Ontario Clean Water Agency
Agence Ontarienne Des Eaux

901 Main Street
P.O. Box 728
Geraldton, Ontario.
P0T 1M0
Fax: 807-854-0483

March 18, 2025

Ministry of the Environment
3rd Flr. Suite 331B, 435 James St.
Thunder Bay, ON
P7E 6S7

Attention: Mr. Glen Niznowski,
District Manager

Re: 2024 Performance Report for Nakina Sewage Treatment Facility

Dear Mr. Niznowski,:

Attached is the 2024 Performance Report for the **Nakina Sewage Treatment Facility** located on River Road in The Corporation of the Municipality of Greenstone – Nakina Ward. This report has been completed in accordance with Condition No. 8(4) cited in *Certificate of Approval Number 2120-8TANEB* dated May 1 2012 and issued to the Corporation of the Municipality of Greenstone.

This report was prepared by the Ontario Clean Water Agency on behalf of the Corporation of the Municipality of Greenstone based on information kept on record by OCWA at the Nakina Sewage Treatment Plant and the report covers the period from January 1 2023 to December 31 2024.

Should you have any questions or comments in regards to this annual report, please do not hesitate to contact Dave Hoffman at 807-854-7142

Yours truly,

P O'Handley

Patti O'Handley
Senior Operations Manager
Ontario Clean Water Agency
Northwestern Ontario Hub

Copy: Mr. Mark Wright - CAO
Mr. Brian Aaltonen – Director of Public Services
Operations Staff – Nakina
Sam Shippam - MECP

2024 Annual Report

Nakina Sewage Treatment Plant

Prepared by the Ontario Clean Water Agency

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

The Corporation of the Municipality of Greenstone – Nakina
Sewage Treatment Plant
2024 Annual Report

INTRODUCTION

In accordance with the ***Certificate of Approval*** *Number 2120-8TANGB* dated May 1 2012, section 8 (4), the Corporation of the Municipality of Greenstone - Nakina Sewage Treatment Plant is required to prepare an annual summary. The 2024 annual facility performance report summarizes important information regarding the treatment quality of the effluent wastewater, analytical test results, relevant activities and maintenance operations of the Works. Some of this information was submitted via the quarterly upload of information, but is being presented again as part of the new Annual Report based on the calendar year.

DESCRIPTION OF WORKS

Rated Capacity of Works	1703 m^3/day
Service Area	Municipality of Greenstone – Nakina Ward, District of Thunder Bay
Service Population	575
Effluent Receiver	Balkam Creek
Major Process	Extended Aeration Plant – Carrousel-type treatment system

EFFLUENT MONITORING AND RECORDING

Analytical tests to monitor the influent and effluent water quality on a monthly basis are conducted by a laboratory audited by the Canadian Association for Environmental Analytical Laboratories (CAEAL) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods. Weekly analysis is performed in-house in order to maintain the process. When these samples are split with the accredited laboratories, it confirms the procedure accuracy of the in-house testing.

SAMPLING REQUIREMENTS

Samples of raw sewage and final effluent from the WWTP shall be collected and analyzed for the following parameters at the indicated frequencies.

Raw Sewage Monitoring – Samples to be collected at the end of the grit channel

Parameters	Sample Type	Frequency
BOD_5	Composite*	monthly
Total Suspended Solids	Composite*	monthly
Total Phosphorus	Composite*	monthly
TKN	Composite*	monthly
pH	Composite*	monthly

* 24-hour composite

Consulted with the ministry's Approvals Section and have been advised that the sample may be composite of three grab samples, taken at time intervals of at least six hours over a 24-hour sampling period.

Final Effluent Monitoring - Samples to be collected at the V-notch at the end of the chlorine contact chamber

Parameters	Sample Type	Frequency
BOD_5	Composite*	Monthly
Total Suspended Solids	Composite*	Monthly
Total Phosphorus	Composite*	Monthly
Ammonia – N(total)	Composite*	Monthly
Nitrate	Composite*	Monthly
Nitrite	Composite*	Monthly
Total Kjeldahl Nitrogen	Composite*	Monthly
E. Coli	Composite*	Monthly
pH	Composite*	Monthly

*24-hour composite

Consulted with the ministry's Approvals Section and have been advised that the sample may be composite of three grab samples, taken at time intervals of at least six hours over a 24-hour sampling period.

Sludge Monitoring

Parameters	Sample Type	Frequency
Total Suspended Solids	Grab	Annually
Total Phosphorus	Grab	Annually
Ammonia – N	Grab	Annually
Arsenic	Grab	Annually
Cadmium	Grab	Annually
Cobalt	Grab	Annually
Chromium	Grab	Annually
Copper	Grab	Annually
Lead	Grab	Annually
Mercury	Grab	Annually
Molybdenum	Grab	Annually
Nickel	Grab	Annually
Potassium	Grab	Annually
Selenium	Grab	Annually
Zinc	Grab	Annually

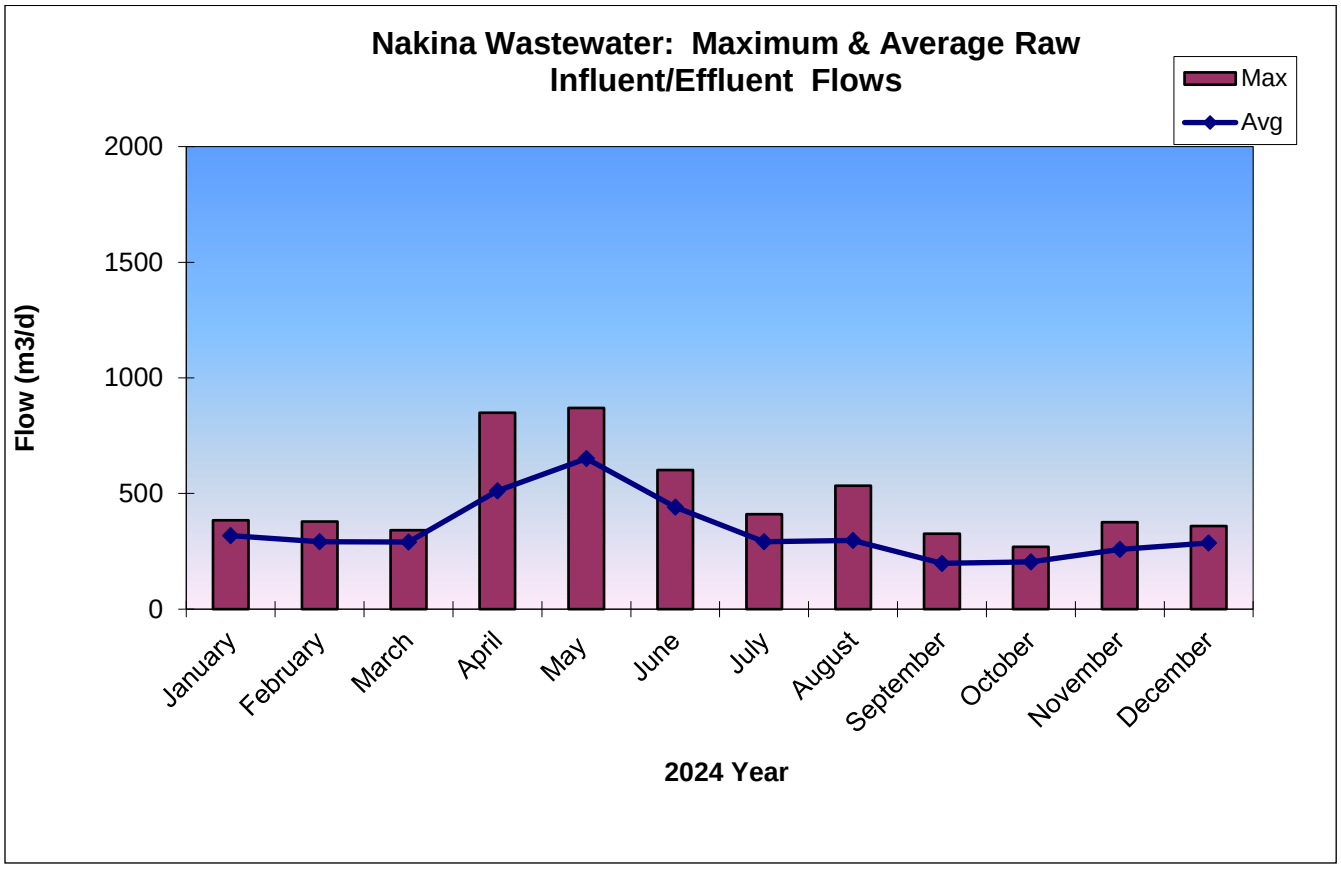
PLANT PERFORMANCE

Effluent Limits as per C of A, condition 5

Effluent Parameter	Annual Average Concentration Limit
BOD_5	25.0 mg/L
Total Suspended Solids	25.0 mg/L
pH	Between 6.0 – 9.5 at all times
E. Coli	200 organisms/100 ml (annual *Geometric Mean Density*)

EFFLUENT FLOWS

In order to review, at a glance, the performance of the WWTP, a graph has been prepared showing the average and maximum monthly effluent flows for the year; January to December 2024. The total effluent flows for this timeframe report as 123,218 m3, compared to 158,919 m3 for the 2023 calendar year.



EFFLUENT SAMPLING

In the reporting year 2024, BOD_5 was analyzed and the average was 2.21 mg/L; this is well within the effluent limits imposed by the *Certificate of Approval* condition 5.1 of 25.0 mg/L.

The annual average suspended solids concentrations for the effluent in 2024 was 4.86 mg/L. This parameter is likewise within the annual compliance level of 25.0 mg/L.

The plant compliance criteria states; the pH of the effluent shall be maintained between 6.0 and 9.5, inclusive, at all times. The average pH during this period was 7.18, with a high of 8.38 and a low of 6.65. The pH was maintained in the compliance range specified in the *Certificate of Approval.*

The effluent parameter includes a requirement to maintain the annual geometric mean density of e-coli less than of 200 organisms per 100 ml. In 2024, the annual geometric mean density for e-coli was 16.0 organisms per 100 ml. The Nakina Wastewater plant met the E-coli requirements as specified in 5(3) of the Certificate of Approval.

MAINTENANCE

OCWA maintains a Work Management System (WMS), which is a comprehensive computer based maintenance program that is based on a proactive preventive approach. This includes running checks, weekly, monthly and annual maintenance, as required. A full report on all maintenance carried out in 2024 is available upon request.

OPERATIONAL ISSUES

The Federal Regulation requiring the effluent to be below 0.02 mg/l chlorine residual came into effect in 2021. The facility is using temporary dechlorination in the effluent channel to meet this regulatory requirement until a permanent solution is engineered and installed. The dechlorination is being achieved using the chemical Captor. Permanent alterations to the facility to achieve the dechlorination is being engineered and designed for installation.

Greenstone Gold Mines constructed a temporary camp near Geraldton. Nakina wastewater plant is accepting some of the sewage from the temporary camp. The sewage is trucked from Geraldton to Nakina wastewater and put into the system via the influent channel. The plant started accepting raw sewage in November 2021. The plant continued to accept the sewage in 2024 until July 5. The increase in plant flows can be attributed to the sewage haul from the mine.

The volumes accepted in 2024 from the Geraldton mine site were 9743.72 m3 of raw sewage. This equates to approximately 52.1 m3/day of raw sewage.

CALIBRATIONS

The owner shall maintain a continuous flow-measuring device to measure the flow rate within an accuracy of +/- 5% of actual rate of flow within the range of 10% to 100% of the full-scale reading of the measuring devices.

The scheduled annual calibration for 2024 was completed on August 14 2024 by Lakeside Process Controls. Those results are attached. The unit was within the required accuracy, as outlined in the criteria above

SLUDGE SUMMARY

Sludge is hauled from the facility to the sludge drying beds site by the Ontario Clean Water Agency. A summary of all sludge hauled for Nakina Sewage Treatment Plant is outlined in the following table.

Sludge Volume Hauled in 2024

Month	Total Volume(m3)
January	60
February	60
March	30
April	30
May	30
June	45
July	90
August	0
September	210
October	0
November	0
December	0
Total:	**555**

The *Certificate of Approval* requires sampling of this sludge on an annual basis. Attached are the sludge volume figures and Biosolids sludge quality sample results for the timeframe covered 2024.

The sludge increased over previous years but can be attributed to the additional material from the Greenstone Gold mine trucked in to the facility. The addition of this additional material stopped in July 2024. The volumes hauled in September were as a result of aeration maintenance. There is no expected change in the sludge handling methods or disposal areas for the WWTP in the coming year.

COMPLAINTS/ENVIRONMENTAL INCIDENT

No complaints were reported in 2024.

BY-PASS REPORTS

The Nakina Sewage Treatment Plant had no bypass incidents in 2024.

Performance Assessment Report
1st January – December 31st 2024

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report

From 1/1/2024 to 12/31/2024 11:59:59 PM

5933 NAKINA WASTEWATER TREATMENT FACILITY 110003308

	1 / 2024	2/ 2024	3/ 2024	4/ 2024	5/ 2024	6/ 2024	7/ 2024	8/ 2024	9/ 2024	10/ 2024	11/ 2024	12/ 2024	<--Total-->	<--Avg-->	<--Max-->	<-Criteria->
Flows																
Raw Flow: Total - Influent m³/d	9,859.00	8,478.00	8,992.00	15,363.00	20,185.00	13,224.00	9,021.00	9,198.00	5,947.00	6,352.00	7,745.00	8,854.00	123,218.00			0.00
Raw Flow: Avg - Influent m³/d	318.03	292.34	290.06	512.10	651.13	440.80	291.00	296.71	198.23	204.90	258.17	285.61		336.66		1,703.00
Raw Flow: Max - Influent m³/d	385.00	379.00	342.00	849.00	870.00	602.00	410.00	534.00	326.00	269.00	376.00	360.00			870.00	0.00
Raw Flow: Count - Influent m³/d	31.00	29.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	366.00			0.00
Eff. Flow: Total - Final Effluent m³/d	9,859.00	8,478.00	8,992.00	15,363.00	20,185.00	13,224.00	9,021.00	9,198.00	5,947.00	6,352.00	7,745.00	8,854.00	123,218.00			0.00
Eff. Flow: Avg - Final Effluent m³/d	318.03	292.34	290.06	512.10	651.13	440.80	291.00	296.71	198.23	204.90	258.17	285.61		336.66		
Eff. Flow: Max - Final Effluent m³/d	385.00	379.00	342.00	849.00	870.00	602.00	410.00	534.00	326.00	269.00	376.00	360.00			870.00	0.00
Eff Flow: Count - Final Effluent m³/d	31.00	29.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	366.00			0.00
Carbonaceous Biochemical Oxygen Demand: CBOD																
Eff: Avg cBOD5 - Final Effluent mg/L	< 2.50	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00		< 2.04	< 2.50	
Eff: # of samples of cBOD5 - Final Effluent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Loading: cBOD5 - Final Effluent kg/d	< 0.795	< 0.585	< 0.580	< 1.024	< 1.302	< 0.882	< 0.582	< 0.593	< 0.396	< 0.410	< 0.516	< 0.571		< 0.69	< 1.30	
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Influent mg/L	22.30	91.50	19.80	22.70	14.00	31.10	20.20	30.20	28.30	87.40	18.30	53.90		36.64	91.50	0.00
Raw: # of samples of BOD5 - Influent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Eff: Avg BOD5 - Final Effluent mg/L	2.80	2.60	2.70	2.10	< 2.10	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	2.20		2.21	2.80	25.00
Loading: BOD5 - Final Effluent kg/d	0.890	0.760	0.783	1.075	1.367	< 0.882	< 0.582	< 0.593	< 0.396	< 0.410	< 0.516	0.628		0.74	1.37	
Percent Removal: BOD5 - Influent %	87.44	97.16	86.36	90.75	85.00	93.57	90.10	93.38	92.93	97.71	89.07	95.92		91.62	97.71	0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Influent mg/L	25.00	73.20	15.80	22.40	14.30	37.10	29.70	69.90	32.20	82.40	22.60	54.60		39.93	82.40	0.00
Raw: # of samples of TSS - Influent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Eff: Avg TSS - Final Effluent mg/L	4.00	4.30	< 3.00	8.00	< 5.50	< 3.00	< 3.70	< 3.00	< 3.00	< 3.00	5.60	12.20		4.86	12.20	25.00
Eff: # of samples of TSS - Final Effluent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Loading: TSS - Final Effluent kg/d	1.272	1.257	< 0.870	4.097	3.581	< 1.322	1.077	< 0.890	< 0.595	< 0.615	1.446	3.484		1.64	4.10	
Percent Removal: TSS - Influent %	84.00	94.13	81.01	64.29	61.54	91.91	87.54	95.71	90.68	96.36	75.22	77.66		83.34	96.36	0.00
Total Phosphorus: TP																
Raw: Avg TP - Influent mg/L	0.81	2.11	0.71	1.30	0.42	0.75	0.77	1.08	0.93	2.01	0.61	1.73		1.10	2.11	0.00
Raw: # of samples of TP - Influent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Eff: Avg TP - Final Effluent mg/L	0.52	0.79	1.17	1.74	0.69	0.71	1.84	2.33	2.35	2.33	1.92	1.34		1.48	2.35	
Eff: # of samples of TP - Final Effluent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Loading: TP - Final Effluent kg/d	0.164	0.231	0.339	0.891	0.451	0.315	0.535	0.691	0.466	0.477	0.496	0.383		0.50	0.89	
Percent Removal: TP - Influent %	36.42	62.51	-64.33	-33.85	-64.22	4.29	-138.34	-115.74	-152.42	-15.92	-214.75	22.54		-56.15	62.51	0.00
Nitrogen Series																
Raw: Avg TKN - Influent mg/L	6.52	17.90	6.95	6.89	3.18	7.18	6.24	10.40	9.28	20.70	7.45	16.00		9.89	20.70	0.00
Raw: # of samples of TKN - Influent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Eff: Avg TAN - Final Effluent mg/L	0.06	0.05	0.17	0.07	0.19	0.05	0.04	0.04	0.06	0.03	0.04	0.02		0.07	0.19	
Eff: # of samples of TAN - Final Effluent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Loading: TAN - Final Effluent kg/d	0.019	0.015	0.048	0.036	0.126	0.022	0.012	0.012	0.012	0.006	0.010	0.007		0.02	0.13	
Eff: Avg NO3-N - Final Effluent mg/L	13.20	11.30	13.40	9.66	4.28	5.28	9.67	7.67	13.00	14.20	11.50	8.58		10.15	14.20	0.00
Eff: # of samples of NO3-N - Final Effluent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00
Eff: Avg NO2-N - Final Effluent mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05		< 0.02	<	0.00
Eff: # of samples of NO2-N - Final Effluent	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00			0.00

pH Monthly Process Data Report

Customized Monthly Vertical Report

From 01/01/2024 to 12/31/2024

Facility Name: NAKINA WASTEWATER TREATMENT FACILITY
Receiver: Balkam Creek to Cordingly Lake

Facility Org Number: 5933
Facility Owner: Municipality: The Corporation of the Municipality of Greenstone
Service Population: 575

Works: 110003308
Facility Classification: Class 2 Wastewater Treatment
Total Design Capacity: 5030 m3/day

Ontario Clean Water Agency
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	Final Effluent		
	pH - ---		
	IH Mon.Max	IH Mon.Mean	IH Mon.Min
Jan 2024	7.81	7.28	6.93
Feb 2024	7.77	7.28	7.06
Mar 2024	7.89	7.53	7.29
Apr 2024	8.22	7.12	6.90
May 2024	8.38	7.07	6.79
Jun 2024	7.18	7.08	6.95
Jul 2024	7.42	7.28	7.12
Aug 2024	7.52	7.10	6.65
Sep 2024	7.13	6.91	6.73
Oct 2024	7.11	7.02	6.85
Nov 2024	7.38	7.13	6.93
Dec 2024	7.41	7.23	6.81
Total			
Avg		7.18	
Max	8.38		
Min			6.65

Cl_2 Residual Monthly Process Data Report

Customized Monthly Vertical Report

From 01/01/2024 to 12/31/2024

Facility Name: NAKINA WASTEWATER TREATMENT FACILITY
Receiver: Balkam Creek to Cordingly Lake

Facility Org Number: 5933
Facility Owner: Municipality: The Corporation of the Municipality of Greenstone
Service Population: 575

Works: 110003308
Facility Classification: Class 2 Wastewater Treatment
Total Design Capacity: 5030 m3/day

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	Dechlorination			Disinfection		
	Cl Residual: Total - mg/L			Cl Residual: Total - mg/L		
	IH Mon.Max	IH Mon.Mean	IH Mon.Min	OL Mon.Max	OL Mon.Mean	OL Mon.Min
Jan 2024	0.00	0.00	0.00	3.03	0.44	0.06
Feb 2024	0.01	0.01	0.01	5.00	0.41	0.00
Mar 2024	0.01	0.01	0.01	4.15	0.45	0.00
Apr 2024	0.02	0.02	0.02	2.47	0.37	0.00
May 2024	0.00	0.00	0.00	0.68	0.39	0.09
Jun 2024	0.03	0.02	0.00	0.84	0.47	0.00
Jul 2024	0.01	0.01	0.00	1.56	0.34	0.00
Aug 2024	0.04	0.02	0.01	0.52	0.33	0.14
Sep 2024	0.03	0.02	0.00	0.88	0.35	0.00
Oct 2024	0.06	0.05	0.03	1.21	0.34	0.00
Nov 2024	0.05	0.03	0.01	0.81	0.37	0.00
Dec 2024	0.01	0.01	0.00	5.00	0.36	0.00
Total						
Avg		0.02			0.39	
Max	0.06			5.00		
Min			0.00			0.00

Analyzer Verification/Calibration Summary

Calibration Certificate 3061

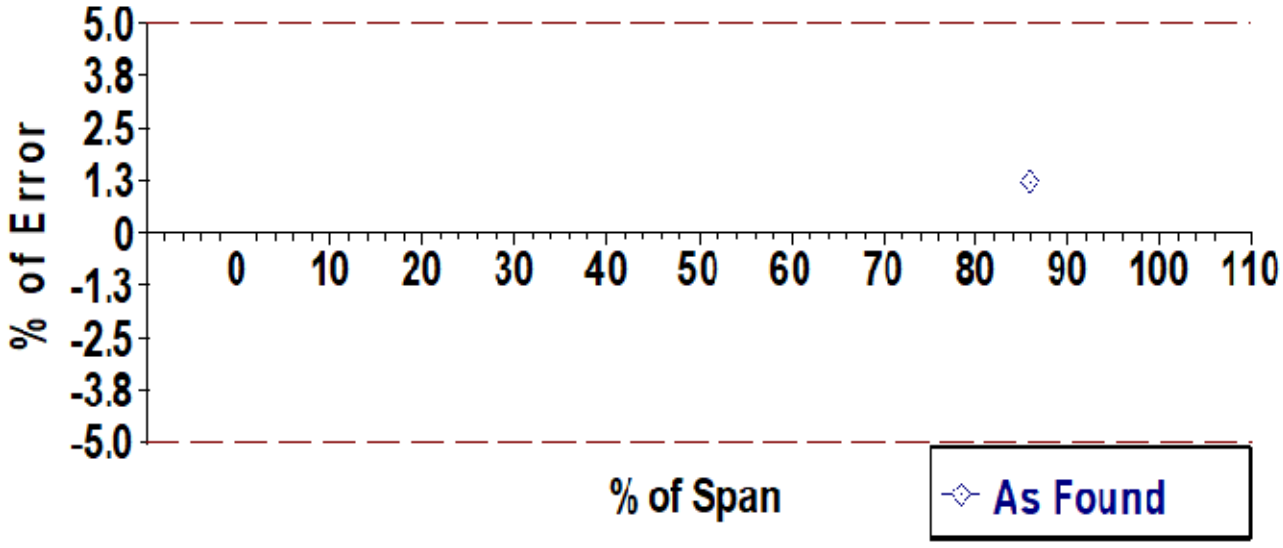
AMS Tag: Nakina Final Effluent

Calibrated at: 2024-08-14 5:03:50 PM

Calibration Result: PASSED

Device Identification	
AMS Tag:	Nakina Final Effluent
Device Tag:	Nakina Final Effluent
Manufacturer:	Miltronics
Model Name:	OCM 3
Device Identifier:	Nakfinaleff

Device Calibration Data			
Date/Time Calibrated:	2024-08-14 5:03:50 PM	Max Error Limit:	5.00 % of Span
Technician:	LPC_MISS\ixriab	Notification Limit:	5.00 % of Span
User:	LPC_MISS\ixriab	Adjustment Limit:	5.00 % of Span
Ambient Temperature:	20.00 deg C	Calibration Interval:	12 Months
Temperature Standard:	ITS-90	Critical Service:	Yes
Work Order Number:		Input Range:	0.00 - 0.74 meter
Service Reason:	Not Given	Output Range:	0.00 - 0.74 meter
Service Notes:			
Relationship: Linear			



Calibration Certificate 3061

AMS Tag: Nakina Final Effluent

Test Equipment					
AMS Tag	**Manufacturer**	**Model**	**Serial Number**	**Last Calibration**	**Calibration Interval:**
Fluke Distance Meter	Fluke	416D	0682056623		12 Months

Errors (%)			
Error	**Limit**	**Actual: As Found**	**Actual: As Left**
Maximum	5.0000	1.2179 (Pass)	(N/A)
Zero	(N/A)	(N/A)	(N/A)
Span	(N/A)	(N/A)	(N/A)
Linearity	(N/A)	(N/A)	(N/A)
Hysteresis	(N/A)	(N/A)	(N/A)

Calibration Results: As Found				
Test Point	**Input**	**Output**	**Output Error**	**Output Error (%)**
1	0.6350	0.6440	0.0090	1.2179

Calibration Results: As Left				
Test Point	**Input**	**Output**	**Output Error**	**Output Error (%)**

Authorization			
Title	LPC Asset Reliability Services		
Signature	Igor Riaboshapkin	**Date**	08/14/2024
Title			
Signature		**Date**	

Biosolids Sludge Quality

CERTIFICATE OF ANALYSIS

Work Order	: **TY2412693**	Page	: 1 of 3
Client	: **Ontario Clean Water Agency**	Laboratory	: ALS Environmental - Thunder Bay
Contact	: Nakina WPCP	Account Manager	: Christine Paradis
Address	: PO Box 63 Nakina ON Canada P0T 2H0	Address	: 1081 Barton Street Thunder Bay ON Canada P7B 5N3
Telephone	: ----	Telephone	: +1 807 623 6463
Project	: 110003308	Date Samples Received	: 05-Nov-2024 14:46
PO	: ORG 5933	Date Analysis Commenced	: 06-Nov-2024
C-O-C number	: ----	Issue Date	: 13-Nov-2024 16:32
Sampler	: Mike Tobin		
Site	: Nakina WPCP		
Quote number	: NAKINA WPCP 2024		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Cassandra Grzelewski	Team Leader - Inorganics	Inorganics, Thunder Bay, Ontario
Jon Fisher	Production Manager, Environmental	Metals, Waterloo, Ontario
Shannon Veltri	Supervisor - Water Chemistry	Inorganics, Thunder Bay, Ontario

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.
Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

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

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	*Description*
mg/L	milligrams per litre

>: greater than.
<: less than.

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

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

Workorder Comments

<1 or Not Detected with LOR of 1 equals Zero (0).

Not Detected = Absent; Detected = Present.

Qualifiers

Qualifier	*Description*
RRV	*Reported result verified by repeat analysis.*

Analytical Results

TY2412693-001

Sub-Matrix:**Sludge**
(Matrix: **Water**)

Client sample ID: Annual (SLUDGE) Biosolids Liquid Quality
Client sampling date / time: 04-Nov-2024 10:15

Analyte	CAS Number	Result		LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests									
Solids, total suspended [TSS]	----	2570		75.0	mg/L	E160/TY	-	06-Nov-2024	1752345
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	0.179	RRV.	0.0500	mg/L	E298/TY	08-Nov-2024	13-Nov-2024	1757491
Phosphorus, total	7723-14-0	16.6		2.00	mg/L	E372-U/TY	11-Nov-2024	12-Nov-2024	1757487
Total Metals									
Arsenic, total	7440-38-2	0.026		0.020	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Cadmium, total	7440-43-9	0.0032		0.0020	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Chromium, total	7440-47-3	0.12		0.10	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Cobalt, total	7440-48-4	<0.10		0.10	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Copper, total	7440-50-8	2.70		0.20	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Lead, total	7439-92-1	0.062		0.020	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Mercury, total	7439-97-6	0.00079		0.00050	mg/L	E508B/WT	11-Nov-2024	12-Nov-2024	1760429
Molybdenum, total	7439-98-7	0.030		0.010	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Nickel, total	7440-02-0	<0.10		0.10	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Potassium, total	7440-09-7	24		10	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Selenium, total	7782-49-2	0.035		0.010	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428
Zinc, total	7440-66-6	2.19		0.60	mg/L	E440B/WT	11-Nov-2024	11-Nov-2024	1760428

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 22 -

Page 1 of 1

Environmental Division Thunder Bay
Work Order Reference
TY2412693

Telephone : - 1 807 623 6463

Report To	Contact and company name below will appear on the final report
Company:	OCWA
Contact:	Nakina Waste Water Treatment
Phone:	807-329-5811
	Company address below will appear on the final report
Street:	413 River Rd PO Box 63
City/Province:	Nakina , ON
Postal Code:	P0T 2H0
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☐ YES ☑ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

mtobin@ocwa.com; nwopcl@ocwa.com; bnayanookeesic@ocwa.com; dmccraw@ocwa.com; PO'Handley@ocwa.com; palbert@ocwa.com; lab.results@greenstone.ca; katherine.alton@greenstone.ca; chrystal.simard@greenstone.ca

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax APNorthWest@ocwa.com
Email 2

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge m
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge m
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge m
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge m
☐ Same day [E2] if received by 10am M-S - 200% rush surch
Additional fees may apply to rush requests on weel
Date and Time Required for all E&P TATs:
For all tests with rush TATs requested, please contact your AM to confirm availability.

Project Information

ALS Client Code / QUOTE #:	TY2023OCWA1000035
Job / Project #.	110003308
PO / AFE:	
LSD:	ORG 5933

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only): TY2412693
ALS Contact: Dimen Mahmood
Sampler: mike Tobin

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Phosphorous Total	Total suspended solids	Ammonia-N; Arsenic	Cadmium	Cobalt	Chromium	Copper	Mercury	Molybdenum	Nickel	Potassium	Selenium	Zinc	Lead	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	Annual (SLUDGE) Biosolids Liquid Quality Bslq Bslq WPCP	4-Nov-24	10:15	Grab	5	R	R	R	R	R	R	R	R	R	R	R	R	R	R			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☑ NO
Are samples for human consumption/ use? ☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Ensure Station acronym and Short Names are included.

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☒ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
6.9							

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Mike Tobin	Nov 5/24	Am

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
LV	11/5/24	2:46

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

MAY 2023 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC Form.