Mike Nelson



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Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client: Melissa Hoogenhoud
Company: Town of Cochrane - Wastewater
Address: 171 Fourth Ave, Box 490
Cochrane, ON, P0L 1C0
(705) 272-9093
Phone: (705) 272-9093
Email: Melissa.Hoogenhoud@cochraneontario.com

Work Order Number: 480530
PO #: 11595
Regulation: Information not provided
Project #: Overflow
DWS #:
Sampled By: Michael Nelson

Date Order Received: 10/19/2022
Arrival Temperature: 19 °C

Analysis Started: 10/19/2022
Analysis Completed: 11/1/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1814914	Wastewater	Grab		10/18/2022	2:45 PM
Sewage Plant Overflow	1814915	Wastewater	Grab		10/18/2022	10:45 PM
Sewage Plant Overflow	1814916	Wastewater	Grab		10/19/2022	6:46 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day.	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dige. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 480530

REPORT COMMENTS

* BOD and CBOD re-ran past 4-day hold time as a result of an issue with original batch data. 10/28/22 HH

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 480530

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow				
Sample Date	10/18/2022 2:45 PM	10/18/2022 10:45 PM	10/19/2022 6:46 AM				
Lab ID	1814914	1814915	1814916				
Anions	Result	MDL	Result	MDL	Result	MDL	Units
Nitrate (as N)	<0.05	0.05	0.71	0.05	3.06	0.05	mg/L
Nitrite (as N)	<0.05	0.05	0.25	0.05	0.25	0.05	mg/L
Sample Description	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow				
Sample Date	10/18/2022 2:45 PM	10/18/2022 10:45 PM	10/19/2022 6:46 AM				
Lab ID	1814914	1814915	1814916				
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units
Ammonia (as N)	9.6	0.1	2.47	0.01	3.70	0.01	mg/L
pH	7.25	N/A	7.33	N/A	7.65	N/A	pH
Total Kjeldahl Nitrogen	19.3	0.4	11.5	0.4	12.5	0.4	mg/L
Total Phosphorus (as P)	2.05	0.02	0.846	0.002	1.28	0.02	mg/L
1.93							
Sample Description	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow				
Sample Date	10/18/2022 2:45 PM	10/18/2022 10:45 PM	10/19/2022 6:46 AM				
Lab ID	1814914	1814915	1814916				
Microbiology	Result	MDL	Result	MDL	Result	MDL	Units
Escherichia coli	400000	1000000	1200000	1000000	4500	100	CFU/100mL
			4900				



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 480530

Sample Description	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Units
Sample Date	10/18/2022 2:45 PM	10/18/2022 10:45 PM	10/19/2022 6:46 AM			
Lab ID	1814914	1814915	1814916			
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL
BOD (5 day)	41	6	44	6	29	8
Carbonaceous BOD	60.4	6	8.3	1	6.7	3
Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	10/18/2022 2:45 PM	10/18/2022 10:45 PM	10/19/2022 6:46 AM			
Lab ID	1814914	1814915	1814916			
Solids	Result	MDL	Result	MDL	Result	MDL
Total Suspended Solids	207.0	3.3	155	5	1.30	0.67
						mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.
 MDL: Method detection limit or minimum reporting limit.
 []: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.
 Quality Control: All associated Quality Control data is available on request.
 Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.
 Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.
 Reproduction of Report: Report shall not be reproduced, except in full, without the approval of Testmark Laboratories Ltd.
 ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.
 Regulation Comparisons: Disclaimer: Please note that regulation criteria are provided for comparative purposes, however the onus on ensuring the validity of this comparison rests with the client.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: Nov 0 2022 Time of Call: 14:55 a.m./p.m.

SAC Reference #: 1-28 ~~000~~ V A 67 Person Who Called: M. Lee Nelson

Called SAC at: 14:55 Reported ~~By~~: ~~Asst~~: An. S. D. S. S. S.

Called MOH at: 15:10 Reported By: _____

Bypass: _____ Spill: _____ Leak: _____ Overflow:

Location of Incident: WWTP

Time of Incident: 14:00 a.m./p.m. Receiver: Lillibelle creek

Details of Incident: Heavy Rain

Downstream Users: None

Possible Effects on Receiver, Environment or Downstream Users: None

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272- 4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: Nov 6 2022 Time of Call: 9:40 Person Contacted: Peter

Time of Termination: 0630 Approximate Volume: 12,260 Cu. Meters

Duration of Bypass: 15.5

Current Status: Chlorinating? Yes: _____ No: Explain: _____

Further Action Required: None

Reported By: M. Lee Nelson



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CERTIFICATE OF ANALYSIS

<p>Client: Melissa Hoogenhoud Company: Town of Cochrane - Wastewater Address: 171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0 (705) 272-9093 Phone: Melissa.Hoogenhoud@cochraneontario.com Email: Melissa.Hoogenhoud@cochraneontario.com</p>	<p>Work Order Number: 482394 PO #: 11595 Regulation: Information not provided Project #: Overflow DWS #: Sampled By: Andy</p>
--	---

Date Order Received: 11/7/2022 Analysis Started: 11/7/2022
 Arrival Temperature: 16 °C Analysis Completed: 11/15/2022

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1822691	Wastewater	Grab		11/5/2022	3:00 PM
Sewage Plant Overflow	1822692	Wastewater	Grab		11/5/2022	11:00 PM
Sewage Plant Overflow	1822693	Wastewater	Grab		11/6/2022	7:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day.	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Kirkland Lake	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2.
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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Town of Cochrane - Wastewater

CERTIFICATE OF ANALYSIS

Work Order Number: 482394

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 482394

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Units
Sample Date	11/5/2022 3:00 PM	11/5/2022 11:00 PM	11/6/2022 7:00 AM		
Lab ID	1822691	1822692	1822693		
Actions	Result	MDL	Result	MDL	Units
Nitrate (as N)	<0.05	0.05	0.85 [0.84]	0.05	mg/L
Nitrite (as N)	<0.05	0.05	0.45 [0.45]	0.05	mg/L
Sample Description	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	
Sample Date	11/5/2022 3:00 PM	11/5/2022 11:00 PM	11/6/2022 7:00 AM		
Lab ID	1822691	1822692	1822693		
General Chemistry	Result	MDL	Result	MDL	Units
Ammonia (as N)	3.37	0.01	2.78	0.01	mg/L
pH	6.74	N/A	7.46	N/A	pH
Total Kjeldahl Nitrogen	19.0	0.4	7.0	0.4	mg/L
Total Phosphorus (as P)	1.24	0.02	0.691	0.002	mg/L
Sample Description	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	
Sample Date	11/5/2022 3:00 PM	11/5/2022 11:00 PM	11/6/2022 7:00 AM		
Lab ID	1822691	1822692	1822693		
Microbiology	Result	MDL	Result	MDL	Units
Escherichia coli	376000 [3550000]	10000	1670000	10000	CFU/100mL



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 482394

Sample Description	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Sewage Plant Overflow	Units
Sample Date	11/5/2022 3:00 PM	11/5/2022 11:00 PM	11/6/2022 7:00 AM			
Lab ID	1822691	1822692	1822693			
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL
BOD (5 day)	54	6	18	6	17	6
Carbonaceous BOD	57	6	22 [23]	6	19	6
Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow	
Sample Date	11/5/2022 3:00 PM		11/5/2022 11:00 PM		11/6/2022 7:00 AM	
Lab ID	1822691		1822692		1822693	
Solids	Result	MDL	Result	MDL	Result	MDL
Total Suspended Solids	204	4	58.7	1.3	28.7	1.3
						mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.
 MDL: Method detection limit or minimum reporting limit.
 []: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.
 Quality Control: All associated Quality Control data is available on request.
 Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.
 Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.
 Reproduction of Report: Report shall not be reproduced, except in full, without the approval of Testmark Laboratories Ltd.
 ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.
 Regulation Comparisons: Disclaimer: Please note that regulation criteria are provided for comparative purposes, however the onus on ensuring the validity of this comparison rests with the client.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: 12-30-22 Time of Call: 12:50 a.m./p.m.

SAC Reference #: 1-2FQC4J Person Who Called: M. Lee

Called SAC at: 12:48 Reported ~~By~~ Sofia

Called MOH at: 12:50 Reported ~~By~~ _____

Bypass: _____ Spill: _____ Leak: _____ Overflow:

Location of Incident: WTP

Time of Incident: 12:30 a.m./p.m. Receiver: Littlebelle Creek

Details of Incident: Warm weather melt Rain

Downstream Users: None

Possible Effects on Receiver, Environment or Downstream Users: None

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272-4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: Dec 31 2022 Time of Call: _____ Person Contacted: _____

Time of Termination: 21:00 Approximate Volume: 1.300 Cu. Meters

Duration of Bypass: 8.25

Current Status: Chlorinating? Yes: _____ No: Explain: _____

Further Action Required: None

Reported By: M. Lee



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CERTIFICATE OF ANALYSIS

Client: Melissa Hoogenhoud
 Company: Town of Cochrane - Wastewater
 Address: 171 Fourth Ave, Box 490
 Cochrane, ON, P0L 1C0
 Phone: (705) 272-9093
 Email: Melissa.Hoogenhoud@cochraneontario.com

Work Order Number: 487086
 PO #: 11595
 Regulation: Information not provided
 Project #: Overflow
 DWS #:
 Sampled By: Andy Crickard

Date Order Received: 12/31/2022
 Arrival Temperature: 18 °C

Analysis Started: 12/31/2022
 Analysis Completed: 1/9/2023

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1838606	Wastewater	Grab		12/30/2022	12:45 PM
Sewage Plant Overflow	1838607	Wastewater	Grab		12/30/2022	9:00 PM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD) 5-Day	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD) 5-Day	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



TESTMARK Laboratories Ltd.

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 487086

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 487086

WORK ORDER RESULTS

Sample Description		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date		12/30/2022 12:45 PM		12/30/2022 9:00 PM		
Lab ID		1838606		1838607		
Anions	Result	MDL	Result	MDL	Units	
Nitrate (as N)	<0.05	0.05	<0.05	0.05	mg/L	
Nitrite (as N)	<0.05	0.05	<0.05	0.05	mg/L	
Sample Description		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date		12/30/2022 12:45 PM		12/30/2022 9:00 PM		
Lab ID		1838606		1838607		
General Chemistry		Result	MDL	Result	MDL	Units
Ammonia (as N)	6.9	0.1	8.9	0.1	mg/L	
pH	7.03	N/A	7.15	N/A	pH	
Total Kjeldahl Nitrogen	19.0	0.4	15.6	0.4	mg/L	
Total Phosphorus (as P)	2.44 [2.46]	0.02	1.61	0.02	mg/L	
Sample Description		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date		12/30/2022 12:45 PM		12/30/2022 9:00 PM		
Lab ID		1838606		1838607		
Microbiology		Result	MDL	Result	MDL	Units
Escherichia coli	3900000 [4000000]	100000	4900000	100000	CFU/100mL	



TESTMARK Laboratories Ltd.

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 487086

Sample Description	Result	MDL	Sewage Plant Overflow
Sample Date	12/30/2022 12:45 PM		12/30/2022 9:00 PM
Lab ID	1838606		1838607
Oxygen Demand	Result	MDL	Units
BOD (5 day)	150	30	mg/L
Carbonaceous BOD	130	30	mg/L
Sample Description	Result	MDL	Sewage Plant Overflow
Sample Date	12/30/2022 12:45 PM		12/30/2022 9:00 PM
Lab ID	1838606		1838607
Solids	Result	MDL	Units
Total Suspended Solids	442	4	mg/L
			7760
			10

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

Reproduction of Report: Report shall not be reproduced, except in full, without the approval of Testmark Laboratories Ltd.

ICPMS Dustfall Insoluble: The ICPMS Dustfall Insoluble Portion method analyzes only the particulate matter from the Dustfall Sampler which is retained on the analysis filter during the Dustfall method.

Regulation Comparisons: Disclaimer: Please note that regulation criteria are provided for comparative purposes, however the onus on ensuring the validity of this comparison rests with the client.

Calibration Reports



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ Portable Dissolved Oxygen Meter _____

OCWA ID: _____ **Serial #:** _____ 160900003927 _____

Start Day/Time: 23 / 03 / 22 @ 13 : 15 **End Day/Time:** 23 / 03 / 22 @ 13 : 30
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: DO

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description
1		6mm of Distilled water as per calibration instructions

Comments:

Shake 6mm (1/4") of water in a beaker for 30 seconds. Insert probe in beaker above water. Allow for probe to stabilize. Begin calibration.

Instrument Passed Calibration.

In good working order.

Name: _____ Dan Peplinski _____ **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ pH3 SensION + _____

OCWA ID: _____ **Serial #:** _____ 615107 _____

Start Day/Time: 09 / 03 / 21 @ 12 : 45 **End Day/Time:** 09 / 03 / 21 @ 13 : 00
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: _____ 1 _____ **Total Man Hours:** _____ 1/4 _____

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
pH 4.00	4.01		3.99	99.75%
pH 7.00	6.87		7.01	99.71%
pH 10.00	9.99		10.01	99.20%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description
1	2283449	Hach pH 4 Buffer
1	2283549	Hach pH 7 Buffer
1	2283649	Hach pH 10 Buffer

Comments:

Name: _____ Blake Dickinson _____ **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ Portable Dissolved Oxygen Meter _____

OCWA ID: _____ **Serial #:** _____ 160900003927 _____

Start Day/Time: 06 / 10 / 22 @ 12 : 15 **End Day/Time:** 06 / 10 / 22 @ 12 : 30
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: DO

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description
1		6mm of Distilled water as per calibration instructions

Comments:

Shake 6mm (1/4") of water in a beaker for 30 seconds. Insert probe in beaker above water. Allow for probe to stabilize. Begin calibration.

Instrument Passed Calibration.

In good working order.

Name: _____ Dan Peplinski _____ **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ HACH OCM Transmitter - Contact Flow _____

OCWA ID: _____ **Serial #:** _____ 120859005176 _____

Start Day/Time: 06 / 10 / 22 @ 11 : 45 **End Day/Time:** 06 / 10 / 22 @ 12 : 00
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
28 cm	28 cm	100%	28 cm	100%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description

Comments: _____

Performed 1 point calibration. Measured height of water at flume compared to measurement on flowmeter. Adjusted as needed.

Name: _____ Dan Peplinski _____ **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ HACH OCM Transmitter - East _____

OCWA ID: _____ **Serial #:** _____ PBD/E4170039 _____

Start Day/Time: 06 / 10 / 22 @ 12 : 30 **End Day/Time:** 06 / 10 / 22 @ 12 : 45
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
9.5cm	9.5cm	100%	9.5cm	100%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description

Comments: _____

Performed 1 point calibration. Measured height of water at flume compared to measurement on flowmeter. Adjusted as needed.

Name: _____ Dan Peplinski **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ HACH OCM Transmitter - Effluent Bypass _____

OCWA ID: _____ **Serial #:** _____ 120859005176 _____

Start Day/Time: 06 / 10 / 22 @ 11 : 45 **End Day/Time:** 06 / 10 / 22 @ 12 : 00
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
0.00cm	0.00cm	100%		

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description

Comments: _____

Performed 1 point calibration. Measured height of water at flume compared to measurement on flowmeter. No flow was present and the flowmeter was reading zero flow.

Name: _____ Dan Peplinski _____ **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ HACH OCM Transmitter - West _____

OCWA ID: _____ **Serial #:** _____ 120859005177 _____

Start Day/Time: 06 / 10 / 22 @ 11 : 15 **End Day/Time:** 06 / 10 / 22 @ 11 : 30
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
10.0cm	10.0cm	96.00%	10.0cm	100%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description

Comments:

Performed 1 point calibration. Measured height of water at flume compared to measurement on flowmeter. Adjusted as needed.

Name: _____ Dan Peplinski _____ **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ pH Portable SenSION PH3 _____

OCWA ID: _____ **Serial #:** _____ 615107 _____

Start Day/Time: 06 / 10 / 22 @ 12 : 15 **End Day/Time:** 06 / 10 / 22 @ 12 : 30
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
pH 4.00	pH 3.95	98.8%	pH 4.04	99.0%
pH 7.00	pH 6.88	98.3%	pH 7.08	98.9%
pH 10.00	pH 9.87	98.7%	pH 10.09	99.1%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description
1	2283449	Hach pH 4 Buffer
1	2283549	Hach pH 7 Buffer
1	2283649	Hach pH 10 Buffer

Comments: _____

Name: _____ Dan Peplinski _____ **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ Portable Dissolved Oxygen Meter _____

OCWA ID: _____ **Serial #:** _____ 160900003927 _____

Start Day/Time: 19 / 12 / 22 @ 11 : 30 **End Day/Time:** 19 / 12 / 22 @ 11 : 45
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: DO

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description
1		6mm of Distilled water as per calibration instructions

Comments: _____

Shake 6mm (1/4") of water in a beaker for 30 seconds. Insert probe in beaker above water. Allow for probe to stabilize. Begin calibration.

Instrument Passed Calibration.

In good working order.

Name: _____ Dan Peplinski _____ **Signature:** _____