## COCHRANE WATER / WASTE WATER SERVICES



**2021 ANNUAL REPORT** 

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### 2021 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;

FLO	ows
Total Flow	511, 050 cubic meters
Average Daily Flow	1, 396 cubic meters
Peak Hydraulic Flow	2, 647 cubic meters

### RAW SEWAGE RESULTS

RAW SEWAGE	MONTHLY AVERAGE RESULTS
BOD(5)	94.74 mg/l
TOTAL SUSPENDED SOLIDS	127.48 mg/l
TOTAL PHOSPHORUS	4.00 mg/l
TKN (as N)	60.22 mg/l
AMMONIA & AMMONIA NITROGEN	27.83 mg/l
рН	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)	2.63 mg/l
TOTAL SUSPENDED SOLIDS	3.84 mg/l
TOTAL PHOSPHORUS	0.14 mg/l
TKN (as N)	6.98 mg/l
AMMONIA	0.29 mg/l
CHLORINE RESIDUAL	0.0 mg/l
NITRITE	0.07 mg/l
NITRATE	23.39 mg/l
CBOD(5)	1.83 mg/l
E.COLI	67.05 CFU/100ml
WAS pH MAINTAINED BETWEEN 6.0-9.5 @ ALL TIMES?	Yes

The total flow in 2021 was 511,050 cubic meters which represents a 14 % decrease from 2020. The total flow in 2021 was 26 % of the average day flow design capacity.

The following represents removal efficiencies for the year 2021.

BOD(5)	88.92%
TOTAL SUSPENDED SOLIDS	95.89%
TOTAL PHOSPHORUS	95.77%
TKN (as N)	85.77%
AMMONIA	96.29%
AVERAGE REMOVAL EFFICIENCY	92.53%

The above represents an increase in overall operating efficiency of 2.5 % over the year 2021.

(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;
  - 1. Repairs to Auger Key and Bolt
  - 2. Installed strainer before backflow preventer on water line in pump room.
- (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 ultraviolent system
  - 5. Replaced filters on Blower

(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 2021 calibration records for the instrumentation at the Waste Water Treatment Plant. In 2022 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 2021.

(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 2022 should be equal to or less than that of 2021 as the Plant is operating at or close to its maximum efficiency.

#### SLUDGE VOLUME HAULED

YEAR	SLUDGE AMOUNT HAULED
2017	2484 M3
2018	2685 M3
2019	3504 M3
2020	3161 M3
2021	4325 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;

We have received a complaint from customer due to odor, after investigation issues of odor was coming from neighbors not from the plant.

(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 7 overflows for the year 2021.

DATE	ТҮРЕ	DURATION (hours)	FLOW (m3)
2021/03/11	Overflow	4.5	183.7
2021/03/20	Overflow	5.5	82
2021/03/21	Overflow	14.5	437
2021/03/24	Overflow	26.5	866

2021/04/08		6.25	647
	Overflow		
2021/05/22		5.25	730
	Overflow		
2021/12/16		24.5	1,512.2
	Overflow		

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.

(1) 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;

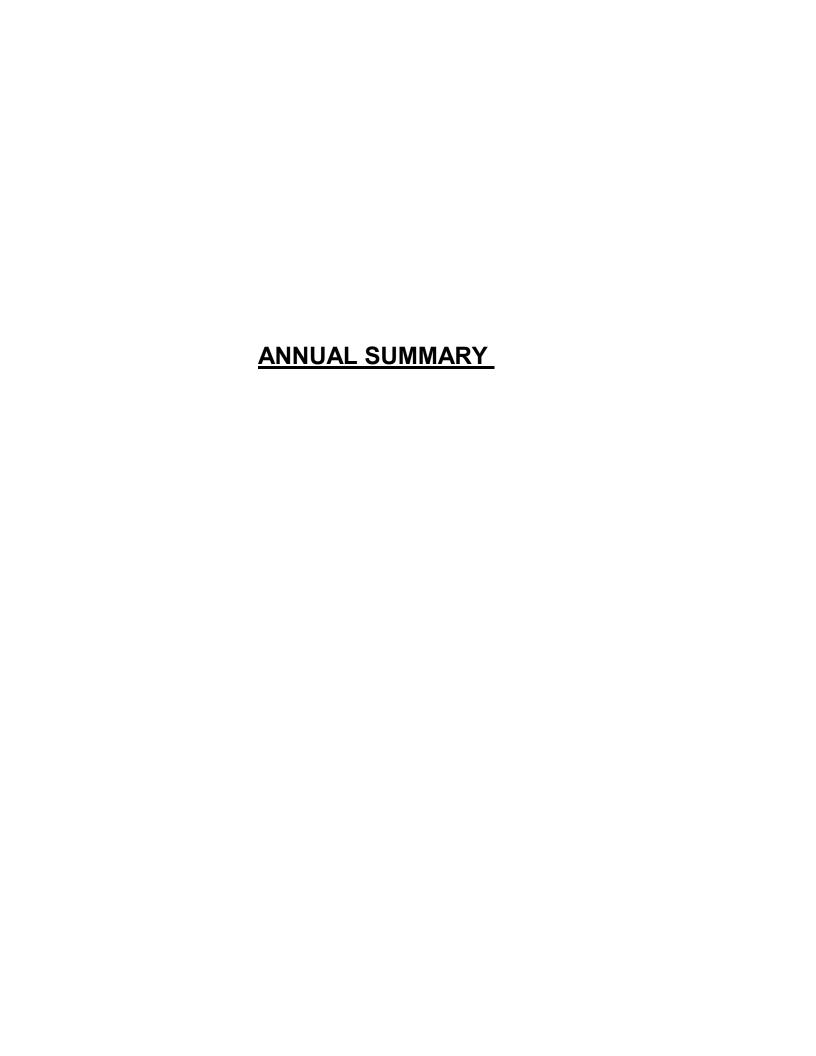
#### None

(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 2021. 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 2021**

Municipality: Cochrane (PUC)

Project Name: Cochrane Water Pollution Control Plant

Project Number: **120000355** 

Project Location: Cochrane, ON

						Project Loca	auon.	Cocinani	5, ON								
<u>Month</u>	<u>Parameter</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	August	September	October	November	December	<u>TOTAL</u>	AVERAGE	MAXIMUM	MINIMUM
	Total Flow	27358.63	17618.38	63718.5	65766.15	55105.14	43102.62	37959.53	34955.27	43833.24	46885.25	38024.8	36722.58	511050.09	42587.508	65766.15	17618.38
Influent	Peak Rate	1612.6	1242.5	5479	4980.6	2539.8	2446.82	1803	2399	2179	2439	1832	2812.3	31765.62	2647.14	5479	1242.5
Bypass	Plant-Vol.			1568.75	647	729.9							1512.2	4457.85	1114.46	1568.75	647
	Time - Hrs			51	6.25	5.25							24.5	87	21.75	51	5.25
Raw	Susp. solids	220	105	77	66.3	29.5	263	169	130	230	84	60	96	1529.8		263	29.5
	BOD	74.2	130	73	49	17	3.7	120	130	170	130	120	120	1136.9		170	3.7
	TKN	111	46.8	140	30.7	18.5	67.1	38.2	37.3	64	36.3	72.3	60.4	722.6		140	18.5
	Phosphorus	5.69	4.47	4.18	1.82	1.56	4.48	3.34	4.8	6.31	4.14	3.64	3.51	47.94		6.31	1.56
	Ammonia	42.8	30.7	53.8	17.2	10.8	27.5	3.28	28.2	39.9	19	31.5	29.3	333.98		53.8	3.28
	Nitrate	0.05	0.01	0.1	0.05	0.57	0.05	0.1	0.05	0.05	0.05	0.05	0.05	1.18		0.57	0.01
	Nitrite	0.05	0.01	0.1	0.47	0.44	0.05	0.1	0.05	0.05	0.05	0.05	0.05	1.47	_	0.47	0.01
	Phosphate	10.9	8.02	5.52	2.92	2.5	5.82	5.26	7.28	12	9.86	3.6	4.09	77.77		12	2.5
	pH	7.26	7.29	7.27	7.53	7.54	7.4	7.47	7.73	7.88	7.43	7.3	7.32	89.42		7.88	7.26
	CBOD	68.7	110	75.5	33	23	170	64	98	120	110	110	110	1092.2	91.02	170	23
Effluent	Susp. solids	3.3	5.7	3.5	10.3	3	4	4.3	3	2.3	0.67	3	3	46.07		10.3	0.67
	BOD	1.5	2.5	6.7	4.1	1.3	3.5	2.8	2.3	1.7	1.7	1.6	1.8	31.5		6.7	1.3
	Phosphorus	0.0817619	0.0977368			0.14		0.14808	0.2425833	0.1387727		0.1461304	0.1275	1.7355112		0.2425833	0.0817619
	Ammonia	0.1590476	0.2021053		0.118	0.0977273		1.1908	0.2354167	0.2005	0.26	0.16	0.2227273				
	Nitrate	25.1	28	31	12	10.2	22.9	16.1	29.7	25.2	25.2	30.1	25.2	280.7		31	10.2
	Nitrite	0.05	0.1	0.05	0.05	0.05	0.05	0.23	0.05	0.05	0.05	0.05	0.05	0.83		0.23	0.05
	TKN	0.4	4.3	10.9	4.5	3.6	8.2	17.5	3.3	8.6	3.9	9.5	9.1	83.8		17.5	0.4
	CBOD	0.8	1.6	4	2.7	1.5	2.3	1.6	1.6	1.1	1.6	1.4	1.8	22		15.2	0.035
	Phosphate	0.09	0.057	0.4	0.171	0.078	15.2	0.035	0.174	0.171	0.199	0.128	0.125	16.828		525	0.035
	E.Coli	7.25	5.5	28	14.75	525	12	15.25	60	33.75	45.5	41.6	16	804.6		525	5.5
	Acute Lethality		0					0				0		0	0.00	0	0
Date																	
	Air Used																
	Influent Temp	12.190476	11.3	10.269565	9.959		14.905556		16.2875	16.027273	15.212857		12.922727			16.2875	9.959
	Influent pH		8.0321053		7.753	7.5268182	7.52	7.5075	7.5545833	7.6081818			7.8313636			8.0321053	
	Aeration Temp.	9.65	8.109375	8.8805		13.180952	15.76	16.43913	24.9	16.084211	15.27	12.036842	9.4	159.6689		24.9	8.109375
	30 Min. S.S.	36.531579	35.2	25.9		58.105263			27.095238	31.368421			32.972222			58.105263	25.9
	D.O. % Level	8.7331579	5.786875	4.9995	5.0789474	5.41	3.092	5.386087	5.4795238	4.9647368	5.8236842		5.4378947			8.7331579	3.092
	Effluent pH	7.1631579	7.115625	6.815	9.98	7.1985714	7.104	16.34	6.6809524	6.8636842 16.127273	6.8995 15.080952	6.654	6.7673684			7.1985714 17.741667	6.654
	Effluent Temp	9.6428571	7.8094737	8.4608696	9.98	13.030304	15.561111	10.34	17.741667	10.12/2/3	15.080952	12.022121	9.6181818	151.42148	12.02	17.741007	7.8094737
Plant	Wasting Vol. m3	46540.8	33277.86	99510.23	103710.63	84910.97	68413.61	60590.35	45059.06	52152.97	56390	45965.29	46603	743124.77		0	0
	Chlorine (Kg)													0			
	CI Dosage (mg/l)				_									0		0	0
	Cl Residual(mg/l)	0.0005316	0	0	0	0.0000	0.0085333	0	0	0	0	0	0.0006	0.0096649		0.0085333	0
	Cl2 in Creek													0	#DIV/0!	0	0
Grit	Hauled (Volume)													0	0.00	0	0
Sludge Haule	d Liquid Volume	400.0561	491	519.25		490.98212	501.91127	696.50612	211.98	258.92217	151.42	384.31097	218.7968	4325.1356			
l nadina ma/l	L Phosphorus	0.0721570	0.0614987	0.3005665	U 31/3303	0.2550722	U 1863780	0 1813241	0.2735344	0.2027640	0 2812305	0 1852104	0 1510364	2 //50102	0.2062516	0.31/(3202	0.061/097
Loaumy my/L	BOD	_	1.5730696						2.5934555						4.0194308		
	Suspended Solids		3.5865988						3.3827681		1.0133264				5.6442293		
	Suspended Solids	2.9123703	J.3003988	1.1940242	22.319112	0.3327333	3.747010	5.2055542	J.J0Z/081	J.J0UJ484	1.0133204	J.0UZ48	J.JJJJ1 98 I	01.130151	0.0442293	22.319112	1.0133204

## PERFORMANCE ASSESSMENT REPORTS

			XXXXXX	(XXXXXXXX	XXXXXXX	XXXXX	xxxxxxxx	XXXXXXXX	XXXXXXXX	NT PLANT	R TREATME	STEWATE	HRANE WA	XXXXX COC	XXXXXXX	(XXXXXXX	XXXXXXXX	XXXXXXX	XXXXXXX
									SMENT REP										
							2021			YEAR:						COCHRANE	TOWN OF C	_ITY:	JNICIPAI
					River	/ Abitibi	Lillabelle Lake		URSE:	WATER CO						VPCP	Cochrane V		ROJECT:
						s / day	5,600 cu. Mete		APACITY:	DESIGN CA						55	No. 120003	NUM.:	ROJECT
											<u></u>					eration	Extended A	ON:	ESCRIPT
				<del> </del>										<del></del>					
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CAUSTIC	C	CTION	DISINFE		c	SPHORUS	DHO		IDC	ENDED SOL	CHED		MAND	IICAL O2 DEN	DIOCUEM		FLOWS		MONTH
	AVG	KG.S	AVG	PERCENT				DERCENT	410001000001000100000100010			DEDCENT		AVG EFF		MAX DAY	AVG DAY	TOTAL	MONTH
	DOSE	USED	CL2 RES	REMOVAL		PHOS.		REMOVAL		SS	SS	REMOVAL		BOD	BOD	FLOW	FLOW	FLOW	
	(mg/L)	UULD	(mg/L)	TEMOVAL	(mg/L)	mg/L)		KLINIOVAL	(mg/L)	(mg/L)	(mg/L)	I LIVIOVAL	(mg/L)	(mg/L)	(mg/L)	1000M3	1000M3	1000M3	
<u>'9'-7</u>	(mg/L)		0.0005	98.6	0.07	0.08	5.7	98.5				98.0	1.32		74.2	1.613	0.883	27.36	JAN
			0.0000		0.06	0.10	4.5				105.0	98.1	1.57	2.50	130.0	1.243	0.629	17.62	FEB
			0.0000		0.31	0.15	4.2					90.8	13.77	6.70	73.0	5.479	2.055	63.72	MAR
			0.0000		0.31	0.14	1.8			10.30		91.6	8.99	4.10	49.0	4.981	2.192	65.77	APR
			0.0000		0.25	0.14	1.6	+				92.4	2.31	1.30	17.0	2.540	1.778	55.11	MAY
	-		0.0085		0.19	0.13	4.5	1	1	4.00		5.4	5.03	3.50	3.7	2.447	1.437	43.10	JUN
			0.0000		0.18	0.15	3.3					97.7	3.43	2.80	120.0	1.803	1.225	37.96	JUL
			0.0000		0.27	0.24	4.8	97.7	3.38	3.00	130.0	98.2	2.59	2.30	130.0	2.399	1.128	34.96	AUG
			0.0000	97.8	0.20	0.14	6.3	99.0	3.36	2.30	230.0	99.0	2.48	1.70	170.0	2.179	1.461	43.83	SEP
			0.0000	95.5	0.28	0.19	4.1	99.2	1.01	0.67	84.0	98.7	2.57	1.70	130.0	2.439	1.512	46.89	OCT
			0.0006	96.0	0.19	0.15	3.6	95.0	3.80	3.00	60.0	98.7	2.03	1.60	120.0	1.832	1.268	38.03	NOV
			0.0097	96.4	0.15	0.13	3.5	96.9	3.56	3.00	96.0	98.5	2.13	1.80	120.0	3.672	1.185	36.72	DEC
								100.0			67.7							511.051	OTAL
DIV/0! #DIV/0!	#DIV/0!	#DIV/0!	0.0016	95.77		0.14	4.0	95.89		3.84	145.0	88.92		2.63	94.7		1.396		VG
0.0 0.00	0.0	0.00	0.0097			0.24	6.3				6.0			6.70	100.0	5.479			AX
						1.00			230.00	20.00	4.0		230.00	20.00		11.500	5.600		RITERIA
										l	4.4								
						3	YE		<u> </u>	YES				YES			YES	CE	OMPLIAN
														<del>                                     </del>					
						$\longrightarrow$							$\longrightarrow$	<del></del>					
				1										-				C.	OMMENT
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		+		+		$\rightarrow$							+						
		+		+									+						
																		S:	COMMENT

				SEWAG	E PERFORI	MANCE ASS	ESSMENT I	REPORT					
MUNICIPAL	LITY:	TOWN OF	COCHRANE					YEAR:		2021			
PROJECT:		COCHRAN	E WPCP					WATER CO	URSE:	LILLABELLE	LAKE / ABITIBI RIVE	R	
WORKS NU	JMBER:	12000355						DESIGN CA	APACITY:	5,600 cu. me	ters/day		
DESCRIPTI	ION:	Extended	Aeration										
MONTH													
	NITRATE	NITRATE	NITRITE	NITRITE	AMMONIA	AMMONIA	PERCENT	TKN	TKN	PERCENT	PHOSPHATE	PHOSPHATE	PERCENT
	INFLUENT	EFFLUENT			INFLUENT	EFFLUENT	REMOVAL	INFLUENT	EFFLUENT	REMOVAL	RAW <sup>1</sup>	EFFLUENT <sup>2</sup>	REMOVAL
	(mg/l)	(mg/l)	(mg/l)	(mg/L)	(mg/L)	(mg/l)		(mg/L)	(mg/l)		(mg/L)	(mg/l)	
JAN	0.05	25.10	0.05	0.05	42.80	0.16	99.63	111.00	0.40	99.64	10.90	0.09	99.17
FEB	0.01	28.00	0.01	0.10	30.70	0.20	99.34	46.80	4.30	90.81	8.02	0.06	99.29
MAR	0.10	31.00	0.10	0.05	53.80	0.34	99.37	140.00	10.90	92.21	5.52	0.40	92.75
APR	0.05	12.00	0.47	0.05	17.20	0.12	99.31	30.70	4.50	85.34	2.92	0.17	
MAY	0.57	10.20	0.44	0.05	10.80	0.10	99.10	18.50	3.60	80.54	2.50	0.08	96.88
JUN	0.05	22.90	0.05	0.05	27.50	0.28	98.98		8.20	87.78	5.82	15.20	-161.17
JUL	0.10	16.10	0.10	0.23			63.72	38.20	17.50	54.19	5.26	0.04	99.33
AUG	0.05	29.70	0.05	0.05			99.17	37.20	3.30	91.13	7.28	0.17	97.61
SEPT	0.05		0.05	0.05			99.50		8.60	<del>                                     </del>	12.00	0.17	
OCT	0.05		0.05				98.63		3.90		9.86	0.20	
NOV	0.05		0.05	0.05			99.49		9.50		3.60	0.13	
DEC	0.05	25.20	0.05	0.05	29.30	0.22	99.25	60.40	9.10	84.93	4.09	0.13	96.94
TOTAL													
AVG	0.10	23.39		0.07	27.83	0.29	96.29	60.21	6.98	85.77	6.48	1.40	75.66
MAX													
CRITERIA													
COMMENT	s.												
COMMENT	<u>.                                    </u>												
		1	1	1			1	1	1				1

## BYPASS SUMMARY NOTIFICATION AND LAB RESULTS

ACILITY NAM	<u> </u>	Cochrane Waste W	ater Treatme	nt Plant			YEAR:	2021						
ATE:	<b>-</b> !	Cociliane waste w	ater meatine	iii Fiaiii			12344	2021			Sample	Results		
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*	BOD5 (mg/L)	SS (mg/L)	TP (mg/L)	E.Coli (/100ml)	
2021-03-11	STP	STPO	16:00	4.5	183.7	Е	N	N	2	30	240	1.45	189000	
2021-03-20	STP	STPO	17:20	5.5	82	E	N	N	2	82.5	231.5	2.55	1615000	
2021-03-21	STP	STPO	15:45	14.5	437.38	Е	N	N	2	52	122.33	1.713	2733333	
2021-03-24	STP	STPO	17:00	26.5	865.92	Е	N	N	2	18.96	90.9	0.8766	1496000	
2021-04-08	STP	STPO	8:15	6.25	647	Е	N	N	1	40.55	190.5	1.515	2900000	
2021-05-22	STP	STPO	20:50	5.25	729.9	Е	N	N	1	85.5	275	1.6405	116000	
2021-12-16	STP	STPO	11:00	24.5	1512.2	E	N	N	1	169.93	288	1.221	3400000	
egend B = Primary By			M = Measured		Y = Yes		*Reason Codes: 1 = Heavy Prec	•		6 = Process	•			
SB = Secondary Bypass E = Estimated STPO = Sewage Treatment Plant Overflow CSO = Combined Sewer Overflow SSO = Sanitary Sewer Overflow STWO = Satellite Treatment Works Overflow						3 = Infiltration 8				8 = Unknow	7 = Power Outages 8 = Unknown 9 = Other, please comment below.			

## 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: $\underline{Merck}$ 11 $\underline{\partial\partial\mathcal{M}}$ Time of Call: $\underline{17.05}$ a.m./p.m.
SAC Reference #: 904925 Person Who Called: Milee Melson
Called SAC at: 1770 Reported By: Chacera
Called MOH at:/ 7 : / 3 Reported By"
Bypass:
Location of Incident: Coch rene SIP
Time of Incident: 18:00 a.m./p.m Receiver: Latabélia Creek
Details of Incident: The
Downstream Users:
Possible Effects on Receiver, Environment or Downstream Users: NIC 9049
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: 03/11/21 Time of Call: 20:45 Person Contacted: 1/a 1 de ~
Time of Termination: 18, 30 Approximate Volume: 183.7 Cu. Meters
Duration of Bypass: 45
Current Status: Chlorinating? Yes: No: Explain:
Further Action Required: NONB
Reported By:

SForm.014.Bypa.2013



3/12/2021 3/22/2021	Analysis Started: Analysis Completed:	3/12/2021 18 °C	Date Order Received: 3/12/2021 Arrival Temperature: 18 °C
Mike Nelson	Sampled By:	Melissa.Hoogenhoud@cochraneontario.com	Email:
	DWS #:	(705) 272-4232 / (705) 272-2634	Phone/Fax:
Overflow	Project #:	Cochrane, ON, P0L 1C0	
Information not provided	Regulation:	171 Fourth Ave, Box 490	Address:
	PO#:	Town of Cochrane - Wastewater	Company:
: 425167	Work Order Number:	Melissa Hoogenhoud	Client:

# WORK ORDER SUMMARY

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

/erflow         1625215         Wastewater         Grab         3/11/2021           /erflow 02         1625216         Wastewater         Grab         3/11/2021	Sample Description	Lab ID	Matrix	Туре	Comments	Date Collected	Time Collected
)2 1625216 Wastewater Grab 3/11/2021	Sewage Plant Overflow	1625215	Wastewater	Grab		3/11/2021	6:40 PM
	Sewage Plant Overflow 02	1625216	Wastewater	Grab		3/11/2021	8:30 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)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	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



Town of Cochrane - Wastewater

This report has been approved by:

.

Adam Tam, M.Sc. Laboratory Director

CERTIFICATE OF ANALYSIS

Work Order Number: 425167

Work Order Number: 425167

Town of Cochrane - Wastewater

# WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow 02	Overflow 02	
Sample Date	3/11/2021 6:40 PM	6:40 PM	3/11/2021 8:30 PM	8:30 PM	
Lab ID	1625215	215	1625216	216	
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	nt Overflow	Sewage Plant Overflow 02	Overflow 02	
Sample Date	3/11/2021 6:40 PM	6:40 PM	3/11/2021 8:30 PM	8:30 PM	
Lab ID	1625215	215	1625216	216	
General Chemistry	Result	MDL	Result	MDL	Units
Ammonia (as N)	5.77	0.02	8.11 [8.02]	0.02	mg/L
pН	7.23	N/A	7.24	N/A	РН
Total Kjeldahl Nitrogen	14.2	0.4	20.3	0,4	mg/L
Total Phosphorus (as P)	1.30	0.02	1,61	0.02	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow 02	Overflow 02	
Sample Date	3/11/2021 6:40 PM	6:40 PM	3/11/2021 8:30 PM	8:30 PM	
LabID	1625215	215	1625216	216	
Microbiology	Result	MDL	Result	MDL	Units
Escherichia coli	178000 [>200000]	1000	>200000	1000	CFU/100mL

Town of Cochrane - Wastewater

Work Order Number: 425167

Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow 02	Overflow 02	
Sample Date	3/11/2021 6:40 PM	6:40 PM	3/11/2021 8:30 PM	8:30 PM	
Lab ID	1625215	215	1625216	216	
Oxygen Demand	Result	MDL	Result	MDL	Units
BOD (5 day)	30	ω	30.1	ω	mg/L
Carbonaceous BOD	23	ယ	30.4	ω	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow 02	Overflow 02	
Sample Date	3/11/2021 6:40 PM	6:40 PM	3/11/2021 8:30 PM	8:30 PM	
Lab ID	1625215	215	1625216	216	
Solids	Result	MDL	Result	MDL	Units
Total Suspended Solids	228	4	252	4	mg/L

### LEGEND

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

[rr]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

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.

## 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: Morel 20 2021			
Reference #: 904 931	Person Who Ca	alled: Mike	1 elson
Office Called: See	Reported By:	may well	55
Bypass:Spill:	Leak:	_Overflow:	V
Location of Incident:			
Time of Incident: / 7; 10 a.m./p.m. R	eceiver:	shelle (	Treel
Details of Incident: 505 1	a raid		
- TAT			
Downstream Users:	= > 8		
Possible Effects on Receiver, Environment			
NOTE: Take 2 Raw Sewage Samples Per In the overflow:  1. 5-day BOD and CBOD, Suspended Addition Calls  Town Hall: Phone No. 272-4361 Fax 1	Solids, pH, TKN and To	otal phosphorus	:
Details of Call:			
Termination of Incident			
Date: 10.17   2001 Time of Call: 10.17	Person Contacted:	Neil	Honilton
Time of Termination: <u>22:30</u> Appro	oximate Volume:	71. 75 Cu. 1	Meters
Current Status: Chlorinating? Yes:1			
Further Action Required:	14		
Reported By: Mila 1250		SForm.014.Bypa.2	2013



Date Order Received: 3/22/2021 Arrival Temperature: 17 °C	Phone/Fax: Email:	Company: Address:	Client:
3/22/2021 17 °C	(705) 272-4232 / (705) 272-2634 Melissa.Hoogenhoud@cochraneontario.com	Town of Cochrane - Wastewater 171 Fourth Ave, Box 490 Cochrane ON P0I 100	Melissa Hoogenhoud
Analysis Started: Analysis Completed:	DWS #: Sampled By:		Work Order Number:
3/22/2021 3/30/2021	Mike Nelson	Information not provided	425705

# WORK ORDER SUMMARY

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

Sample Description	Lab ID	Matrix	Туре	Comments	Date Collected	Time Collected
Sewage Plant Overflow #1	1626915	Wastewater	Grab		3/20/2021	5:40 PM
Sewage Plant Overflow #2	1626916	Wastewater	Grab		3/20/2021	10:25 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)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	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



Town of Cochrane - Wastewater

This report has been approved by:

**CERTIFICATE OF ANALYSIS** 

Work Order Number: 425705

Adam Tam, M.Sc.

Laboratory Director

Date of Issue: 03/30/2021 16:55

Work Order Number: 425705

# Town of Cochrane - Wastewater

# WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow #1	Overflow #1	Sewage Plant Overflow #2	Overflow #2	
Sample Date	3/20/2021 5:40 PM	5:40 PM	3/20/2021 10:25 PM	0:25 PM	
Lab ID	1626915	915	1626916	116	
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 #1	Overflow #1	Sewage Plant Overflow #2	Overflow #2	
Sample Date	3/20/2021 5:40 PM	5:40 PM	3/20/2021 10:25 PM	0:25 PM	
Lab ID	1626915	915	1626916	)16	
General Chemistry	Result	MDL	Result	MDL	Units
Ammonia (as N)	4.43	0,01	6.86	0.02	mg/L
рН	7.09	N/A	7.11	N/A	pΗ
Total Kjeldahl Nitrogen	72,1	0.8	20.0	0.4	mg/L
Total Phosphorus (as P)	3.53	0.02	1.57	0.02	mg/L
Sample Description	Sewage Plant Overflow #1	Overflow #1	Sewage Plant Overflow #2	Overflow #2	
Sample Date	3/20/2021 5:40 PM	5:40 PM	3/20/2021 10:25 PM	0:25 PM	
Lab ID	1626915	915	1626916	116	
Microbiology	Result	MDL	Result	MDL	Units
Escherichia coli	2200000 [3400000]	100000	10300000	100000	CFU/100mL

Date of Issue: 03/30/2021 16:55

Town of Cochrane - Wastewater

Work Order Number: 425705

	!	1	!	;	
Sample Description	Sewage Plant Overflow #1	: Overflow #1	Sewage Plant Overflow #2	Overflow #2	
Sample Date	3/20/2021 5:40 PM	5:40 PM	3/20/2021 10:25 PM	10:25 PM	
Lab ID	1626915	915	1626916	916	
Οχygen Demand	Result	MDL	Result	MDL	Units
BOD (5 day)	120	30	45	6	mg/L
Carbonaceous BOD	130	30	13.8	_	mg/L
Sample Description	Sewage Plant Overflow #1	Overflow #1	Sewage Plant Overflow #2	Overflow #2	
Sample Date	3/20/2021 5:40 PM	5:40 PM	3/20/2021 10:25 PM	10:25 PM	
Lab ID	1626915	915	1626916	916	
Solids	Result	MDL	Result	MDL	Units
Total Suspended Solids	378	ហ	85	2	mg/L

### LEGEND

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

[rr]: After a parameter name indicates a re-run of that parameter, If multiple re-runs exist they are suffixed by a number, Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

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.

## 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: March 2121	Time of	f Call: 16.	26	a.m./p.m/
Reference #: 904932	Person	Who Called:	mile	Nelson
Office Called: Sac Spill: Spill:	70 Reported <del>By</del> :_	Brenda		
Bypass:Spill:	Leak:	Overf	low:	
Location of Incident: Coch reve	STP			
Time of Incident: 15:45 a.m./p.m. Red	ceiver:	Llabelle	Cre	210
Details of Incident:				
Downstream Users:  Possible Effects on Receiver, Environment of				
NOTE: Take 2 Raw Sewage Samples Per Inthe overflow:  1. 5-day BOD and CBOD, Suspended Sometime Calls Town Hall: Phone No. 272-4361 Fax Note Details of Call:	olids, pH, TKN	I and Total pho	sphorus	
Tourningtion of Incident				
Date: MAR 27/21 Time of Call: 134/	Person Cor	ntacted: Calr	Badge	#1284
Time of Termination: 6700 / Approx	cimate Volume	: 437,38	Cu. M	eters
Current Status: Chlorinating? Yes: No	o: Expla	in:		
Further Action Required: No	Ne			
Reported By: Rob mirable gave ORO # didn't know wh		sive SForm.O:	14.Bypa.201	.3



Date Order Received: Arrival Temperature:	Address: Phone/Fax: Email:	Client:
3/23/2021 19 °C	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0 (705) 272-4232 / (705) 272-2634 Melissa.Hoogenhoud@cochraneontario.com	Melissa Hoogenhoud
Analysis Started: Analysis Completed:	Regulation: Project #: DWS #: Sampled By:	Work Order Number:
3/24/2021 3/30/2021	Information not provided Overflow Mike Nelson	425845

# WORK ORDER SUMMARY

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

Sample Description	Lab ID	Matrix	Туре	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1627419	Wastewater	Grab		3/21/2021	4:19 PM
Sewage Plant Overflow	1627420	Wastewater	Grab		3/21/2021	11:10 PM
Sewage Plant Overflow	1627421	Wastewater	Grab		3/22/2021	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)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	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



Town of Cochrane - Wastewater

This report has been approved by:

CERTIFICATE OF ANALYSIS

Work Order Number: 425845

Adam Tam, M.Sc.

Laboratory Director

Town of Cochrane - Wastewater

# WORK ORDER RESULTS

Sample Description Sample Date Lab ID Anions Nitrate (as N) Nitrite (as N)	Sewage Plant Overflow  3/21/2021 4:19 PM  1627419  Result MDL  <0.05 0.05  <0.05 0.05  Sewage Plant Overflow	Int Overflow  14:19 PM  7419  MDL  0.05  0.05	Sewage Plant Overflow  3/21/2021 11:10 PM  1627420  Result MDL  <0.05 0.05  0.18 0.05  Sewage Plant Overflow	nt Overflow 11:10 PM 420 MDL 0.05 0.05	Sewage Plant Overflow  3/22/2021 7:00 AM  1627421  Result MDL  0.32 0.05  0.63 0.05  Sewage Plant Overflow	7:00 AM 7:00 AM 421 0.05 0.05
Anions	Result	MDL	Result	MDL	Result	
Nitrate (as N)	<0.05	0.05	<0.05	0.05	0.32	
Nitrite (as N)	<0.05	0.05	0.18	0.05	0.63	
Sample Description	Sewage Pla	nt Overflow	Sewage Pla	nt Overflow	Sewage Pla	nt Ov
Sample Date	3/21/2021 4:19 PM	14:19 PM	3/21/2021 11:10 PM	11:10 PM	3/22/2021 7:00 AM	7:00
Lab ID	1627419	7419	1627420	420	1627421	421
General Chemistry	Result	MDL	Result	MDL	Result	MDL
Ammonia (as N)	3.85	0.01	4.52	0.01	15.8	
pH	7.19	N/A	7.37	N/A	7,58	
Total Kjeldahl Nitrogen	10.9	0.4	15.1	0,4	21.0	
Total Phosphorus (as P)	1.05	0.02	1.43	0.02	2.66	0.02
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Ove
Sample Date	3/21/2021 4:19 PM	4:19 PM	3/21/2021 11:10 PM	11:10 PM	3/22/2021 7:00 AM	7:00 A
Lab ID	1627419	7419	1627420	420	1627421	421
Microbiology	Result	MDL	Result	MDL	Result	MDL
Escherichia coli	800000	100000	1700000	100000	5700000	100000

Town of Cochrane - Wastewater

Work Order Number: 425845

Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflo	nt Overflow	
Sample Date	3/21/2021 4:19 PM	4:19 PM	3/21/2021 11:10 PM	11:10 PM	3/22/2021 7:00 AM	7:00 AM	
Lab ID	1627419	419	1627420	420	1627421	421	
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	50	6	28	6	78	30	mg/L
Carbonaceous BOD	42	6	49	6	57	6	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	
Sample Date	3/21/2021 4:19 PM	4:19 PM	3/21/2021 11:10 PM	11:10 PM	3/22/2021 7:00 AM	7:00 AM	
Lab ID	1627419	419	1627420	420	1627421	421	
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	143.0	2.5	122	2	102.0	2.2	mg/L

### **LEGEND**

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

[rr]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

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.

### 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: Merch 24 2001	Time of Cal	1:	
Date: <u>Merch</u> 24 2001  Reference #:	Person Who	Called: Mila	Nelson
Office Called: Sac  Spill: Spill:	40		
Location of Incident: Cochrue			
Time of Incident: 17:00 a.m./p.m. R  Details of Incident: 5 pros 1	eceiver: 4, La	ibelle Co	rcek
Downstream Users:			· · · · · · · · · · · · · · · · · · ·
NOTE: Take 2 Raw Sewage Samples Per I the overflow:  1. 5-day BOD and CBOD, Suspended Addition Calls Town Hall: Phone No. 272- 4361 Fax I Details of Call:	Solids, pH, TKN and	l Total phosphorus	s
Termination of Incident			
Date: <u>03 25 21</u> Time of Call: <u>20:15</u>	Person Contacto	ed: M 6 7 4 64	
Time of Termination: / 1975 Appro	oximate Volume: $\underline{\mathcal{S}}$	65.92 Cu.	Meters
Current Status: Chlorinating? Yes: 1	No: Explain:_	-di	
Further Action Required:	ONE		
Reported By: Miles Adson		SForm.014.Bypa.:	2013

Client:	Melissa Hoogenhoud	Work Order Number:	426149
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490	Regulation:	Information not provided
	Cochrane, ON, POL 1C0	Project #:	Overflow
Phone/Fax:	(705) 272-4232 / (705) 272-2634	DWS #:	
Email:	Melissa. Hoogenhoud@cochraneontario.com	Sampled By:	Mike Nelson
Date Order Received: Arrival Temperature:	3/26/2021 16 °C	Analysis Started: Analysis Completed:	3/26/2021 4/5/2021

## **WORK ORDER SUMMARY**

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

Sample Description	Lab ID	Matrix	Туре	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1628376	Wastewater	Grab		3/24/2021	5:15 PM
Sewage Plant Overflow	1628377	Wastewater	Grab		3/24/2021	11:15 PM
Sewage Plant Overflow	1628378	Wastewater	Grab		3/25/2021	7:00 AM
Sewage Plant Overflow	1628379	Wastewater	Grab		3/25/2021	3:00 PM
Sewage Plant Overflow	1628380	Wastewater	Grab		3/25/2021	7:50 PM

# **METHODS AND INSTRUMENTATION**

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

Method Ammonia Water (A42) Anions Water (mg/L by IC) (A5) BOD (A3) CBOD (A3) E.coli by MF on mFC-BCIG (A10)	Lab Timmins Timmins Kirkland Lake Kirkland Lake Timmins	Description  Determination of Ammonia/Ammonium in Water  Determination of Anions in Water by Ion Chromatography  Determination of Biochemical Oxygen Demand (BOD)  Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).  Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Reference Modified from EPA 350.1 Modified from SW46-9056A Modified from SM-5210 B Modified from SM-5210-B Modified from MOE E3371
oH 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

Page 1 of 6



Town of Cochrane - Wastewater

Work Order Number: 426149

Method	Lab	Description	Reference
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

This report has been approved by:

Adam Tam, M.Sc.

Laboratory Director



Town of Cochrane - Wastewater

Work Order Number: 426149

## **WORK ORDER RESULTS**

Sample Description	Sewage Plant Overflow	nt Overflow							
Sample Date	3/24/2021 5:15 PM	5:15 PM	3/24/2021 11:15 PM	11:15 PM	3/25/2021 7:00 AM	7:00 AM	3/25/2021 3:00 PM	3:00 PM	
Lab ID	1628376	376	1628377	377	1628378	378	1628379	379	
Anions	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Nitrate (as N)	<0.05	0.05	1.94	0.05	2.21	0.05	1.39	0.05	mg/L
Nitrite (as N)	<0.05	0.05	0.24	0.05	<0.05	0.05	0.36	0.05	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow							
Sample Date	3/25/2021 7:50 PM	7:50 PM							
Lab ID	1628380	380							
Anions	Result	MDL	Units						
Nitrate (as N)	1.20	0.05	mg/L						
Nitrite (as N)	0.39	0.05	mg/L						
Sample Description	Sewage Plant Overflow	nt Overflow							
Sample Date	3/24/2021 5:15 PM	5:15 PM	3/24/2021 11:15 PM	11:15 PM	3/25/2021 7:00 AM	7:00 AM	3/25/2021 3:00 PM	3:00 PM	
Lab ID	1628376	376	1628377	377	1628378	378	1628379	379	
General Chemistry	Result	MDI	Result	MDL	Result	MDL	Result	MDL	Units
Ammonia (as N)	4.45	0.01	6.33	0.02	3.82	0.01	4.09	0.01	mg/L
Hd	7.27	N/A	7.46	N/A	7.57	N/A	7.43	A/N	PH
Total Kjeldahl Nitrogen	12.2 [11.8]	0.4	8.6	0.4	6.5	0.4	9.4	0.4	mg/L
Total Phosphorus (as P)	0.944	0.002	0.947	0.002	0.539	0.002	0.893	0.002	mg/L



Work Order Number: 426149

Town of Cochrane - Wastewater

Sample Description	Sewage Plant Overflow	nt Overflow							
Sample Date	3/25/2021	7:50 PM							
Lab ID	1628380	380							
General Chemistry	Result	MDL	Units						
Ammonia (as N)	4.19	0.01	mg/L						
Hd	7.38	N/A	H						
Total Kjeldahl Nitrogen	6.3	0.4	mg/L						
Total Phosphorus (as P)	1,060	900.0	mg/L						
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	Sewage Pla	Sewage Plant Overflow	Sewage Plant Overflow	nt Overflow	
Sample Date	3/24/2021	5:15 PM	3/24/2021 11:15 PM	11:15 PM	3/25/202	3/25/2021 7:00 AM	3/25/2021 3:00 PM	3:00 PM	
Lab ID	1628376	376	1628377	377	1628	1628378	1628379	379	
Microbiology	Result	MDL	Result	MDL	Result	MDL	Result	TGIM	Units
Escherichia coli	4500000 [4700000]	100000	170000	10000	270000	10000	240000	10000	CFU/100mL
Sample Description	Sewage Plant Overflow	nt Overflow							
Sample Date	3/25/2021	7:50 PM							
Lab ID	1628380	380							
Microbiology	Result	MDL	Units						
Escherichia coli	2300000	100000	CFU/100mL						



Work Order Number: 426149

Town of Cochrane - Wastewater

Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	t Overflow	
Sample Date	3/24/2021 5:15 PM	5:15 PM	3/24/2021 11:15 PM	11:15 PM	3/25/2021 7:00 AM	7:00 AM	3/25/2021 3:00 PM	3:00 PM	
Lab ID	1628376	376	1628377	377	1628378	378	1628379	929	
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	20	9	8.8		7.5		27	9	mg/L
Carbonaceous BOD	21	9	7.1	7 <del></del>	5.2	-	12.7	-	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow							
Sample Date	3/25/2021 7:50 PM	7:50 PM							
Lab ID	1628380	380							
Oxygen Demand	Result	MDL	Units						
BOD (5 day)	31.5 [30.9]	е	mg/L						
Carbonaceous BOD	38 [35]	10	mg/L						
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	ıt Overflow	Sewage Plant Overflow	t Overflow	
Sample Date	3/24/2021 5:15 PM	5:15 PM	3/24/2021 11:15 PM	11:15 PM	3/25/2021 7:00 AM	7:00 AM	3/25/2021 3:00 PM	3:00 PM	
Lab ID	1628376	376	1628377	377	1628378	378	1628379	629	
Solids	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	184.0	2.9	71	्रक्त	42	1	71.5	æ	mg/L



Town of Cochrane - Wastewater

Work Order Number: 426149

Sewage Plant Overflow	3/25/2021 7:50 PM	1628380	Result MDL Units	86 1 mg/L
Sample Description	Sample Date	Lab ID	Solids	Total Suspended Solids

### LEGEND

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

[r]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

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.

### 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: // 8/2 /	Time of Call: a.m./p.m.
	Person Who Called: Attow More(20)
	Reported By: ALIM
Called MOH at: 6844	Reported By"
Bypass: Spill:	Leak:Overflow:
Location of Incident: 57P	
Time of Incident: 0815 a.m./p.m. Re	eceiver: LIL ABGUS CRUZK
	SPRING MEZT
Downstream Users: None	
Possible Effects on Receiver, Environment of	or Downstream Users:
NOTE: Take 3 Raw Sewage Samples Per Ir overflow: 1. 5-day BOD and CBOD, Suspended S Addition Calls	Solids, pH, TKN and Total phosphorus
	Io. 272-6068 Time of Call:
Time of Termination: 6 Has 10 Appro  Duration of Bypass: 6 Has 10 Appro  Current Status: Chlorinating? Yes: N	Person Contacted: <u>JETER</u> MOH  ximate Volume: <u>647</u> Cu. Meters  o: Explain:
Reported By:	

Client:	Melissa Hoogenhoud	Work Order Number:	427134
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490	Regulation:	Information not provided
	Cochrane, ON, P0L 1C0	Project #:	Overflow
Phone:		DWS #:	
Email:	Melissa.Hoogenhoud@cochraneontario.com	Sampled By:	Aaron Morrison
Date Order Received: Arrival Temperature:	4/9/2021 20 °C	Analysis Started: Analysis Completed:	4/9/2021 4/19/2021

### **WORK ORDER SUMMARY**

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

Sample Description	Lab ID	Matrix	Туре	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1631626	Wastewater	Grab		4/8/2021	8:20 AM
Sewage Plant Overflow	1631627	Wastewater	Grab		4/8/2021	2:25 PM

# METHODS AND INSTRUMENTATION

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

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



Town of Cochrane - Wastewater

This report has been approved by:

Laboratory Director Adam Tam, M.Sc.

**CERTIFICATE OF ANALYSIS** 

Work Order Number: 427134

1335 Riverside Drive, Timmins, ON, P4R 1A6 Phone: (705) 531-1121 Fax: (705) 531-1125 Web: www.testmark.ca



Town of Cochrane - Wastewater

### **WORK ORDER RESULTS**

Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	
Sample Date	4/8/2021 8:20 AM	8:20 AM	4/8/2021 2:25 PM	2:25 PM	
Lab ID	1631	1631626	1631627	627	
Anions	Result	MDL	Result	MOL	Units
Nitrate (as N)	<0.05	0.05	0.46	0.05	mg/L
Nitrite (as N)	<0.05	0.05	0.82	0.05	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	
Sample Date	4/8/2021 8:20 AM	8:20 AM	4/8/2021 2:25 PM	2:25 PM	
Lab ID	1631626	979	1631627	627	
General Chemistry	Result	MDL	Pesult	MDL	Units
Ammonia (as N)	9.16	0.02	3.64	0.01	mg/L
Hd	7.29	N/A	7.51	N/A	Hd
Total Kjeldahl Nitrogen	19.1	0.4	8.2	0.4	mg/L
Total Phosphorus (as P)	2.25	0.02	0.78	0.02	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	
Sample Date	4/8/2021 8:20 AM	8:20 AM	4/8/2021 2:25 PM	2:25 PM	
Lab ID	1631626	979	1631627	627	
Microbiology	Result	MDL	Result	MDL	Units
Escherichia coli	3100000 [3000000]	100000	2700000	100000	CFU/100mL

Work Order Number: 427134



Work Order Number: 427134

Town of Cochrane - Wastewater

Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	
Sample Date	4/8/2021 8:20 AM	8:20 AM	4/8/2021 2:25 PM	2:25 PM	
Lab ID	1631	1631626	1631627	627	
Oxygen Demand	Result	MDL	Result	MDL	Units
BOD (5 day)	65.7	9	15.4	-	mg/L
Carbonaceous BOD	69	9	10.2	-	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plant Overflow	nt Overflow	
Sample Date	4/8/2021 8:20 AM	8:20 AM	4/8/2021 2:25 PM	2:25 PM	
Lab ID	1631	1631626	1631627	627	
Solids	Result	MDL	Result	MDL	Units
Total Suspended Solids	323.0	6.7	58	4	mg/L

### LEGEND

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

[rt]. After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

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.

### 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: MAY 22 Derl	Time of Call:_	21:30 a.m./p.m.
Reference #:	Person Who Ca	alled: Kees Mila nelso
Office Called: Sac R	eported <del>By</del> :/	C·^
Bypass: Spill:		
Location of Incident: Cock rune	STP	
Time of Incident: 20:50 a.m./p.m. Rece	iver: L. L. et	relle Creek
Details of Incident: He evg Re	~^	
6 <u></u>		
Downstream Users:		_
Possible Effects on Receiver, Environment or I		
NOTE: Take 2 Raw Sewage Samples Per Incidenthe overflow:  1. 5-day BOD and CBOD, Suspended Sol.  Addition Calls  Town Hell: Phone No. 272, 4361 - Fee No.	ids, pH, TKN and To	tal phosphorus
Town Hall: Phone No. 272-4361 Fax No.	2/2-6068 Time of	Call:
Details of Call:		
<b>Termination of Incident</b>	100	
Date: 05-23-21 Time of Call: 10:05	Person Contacted:_	Justin
Time of Termination: 0200 Approxim	nate Volume: 7 6	Cu. Meters
Current Status: Chlorinating? Yes: No:_	Explain:	
Further Action Required:		*
Reported By: Nilco nelson		



Client: Lynn Chapleau Work Order Number: 431250

Company: Town of Cochrane - Wastewater PO #:

Address: 171 Fourth Ave, Box 490 Regulation: Information not provided

Cochrane, ON, P0L 1C0 Project #: Overflow

Phone/Fax: (705) 272-5067 / (705) 272-2634 DWS #:

Email: lynn.chapleau@cochraneontario.com Sampled By: Mike Nelson

Date Order Received: 5/26/2021 Analysis Started: 5/27/2021
Arrival Temperature: 20 °C Analysis Completed: 6/3/2021

### **WORK ORDER SUMMARY**

Date of Issue: 06/03/2021 16:35

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

Sample Description	Lab ID	Matrix	Туре	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1646905	Wastewater	Grab		5/22/2021	9:25 PM
Sewage Plant Overflow	1646906	Wastewater	Grab		5/23/2021	2:00 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)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	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



Town of Cochrane - Wastewater Work Order Number: 431250

This report has been approved by:

Date of Issue: 06/03/2021 16:35

Adam Tam, M.Sc. Laboratory Director



Town of Cochrane - Wastewater Work Order Number: 431250

### **WORK ORDER RESULTS**

Date of Issue: 06/03/2021 16:35

Sample Description	Sewage Pla	nt Overflow	Sewage Pla	nt Overflow	
Sample Date	5/22/2021	9:25 PM	5/23/2021	2:00 AM	
Lab ID	1646	6905	1646	906	
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 Pla	nt Overflow	Sewage Pla	nt Overflow	
Sample Date	5/22/2021	9:25 PM	5/23/2021	2:00 AM	
Lab ID	1646	6905	1646	906	
General Chemistry	Result	MDL	Result	MDL	Units
General Chemistry  Ammonia (as N)	Result 6.34	MDL 0.01	Result 3.19	MDL 0.01	Units mg/L
					00
Ammonia (as N)	6.34	0.01	3.19	0.01	mg/L
Ammonia (as N)	6.34 6.98	0.01 N/A	3.19 7.52	0.01 N/A	mg/L pH
Ammonia (as N) pH Total Kjeldahl Nitrogen	6.34 6.98 36.3	0.01 N/A 0.4 0.02	3.19 7.52 20.6	0.01 N/A 0.4 0.002	mg/L pH mg/L
Ammonia (as N) pH Total Kjeldahl Nitrogen Total Phosphorus (as P)	6.34 6.98 36.3 2.85	0.01 N/A 0.4 0.02	3.19 7.52 20.6 0.431	0.01 N/A 0.4 0.002 nt Overflow	mg/L pH mg/L
Ammonia (as N) pH Total Kjeldahl Nitrogen Total Phosphorus (as P)  Sample Description	6.34 6.98 36.3 2.85 Sewage Pla	0.01 N/A 0.4 0.02 Int Overflow	3.19 7.52 20.6 0.431 Sewage Pla	0.01 N/A 0.4 0.002 nt Overflow 2:00 AM	mg/L pH mg/L
Ammonia (as N) pH Total Kjeldahl Nitrogen Total Phosphorus (as P)  Sample Description  Sample Date	6.34 6.98 36.3 2.85 Sewage Pla	0.01 N/A 0.4 0.02 Int Overflow	3.19 7.52 20.6 0.431 Sewage Pla 5/23/2021	0.01 N/A 0.4 0.002 nt Overflow 2:00 AM	mg/L pH mg/L



Town of Cochrane - Wastewater Work Order Number: 431250

Sewage Plant Overflow

Sample Description					
Sample Date	5/22/202	1 9:25 PM	5/23/2021	1 2:00 AM	
Lab ID	1646	6905	1646	6906	
Oxygen Demand	Result	MDL	Result	MDL	Units
BOD (5 day)	150 [130]	30	21	3	mg/L
Carbonaceous BOD	180 [180]	30	17	3	mg/L
Sample Description	Sewage Pla	ant Overflow	Sewage Plant Overflow		
Sample Date	5/22/202	1 9:25 PM	5/23/202	1 2:00 AM	
Lab ID	1646	6905	1646	6906	
Solids	Result	MDL	Result	MDL	Units
Total Suspended Solids	472	4	78	4	mg/L

**Sewage Plant Overflow** 

### **LEGEND**

Sample Description

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

MDL: Method detection limit or minimum reporting limit.

Date of Issue: 06/03/2021 16:35

[]: 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.

1-1 Hours

### 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: <u>Dec 16 2021</u>	Time of Call: //: 20 mm/pm.
Reference #:	Person Who Called: Mile Nelson
Office Called: Nott	
Bypass: Spill:	Leak: Overflow:
Location of Incident: Coch	rene stp
Time of Incident: //: 00 a.m./p.n	n. Receiver: L. Babelle Creek
Details of Incident:	Rejin
Downstream Users: NiL	
Possible Effects on Receiver, Environm	nent or Downstream Users:
the overflow: 1. 5-day BOD and CBOD, Suspen  Addition Calls Town Hall: Phone No. 272-4361	Per Incident & Have them Tested For every 8 hours during aded Solids, pH, TKN and Total phosphorus  Fax No. 272-6068 Time of Call:
Details of Call:	
<u>Termination of Incident</u>	
Date: Dec 17202 Time of Call: 07	Person Contacted: 3 - 2 - 2
23.00 A	Approximate Volume: 13/2, 2 Cu. Meleis
Current Status: Chlorinating? Yes:	No: Explain:
Further Action Required:	
Reported By: Miles notser	SForm.014.Bypa.2013



Client:	Melissa Hoogenhoud	Work Order Number: 451172	451172
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490	Regulation:	Information not provided
	Cochrane, ON, P0L 1C0	Project #:	Overflow
Phone:	(705) 272-5067	DWS #:	
Email:	Melissa.Hoogenhoud@cochraneontario.com	Sampled By:	Mike Nelson
Date Order Received: 12/17/2021 Arrival Temperature: 14 °C	12/17/2021 14 °C	Analysis Started: Analysis Completed:	12/17/2021 1/6/2022

### WORK ORDER SUMMARY

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

Sample Description	Lab ID	Matrix	Туре	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1715405	Wastewater	Grab		12/16/2021	11:10 AM
Sewage Plant Overflow #2	1715406	Wastewater	Grab		12/16/2021	7:00 PM
Sewage Plant Overflow #3	1715407	Wastewater	Grab		12/16/2021	11:00 PM

# METHODS AND INSTRUMENTATION

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

Method	Cab	Description	Kererence
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)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	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



Work Order Number: 451172

Town of Cochrane - Wastewater

This report has been approved by:

Kasandra Flynn

Laboratory Director

1335 Riverside Drive, Timmins, ON, P4R 1A6 Phone: (705) 531-1121 Fax: (705) 531-1125 Web: www.testmark.ca

Work Order Number: 451172

Town of Cochrane - Wastewater

### **WORK ORDER RESULTS**

Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plan	Sewage Plant Overflow #2	Sewage Plan	Sewage Plant Overflow #3	
Sample Date	12/16/2021 11:10 AM	11:10 AM	12/16/202	12/16/2021 7:00 PM	12/16/2021	12/16/2021 11:00 PM	
Lab ID	1715405	405	171	1715406	1715	1715407	
Anions	Result	MDL	Result	MDL	Result	MDL	Units
Nitrate (as N)	<0.05	0.05	0.18	0.05	0.91	0.05	mg/L
Nitrite (as N)	<0.05	0.05	0.86	0.05	0.64	0.05	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plan	Sewage Plant Overflow #2	Sewage Plan	Sewage Plant Overflow #3	
Sample Date	12/16/2021	12/16/2021 11:10 AM	12/16/202	12/16/2021 7:00 PM	12/16/2021	12/16/2021 11:00 PM	
Lab ID	1715	1715405	171	1715406	1718	1715407	
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units
Ammonia (as N)	4.16	0.01	2.77	0.01	6.12	0.02	mg/L
Hd	7.14	N/A	7.24	N/A	7.44	N/A	H
Total Kjeldahl Nitrogen	15.3	0.4	8.9	0.4	12.8	0.4	mg/L
Total Phosphorus (as P)	1.92	0.02	0.793	0.002	0.95	0.02	mg/L
Sample Description	Sewage Plant Overflow	nt Overflow	Sewage Plan	Sewage Plant Overflow #2	Sewage Plan	Sewage Plant Overflow #3	
Sample Date	12/16/2021 11:10 AM	11:10 AM	12/16/202	12/16/2021 7:00 PM	12/16/202	12/16/2021 11:00 PM	
Lab ID	1715	1715405	171	1715406	171	1715407	
Microbiology	Result	MDL	Result	MDL	Result	MDL	Units
Escherichia coli	2000000 [1840000]	100000	3000000	100000	5200000	100000	CFU/100mL

Page 3 of 4

Work Order Number: 451172

Town of Cochrane - Wastewater

Sample Description	Sewage Pla	Sewage Plant Overflow	Sewage Plant Overflow #2	Coverflow #2	Sewage Plant Overflow #3	Overflow #3	
Sample Date	12/16/202	12/16/2021 11:10 AM	12/16/202	12/16/2021 7:00 PM	12/16/2021	12/16/2021 11:00 PM	
Lab ID	171	1715405	1715	1715406	1715407	407	
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	69.8 [75]	9	240	30	200	30	mg/L
Carbonaceous BOD	43	9	200	30	250	30	mg/L
Sample Description	Sewage Pla	Sewage Plant Overflow	Sewage Plan	Sewage Plant Overflow #2	Sewage Plant	Sewage Plant Overflow #3	
Sample Date	12/16/202	12/16/2021 11:10 AM	12/16/202	12/16/2021 7:00 PM	12/16/2021	12/16/2021 11:00 PM	
Lab ID	171	1715405	1715	1715406	1715407	5407	
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	304	80	285	5	275.0	3.3	mg/L

### LEGEND

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

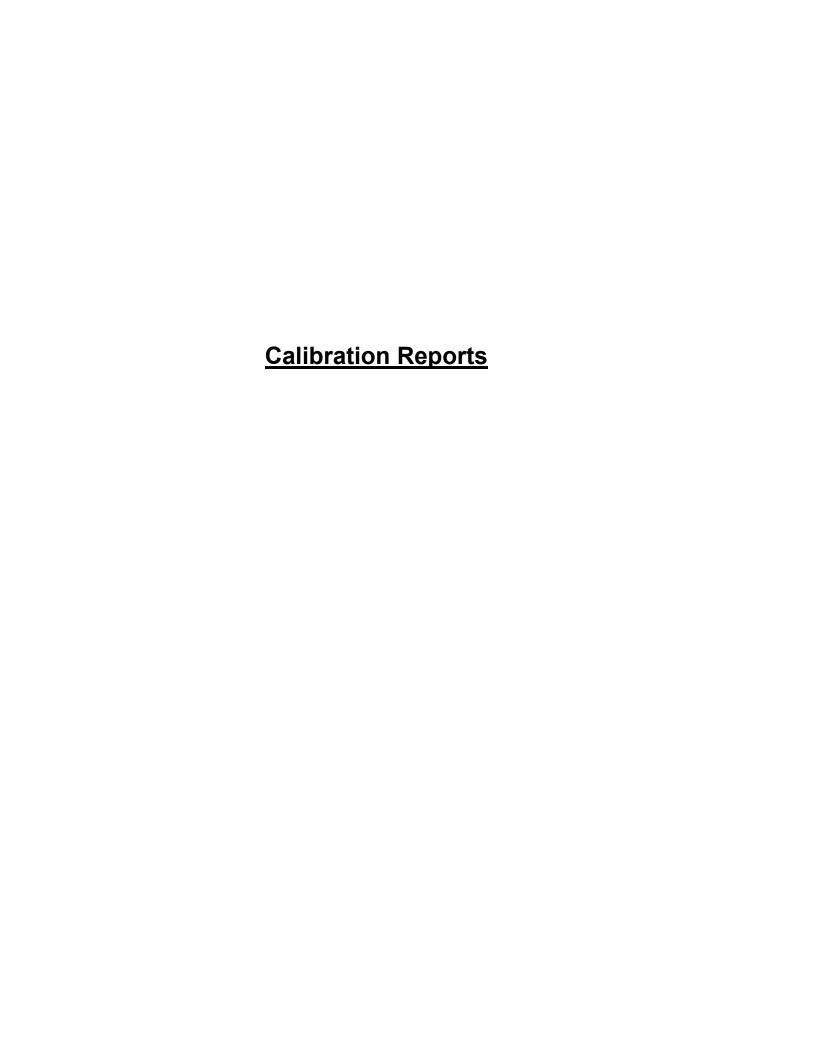
MDL: Method detection limit or minimum reporting limit.

<sup>[]:</sup> 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.

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Type of Work Order:  Scheduled Maintenance	tion:			Coch	rane WWTP		977-9889		
Serial #:   615107	£#			_Work	Order #:	<u></u>	***************************************		
tart Day/Time: 09 / 03 / 21	ument:			pł	H3 SensiON +	· · · · · · · · · · · · · · · · · · ·			
DD/MM/YY   24hour clock   DD/MM/YY   22	VA ID:			s	Serial #:	615107	,		
Scheduled Maintenance	-	DD/MM/YY			-	DD/MM/YY	② 13:00 . 24hour clock		
Recorder			Correc	ctive W	ork Order	Other:			
As Four   As Left	Recorder 🔲	Transmitter		_	_	ity	Other:		
Actual Value % Accuracy Actual Value  pH 4.00						As	Left		
### Part ### Description    1	r - r		<del></del>				% Accuracy		
PH 7.00	~H 4 00		4.00		07.709/	3.00	99.75%		
## ## Part ## Description    10.07						99.73%			
Material Used:           Quantity         Part #         Description           1         2283449         Hach pH 4 Buffer           1         2283549         Hach pH 7 Buffer           1         2283649         Hach pH 10 Buffer	· · · · · · · · · · · · · · · · · · ·						99.20%		
1 2283449 Hach pH 4 Buffer 1 2283549 Hach pH 7 Buffer 1 2283649 Hach pH 10 Buffer				racy Calc	ulation => ABS(/		rd) -1] x 100%)		
1 2283549 Hach pH 7 Buffer 1 2283649 Hach pH 10 Buffer			<del></del>						
1 2283649 Hach pH 10 Buffer						<u> </u>			
Comments:	1	228364	19		Н	ach pH 10 Buffer			
	mments:								



Location: _			Cochi	rane WWTP				
ORG #			Work	Order #:				
nstrument:			Spectro	photometer DR28	00			
OCWA ID:			s	erial #:	1230881			
	ime: 09 / 03 / 21 DD/MM/YY rs: 1	@ 13:00 24hour clock			e: 09 / 03 / 21 DD/MM/YY  DURS: 1/4	<u>@</u> 13 : 15 .		
	ork Order: Maintenance	Correc	tive Wo	ork Order	Other:			
Instrument Recorder  Calibration	Transmitter	pH			ity 🔲 Flow 📝	Other: Spectrophotometer		
	t/Standard		s Foun		As	Left		
		Actual Value		% Accuracy	Actual Value	% Accuracy		
See t	oack of page							
	-							
Material U	Ised:	% Accura	acy Calc	ulation => ABS([	(Actual Value/Standar	·d) –1] x 100%)		
Quantity	Part #				Description			
1	263530	0		Low Range	DPD secondary sta	andards		
1	27639-0	00		DR check absorbency standards				
					· · · · · · · · · · · · · · · · · · ·			
Comment	s:			••••••	*******	************		
Name:	Blake Dic	kinson		Signature:	19			

### Spectrophotometer DR2800

### Calibration:

	ound	As	Left
Actual Value	% Accuracy	Actual Value	% Accuracy
		-	
0.593	99.16%		
1.211	99.91%		
1.825	99.94%		
0.594	00.49%		
1.701	99.55 /6		
0.584	98.15%		
1.794	100%		
0.565	99.64%		
1.152	99.30%		
1.736	98.96%		
,			
0.22	100%		
0.87	98.85%		
1.52	98.02%		
0.24	100%		
0.95	100%		
1.67	98.20%		
	0.593 1.211 1.825  0.581 1.184 1.781  0.584 1.191 1.794  0.565 1.152 1.736  0.22 0.87 1.52  0.24 0.95	0.593       99.16%         1.211       99.91%         1.825       99.94%         0.581       99.48%         1.184       99.74%         1.781       99.55%         0.584       98.15%         1.191       99.32%         1.794       100%         0.565       99.64%         1.152       99.30%         1.736       98.96%         0.22       100%         0.87       98.85%         1.52       98.02%         0.24       100%         0.95       100%	Actual Value



ocation:		Cochi	rane WWTP		
PRG #		Work	Order #:		- Management of the second
nstrument:	Por	rtable Di	issolved Oxygen	Meter	
CWA ID:	·	S	erial #:	160900003	3927
tart Day/Time: 09 / 03 / 2	1 @ 13:15	E	and Day/Tim	e: 09 / 03 / 21	<u>@ 13:30</u> .
of Workers: 1	24nour clock			ours: 1/4	
Type of Work Order:  ✓ Scheduled Maintenance	Correct	tive Wo	ork Order	Other:_	
Instrument Type:  ☐ Recorder ☐ Transmitter  Calibration: ☐ See				ity	Other: DO
Input/Standard	Reverse page for	s Foun		As	s Left
•	Actual Value		% Accuracy		% Accuracy
V-17-1.					
Material Used:	% Accura	cy Calci	ulation => ABS(/	(Actual Value/Stando	urd) -1] x 100%)
Quantity Par	t #			Description	
1		6r	mm of Distilled w	ater as per calibra	tion instructions
	1/2				
Comments:	******				
Shake 6mm (1/4") of water for probe to stabilize. Begin		30 sec	conds. Insert p	orobe in beaker a	above water. Allo
Instrument Passed Calibra	ition.				
In good working order.					
Name: Blake [	Dickinson		Signature:		



ocation:			Co	chran	e WWTP		
RG #			Wo	rk (	Order #:		
strument:			Portable	Diss	olved Oxygen M	Meter	
CWA ID:			-	Sei	rial #:	1609000039	27
eart Day/Time: 01	/ 06 / 21 MM/YY	@ 08: 24hour 0	: 00	En	d Day/Tim	e: 01 / 06 / 21	<u> </u>
of Workers:	2			To	tal Man Ho	ours: 1	
Type of Work Or  ✓ Scheduled Mainten		□Co	orrective	Worl	k Order	Other:	
Instrument Type  ☐ Recorder ☐ Train		рН	☐ Chl	orine	Turbid	ity ∏Flow <b></b> [(	Other: DO
Calibration:		everse page			ion data		
Input/Standar	'd	A otyol We	As Fo		% Accuracy	As l	
		Actual Va	ilue	7	76 Accuracy	Actual value	76 Accuracy
Material Used:		% A	ccuracy C	Calcula	ation => ABS(/	L (Actual Value/Standard	d) -1] x 100% <b>)</b>
Quantity	Part #	#				Description	
1				6mr	n of Distilled w	ater as per calibration	on instructions
Comments:							
Shake 6mm (1/4")							
for probe to stabiliz	e. Begin	calibration	. Instrui	ment	Passed Cal	ibration. In good	working order.
Calibration performinto service.	ned as pe	r user mar	nual inst	tructi	ons. Unit pa	ssed calibration a	ind was put back
Original calibration	sheet wa	ıs lost due	to hard	ware	e failure on te	echnician's laptop	) <b>.</b>



ocation:	Cochrane WWTP								
RG #									
nstrument: _		Port	able Di	ssolved Oxygen N	/leter				
CWA ID:					16090000	3927			
tart Day/Tim				and Day/Tim	e: 29 / 10 / 21	<u>@ 12:00</u> .			
of Workers:		24hour clock		otal Man Ho		24hour clock			
Type of Wor  ✓ Scheduled M		Correct	ive Wo	ork Order	Other:_	z			
Instrument 7  ☐ Recorder    Calibration:	Transmitter	pH [			ity ∏Flow <b>[</b>	Other: DO			
Input/Star			s Four		As Left				
		Actual Value		% Accuracy	Actual Value	% Accuracy			
						120			
Madanial IIa	. J.	% Accura	cy Calc	ulation => ABS(/	(Actual Value/Stand	'ard) –1] x 100% <b>)</b>			
Material Use Quantity	e <b>a:</b> Part #	4			Description				
1	Tart	<u>'</u>	61	mm of Distilled w	rater as per calibra	ation instructions			
<b>Comments:</b>									
,	,		30 se	conds. Insert p	orobe in beaker	above water. Allo			
for probe to s	tabilize. Begin	calibration.							
Instrument Pa	assed Calibrati	on.							
In good worki	ng order.								
Name:	Dan Pe	plinski		Signature:					



ocation:	Cochrane WWTP								
RG #									
strument:		HACH (	HACH OCM Transmitter - Contact Flow						
CWA ID:_					120859005				
tart Day/Ti	me: 29 / 10 / 21			nd Day/Tim	e: 29 / 10 / 21	<u>@ 11:15</u> .			
	DD/MM/YY  1			End Day/Time: 29 / 10 / 21 @ 11 : 15  DD/MM/YY 24hour clock  Total Man Hours: 1/4					
	ork Order:	_			_				
Scheduled	Maintenance	Correcti	ve Wo	ork Order	Other:				
Instrumen ☐Recorder  Calibration	Transmitter	pH C			ity <b>√</b> Flow [	Other:			
Input	/Standard	<del></del>	Foun		As Left				
		Actual Value		% Accuracy	Actual Value	% Accuracy			
1	6.5cm	16.5cm		100%	16.5cm	100%			
Material U	sed:	% Accurac	y Calcı	lation => ABS(/	 (Actual Value/Stando	urd) -1] x 100%)			
Quantity	Part #	ŧ			Description				
~									
Comments			:	£					
	Adjusted as need		igni c	n water at nun	ie compared to	measurement on			
Name:	Dan Pe			Signature:		***************************************			



ocation: _	Cochrane WWTP								
RG #									
nstrument:		НА	CH OC	H OCM Transmitter - East					
CWA ID:			_ S	erial #:	PBD/E41700	039			
tart Day/T	ime: 29 / 10 / 21	@ 12:30		nd Day/Tim	e: 29 / 10 / 21	<u>@</u> 12 : 45 .			
	DD/MM/YY  1	24hour clock			ours: 1/4	24hour clock			
	Vork Order:	П С **	337.		□04h				
Scheduled	l Maintenance	∐Correcti	ive wo	ork Order	Other:				
Instrumer  Recorder  Calibration	Transmitter	pH (everse page for			ity <b>√</b> Flow □	Other:			
	ıt/Standard		s Foun		As Left				
		Actual Value		% Accuracy	Actual Value	% Accuracy			
	3.5cm	3.5cm		100%	3.5cm	100%			
		% Accurac	cy Calcı	ulation => ABS(/	(Actual Value/Standar	rd) -1] x 100%)			
Material									
Quantity	Part #	<del> </del>			Description				
Comment	·c•								
r	1 point calibration	n. Measured he	eiaht o	f water at flun	ne compared to r	neasurement on			
1	Adjusted as need		Ū		•				
Name:	Dan Pe	nlinski		Signature:					



Location: Cochrane WWTP							
RG #			Work	Order #:			
nstrument:		HACH OCM Transmitter - Effluent Bypass					
CWA ID:		***	S		120859005		
tart Day/T	ime: 29 / 10 / 21 DD/MM/YY	@ 13:00 24hour clock	E	End Day/Time: 29 / 10 / 2- DD/MM/YY  Total Man Hours: 1/4			
Type of V	Work Order:	Corrective Work Order			Other:		
☐ Recorder  Calibration	Transmitter  on: See R	pH ====================================			ity <b>√</b> Flow □	Other:	
Inpu	ıt/Standard	A	s Foun	ıd		Left	
		Actual Value		% Accuracy	Actual Value	% Accuracy	
	0.00cm	0.00cm		100%			
Material	Used:	% Accura	ıcy Calcı	ulation => ABS(/	(Actual Value/Standa	rd) –1] x 100% <b>)</b>	
Quantity	Part	#			Description		
Comment	ts:						
	1 point calibratio No flow was pres		_		•	neasurement on	
Name:	Dan Pe	plinski		Signature:			



ocation:	n: Cochrane WWTP							
RG #Work Order #:								
nstrument: _		HACH OCM Transmitter - West						
CWA ID:			_ S	erial #:	120859005	177		
tart Day/Tin	ne: 15 / 09 / 20			nd Day/Tim	e: 15 / 09 / 20	(a) 11:30 .		
of Workers:		24hour clock		otal Man Ho		24hour clock		
Type of Wo	rk Order:				_			
✓ Scheduled M	<b>laintenance</b>	Correcti	ve Wo	ork Order	Other:			
Instrument  ☐ Recorder  Calibration	Transmitter	pH [] c			ity <b>√</b> Flow □	Other:		
	Standard		Foun		As Left			
		Actual Value		% Accuracy	Actual Value	% Accuracy		
4.	0cm	4.0cm		100%	4.0cm	100%		
					"			
Material Us	sed:	% Accurac	y Calcı	ulation => ABS(/	(Actual Value/Standa	rd) –1] x 100% <b>)</b>		
Quantity	Part #	4			Description			
Comments:								
Performed 1			ight o	f water at flun	ne compared to	measurement on		
Name:	Blake Did	kinson		Signature:	2			



_ocation:	cation: Cochrane WWTP								
PRG #Work Order #:									
nstrument:			pH Portable SenSION PH3						
OCWA ID:_				S	Serial #:	615107			
					End Day/Time: 29 / 10 / 21 @ 12 : 0  DD/MM/YY 24hour clo  Total Man Hours: 1/4				
Type of W ✓Scheduled			Co	orrective W	ork Order	Other:			
	Tran					ity	Other:		
Calibratio			verse page	As Four		Ι Δ.σ.	Left		
Inpu	t/Standard	l	Actual Va		% Accuracy	Actual Value	% Accuracy		
			Actual Va	iluc	70 Accuracy	Actual value	70 Accuracy		
	oH 4.00		pH 4.62		86.6%	pH 4.01	99.8%		
	oH 7.00		pH 7.57		92.5%	pH 7.02	99.7%		
р	H 10.00		pH 10.49		95.3%	pH 10.04	99.6%		
Material U	J <b>sed:</b>			ccuracy Calc	culation => ABS(/	(Actual Value/Standa	rd) –1] x 100%)		
Quantity		Part #			Description				
1		228344			Hach pH 4 Buffer				
1		228354	ļ9 		Hach pH 7 Buffer				
1	1 2283649				Н	lach pH 10 Buffer			
Comment	s:								
Name:		Dan Pe	olinski		Signature:				



ocation:	Cochrane WWTP								
RG #	G #Work Order #:								
strument: _		Porta	able Di	ssolved Oxygen N	Meter				
CWA ID:				erial #:	1609000039	27			
art Day/Time	2: 14 / 12 / 21	<u>@</u> 11 : 30	_ E	and Day/Tim	e: 14 / 12 / 21 DD/MM/YY	<u>@</u> 11 : 45 .			
of Workers:		24hour clock			DD/MM/YY Durs: 1/4	24hour clock			
Type of Wor  ✓ Scheduled Ma		Correctiv	ve Wo	ork Order	Other:				
Instrument T Recorder  Calibration:	Transmitter			<del></del>	ity ∏Flow <b></b> [(	Other: DO			
Input/St		everse page for c	Foun		Asl	Left			
mpu/St	andard	Actual Value		% Accuracy	Actual Value	% Accuracy			
Material Use	d:	% Accuracy	y Calc	ulation => ABS(/	(Actual Value/Standard	d) −1] x 100% <b>)</b>			
Quantity	Part #	#			Description				
1			6r	mm of Distilled w	ater as per calibration	on instructions			
Comments:									
Shake 6mm (*) for probe to st			SU se	conds. Insert p	orobe in beaker al	oove water. Allo			
Instrument Pa	ssed Calibrati	on.							
In good workir	ng order.								
Name	Dan Da	nlinski		Ci am atauna	·····				
Name:	Dan Pe	ואפווווא		Signature:					