WYOMING SEWAGE TREATMENT PLANT

Works # 110002489

2024 ANNUAL REPORT

OF OPERATIONS

Managed, Operated and Maintained by:

Jacobs

March 2025

Ontario Ministry of Environment, Conservation and Parks
1094 London Road,
Sarnia, Ontario
N7S 1P1

MECP District Manager,

On behalf of the Corporation of the Town of Plympton-Wyoming in Lambton County, OMI (Jacobs) is pleased to submit to you the annual compliance report for the Wyoming Sewage Treatment Plant. Please feel free to contact the undersigned if you have any questions regarding this report.

Respectfully Submitted,

Christopher Toulouse

Jacobs **- Lead Operator**

cc: Paul daSilva, Director of Public Works, Town of Plympton-Wyoming

Joe Bloomfield, Jacobs, Project Manager

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Introduction:

The Wyoming Sewage Treatment Plant (STP) was constructed in 1978. It is classified as a Level III Treatment plant and Level II Collection system.

OMI (Jacobs) is the Operating Authority for the treatment plant and pump stations on behalf of The Corporation of the Town of Plympton-Wyoming.

The plant has a design capacity of 1,128 m^3/day. The total annual effluent flow for 2024 was 235,763 m^3, an average daily flow of 644.16 m^3/day or 57.11% of capacity.

The treatment plant operates under ECA # 2260-AT6TJX, issued March 29, 2018.

The current STP is an extended aeration activated sludge plant which consists of an effluent flowmeter, automatic bar screen conveyor, course bubble aeration, clarification, sand filtration and UV disinfection.

The STP has an on-site back-up power generator that operates the plant and the Main pumping station during an emergency power outage.

Pump Stations & Collection System:

The Wyoming Main sanitary pumping station located just before the treatment plant receives raw sewage from a gravity sewer system and two other pump stations (O'Brien and Silver Springs Pump Stations).

The sewage is gravity feed through the collection system to Main pump station, which then pumps flow approximately 810 m to the STP.

Pump stations are checked on a weekly basis and have alarm monitoring capabilities 24-hours/day. Pump run time hours are documented during the weekly checks.

SECTION A

***A summary and interpretation of all Influent and Imported Sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates*.**

The Wyoming Sewage Treatment Plant does not currently have any equipment in place to monitor the influent flow rates or totals. A SmartCover was purchased by the Town of Plympton-Wyoming and put in upstream of the Main Pump Station to allow for remote monitoring and 24/7 alarm capability of the level in the collections system.

A 24-hour composite sample of the Influent sewage is collected once per month and analyzed by SGS Laboratories for the parameters: BOD_5, TKN, TSS, and TP in accordance with Schedule D

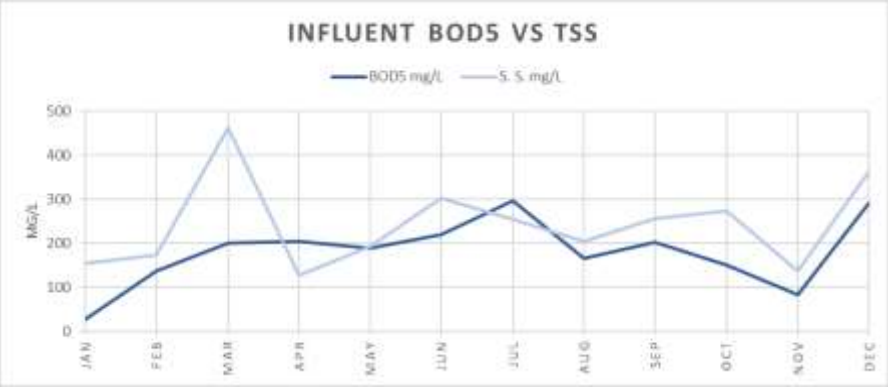
of the ECA. The onsite operators perform daily (Monday-Friday) grab sample monitoring for pH and temperature.

Historically the influent flow rates increase during storms/heavy rain events and during the spring snow melting/run-off. Recent development has also increased the influent flow rates; however, the Town of Plympton-Wyoming continues to monitor the level of development to maintain adequate capacity for abnormal events.

Phosphorous and solids removal is achieved by the addition of aluminum sulphate (alum) from two (2) metering pumps that deposit the alum directly into the combined receiving channel at the end of the aeration tank. The Alum is stored outside in a 22.7 m3 heated tank with a heat trace system to prevent lines from freezing.

Sodium Bicarbonate is added to the Influent stream as need to boost alkalinity and pH levels during the summer months.

Figure 1: Influent BOD5 and TSS Comparison



SECTION 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.

The Treated Effluent is discharged to Stonehouse Drain prior to discharging into Bear Creek. The Effluent sampling point is located downstream of the UV system and upstream of the effluent Parshall flume.

In accordance with Schedule D, a 24-hour composite sample of the Final Effluent is collected weekly and analyzed by SGS Laboratories for the parameters: $CBOD_5$, TSS, Total Phosphorous, TAN, and Unionized Ammonia. A weekly grab sample is also collected and analyzed for E-coli by SGS Laboratories. The onsite operator completes analysis of pH, temperature, reactive

phosphorous, nitrate, and nitrite. When Chlorine is in use a grab sample is collected daily and analyzed for a Total Chlorine residual.

The monthly Lab Data Sheets for the reporting year can be found in Appendix A. Flow vs Precipitation data was collected and developed during the reporting year and can be found in Appendix B.

Figure 2: ECA Objectives and Limits

Effluent Parameter	Effluent Design Objective	Effluent Design Limits
CBOD5	10 mg/L	15 mg/L
Total Suspended Solids	12 mg/L	15 mg/L
Total Phosphorous	0.70 mg/L	1.0 mg/L
Total Ammonia Nitrogen	5.0 mg/L (Nov 1 – April 30)	7.0 mg/L (Nov 1 – April 30)
Total Ammonia Nitrogen	3.0 mg/L (May 1 – Oct 31)	5.0 mg/L (May 1 – Oct 31)
E-coli	100 organisms per 100 mL	200 organisms per 100 mL
pH	6.5 – 8.5 inclusive	6.0 – 9.0 inclusive

Figure 3: Monthly / Yearly Average Results

2024 MONTHLY/YEARLY AVERAGE RESULTS

Wyoming W.W.T.P
Operations Number: 110002489 **YEAR: 2024**
Operating Authority: Jacobs
Town of Plympton-Wyoming

	Raw Influent				Final Effluent									
	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia ug/L	E-Coli Per 100 mL	Reactive P mg/L	pH
January	28	155	28.70	2.70	2.00	3.00	0.41	0.068	12.80	0.10	0.001	13.3	0.37	7.24
February	136	173	47.80	4.77	2.00	3.00	0.35	0.120	15.30	0.15	0.001	26.1	0.45	7.18
March	200	461	86.90	9.90	3.00	5.30	0.49	0.099	10.90	0.13	0.001	21.8	0.46	6.94
April	204	128	33.00	3.90	2.40	5.60	0.40	0.129	15.20	0.18	0.001	36.0	0.46	7.26
May	189	192	45.30	4.70	2.50	4.00	0.63	0.052	12.30	0.20	0.001	38.0	0.60	7.25
June	220	302	39.80	3.60	2.00	4.30	0.72	0.075	18.20	0.30	0.001	12.0	0.77	6.84
July	296	255	41.60	5.10	3.40	5.40	0.57	0.102	18.90	0.18	0.001	13.0	0.55	7.03
August	165	204	41.70	5.30	2.00	5.00	0.71	0.057	18.30	0.23	0.001	3.0	0.92	6.79
September	202	256	77.00	8.00	2.00	2.50	0.85	0.105	17.90	0.20	0.001	2.0	0.79	6.76
October	151	273	44.8	4.51	2.00	2.20	0.58	0.102	22.30	0.30	0.001	2.0	0.54	6.59
November	83	137	56.90	5.31	2.00	2.25	0.61	0.048	16.53	0.15	0.001	5.3	0.66	6.93
December	290	361	74.7	8.01	2.00	2.00	0.49	0.040	13.67	0.10	0.001	2.0	0.52	7.12
Min	28.0	128.0	28.70	2.70	2.00	2.00	0.35	0.040	10.90	0.10	0.001	2.0	0.37	6.59
Max	296.0	461.0	86.90	9.90	3.40	5.60	0.85	0.129	22.30	0.30	0.001	38.0	0.92	7.26
Yearly Average	**180.3**	**241.4**	**51.52**	**5.48**	**2.28**	**3.71**	**0.57**	**0.083**	**16.02**	**0.19**	**0.001**	**14.5**	**0.59**	**6.99**

Figure 4: Wyoming Effluent Flow Report

JACOBS OMI
Wyoming WPCP
2024 EFFLUENT FLOW REPORTS

DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	834	905	568	599	603	596	559	596	527	537	480	583	m^3/d
2	725	833	617	688	558	689	533	634	559	537	556	513	m^3/d
3	789	829	626	671	712	566	505	603	487	533	573	553	m^3/d
4	661	810	541	593	651	561	498	543	503	497	544	531	m^3/d
5	670	754	559	546	662	605	488	581	478	564	517	518	m^3/d
6	701	734	559	599	562	565	547	956	551	540	517	527	m^3/d
7	697	722	521	600	621	525	516	751	591	488	500	574	m^3/d
8	622	717	550	549	721	601	501	636	576	503	500	610	m^3/d
9	808	675	902	528	643	646	486	576	517	489	557	709	m^3/d
10	1091	740	716	532	550	536	1,071	592	449	513	702	637	m^3/d
11	903	699	638	760	736	528	748	593	498	522	587	600	m^3/d
12	891	639	626	1402	672	519	617	531	486	538	510	514	m^3/d
13	1294	630	582	1058	586	523	567	544	486	585	528	525	m^3/d
14	912	575	631	842	555	490	599	544	507	845	599	619	m^3/d
15	760	645	622	719	563	506	947	506	530	824	562	693	m^3/d
16	716	566	639	690	518	526	2,438	660	525	1,359	592	663	m^3/d
17	675	621	561	763	572	498	1,239	637	473	764	603	645	m^3/d
18	651	632	639	849	537	508	950	678	480	643	536	617	m^3/d
19	619	649	591	751	592	490	782	550	475	636	539	615	m^3/d
20	654	593	544	738	708	530	722	541	469	635	710	608	m^3/d
21	633	592	520	702	605	537	699	551	495	541	636	605	m^3/d
22	609	570	530	621	558	538	633	519	547	538	716	608	m^3/d
23	688	589	581	610	551	556	615	513	510	542	911	594	m^3/d
24	926	625	605	596	495	496	603	541	511	528	716	680	m^3/d
25	1014	645	536	559	612	529	559	559	510	487	659	682	m^3/d
26	2050	597	641	561	733	800	559	495	487	562	645	747	m^3/d
27	1251	576	620	638	1242	553	509	598	494	574	575	852	m^3/d
28	1078	593	560	674	847	535	644	541	522	539	563	908	m^3/d
29	927	537	594	615	719	947	833	510	557	576	543	1281	m^3/d
30	893		617	658	662	677	788	480	497	525	590	1640	m^3/d
31	900		597		602		486	542		512		1029	m^3/d
TOTAL	**26,642**	**19,292**	**18,633**	**20,711**	**19,948**	**17,176**	**22,241**	**18,101**	**15,297**	**18,476**	**17,766**	**21,480**	m^3/d
MIN.	**609**	**537**	**520**	**528**	**495**	**490**	**486**	**480**	**449**	**487**	**480**	**513**	m^3/d
MAX.	**2050**	**905**	**902**	**1402**	**1242**	**947**	**2438**	**956**	**591**	**1359**	**911**	**1640**	m^3/d
AVG.	**859.42**	**665.24**	**601.06**	**690.37**	**643.48**	**572.53**	**717.45**	**583.90**	**509.90**	**596.00**	**592.20**	**692.90**	m^3/d
% Cap	**76.19%**	**58.98%**	**53.29%**	**61.20%**	**57.05%**	**50.76%**	**63.60%**	**51.76%**	**45.20%**	**52.84%**	**52.50%**	**61.43%**	

Yearly Average: **644.16** m^3/d **Yearly Total:** **235,763** m^3
Design Capacity: **1,128** m^3/d
% of Design Capacity: **57.11%**

Figure 5: Historical Effluent Flows

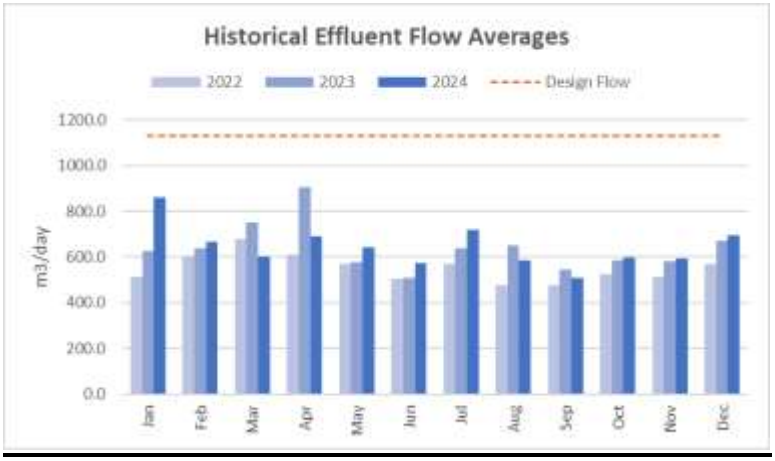


Figure 6: Effluent TP Comparison

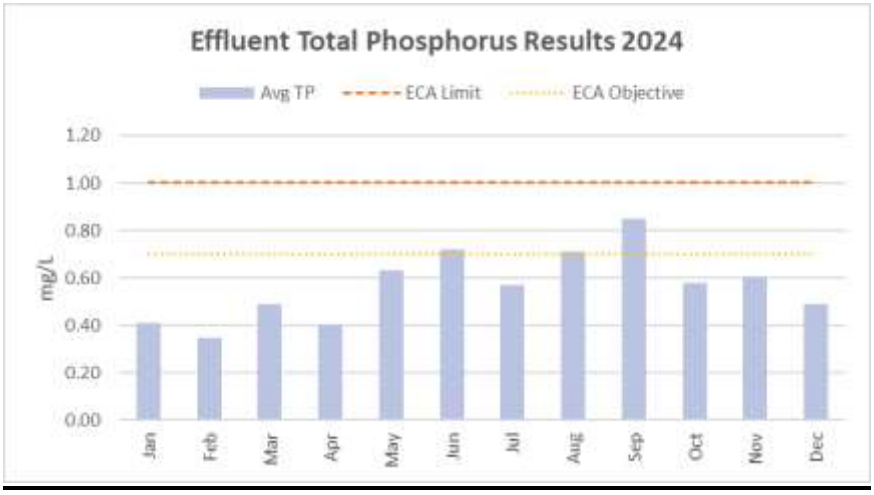


Figure 7: Effluent CBOD5 and TSS Comparison

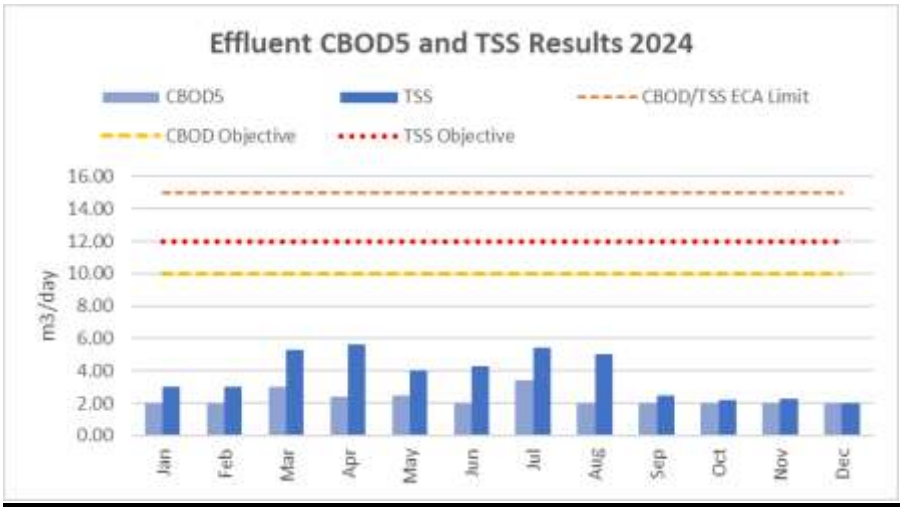


Figure 8: Effluent Removal Efficiencies

Removal Efficiency					
Influent S.S. mg/L	**Final S.S. mg/L**	**Removal Efficiency %**	**Influent Total P mg/L**	**Final Total P mg/L**	**Removal Efficiency %**
155	3.00	98.06	2.70	0.41	84.81
173	3.00	98.27	4.77	0.35	92.66
461	5.30	98.85	9.90	0.49	95.05
128	5.60	95.63	3.90	0.40	89.74
192	4.00	97.92	4.70	0.63	86.60
302	4.30	98.58	3.60	0.72	80.00
255	5.40	97.88	5.10	0.57	88.82
204	5.00	97.55	5.30	0.71	86.60
256	2.50	99.02	8.00	0.85	89.38
273	2.20	99.19	4.51	0.58	87.14
137	2.25	98.36	5.31	0.61	88.61
361	2.00	99.45	8.01	0.49	93.88
	Min	95.63		Min	80.00
	Max	99.45		Max	95.05
	Average	98.23		Average	88.61

SECTION C

A summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year.

A sampling schedule is created and distributed by the start of the reporting year and adhered to by the Operating Authority. In accordance with Schedule 9.1 page 14 of the ECA: the schedule shall be revised and updated every year through a rotation of the day of the week/month of the scheduled sampling program.

During the 2024 reporting year, samples were collected on the Tuesday of every week with deviations only occurring during operations staff shortages or when sample delivery and holding times would be exceeded due to SGS Laboratory holidays.

Throughout the 2025 reporting year, samples will be collected on the Monday of every week with limited deviations anticipated by SGS Laboratory holidays.

SECTION D

A summary of all operating issues encountered, and corrective actions taken.

The Wyoming STP did experience several days in which the flows were above the Design Capacity but were below the Peak Capacity as outlined in the ECA due to above average rainfalls and severe storms. The Wyoming STP and its sewage works did have a total of four (4) events in the reporting year and are discussed in Section K of this report.

SECTION 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.

Jacobs utilizes a computerized maintenance management system (CMMS) to track preventative and corrective maintenance activities. Preventative maintenance activities are carried out on a regular basis predetermined by the allocation and issuance of work orders including but not limited to equipment greasing, oil changes, and equipment inspections. The predetermined activities help to ensure optimal performance of the Works equipment and ensure the availability of equipment in emergency situations.

Early in the 2023 reporting year, Selectra Inc was awarded the electrical contract for the replacement of the MCC panel and installation of a SCADA system at the Wyoming STP through Eramosa Engineering and the Town of Plympton-Wyoming. The project was started in mid-2023, but unforeseen electrical issues and supply procurement delays had stalled the project. The new MCC was installed on September 10th, 2024, and all essential equipment powered up and

running. All other remaining equipment terminations were made on September 11th, 2024. The new PLC was terminated and commissioned between September 16th and 20th, with all equipment now operating through the PLC / SCADA system as intended.

SECTION F

A summary of any effluent quality assurance or control measures undertaken.

The final effluent quality determines the efficiency of the treatment facility and if the standards set out in Schedule B, C, and D of the ECA are being met. The effluent quality is monitored on a regular basis by the Operating Authority for both legal and operational requirements. Proper sampling techniques and analysis are utilized to ensure that the Wyoming STP is operating efficiently and without impact to the environment. All records of process data are kept onsite at the Wyoming STP and electronic copies made available in the case of an emergency. The Operating Authority continues to improve upon the Standard Operating Procedures set out to ensure the integrity of the facility is maintained.

SECTION G

A summary of the calibration and maintenance carried out on all Influent, Imported Sewage and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer.

The annual flow meter calibrations were completed on August 27th, 2024, by Pierce Services and Solutions Inc. All calibration sheets are kept at the Wyoming STP and electronic copies kept as a backup. A copy of the reporting years calibration sheets can be found in Appendix C of this report.

The pH meter and probe used at the Wyoming STP undergoes a daily calibration and calibration verification as per manufacturer specifications. All data is recorded and kept at the Wyoming STP.

SECTION 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 are required under the following situations:

- ***iii. When any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend to deterioration of Final Effluent quality.***
- ***iv. When the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity.***

In June, the Design Objective for Total Phosphorus was not achieved. The monthly average was 0.72mg/L, while the objective is 0.70mg/L. Due to seasonal temperature changes and an alkalinity

/ pH drop, the aeration tank became foamy which also filled the alum dosing channel. This foam build up was not allowing for a proper dose of Alum to be discharged into the flow stream causing elevated Phosphorus readings. A garden hose was set up in the receiving stream to help knock down the foam and allow for adequate chemical dosing and mixing.

In August, the Design Objective for Total Phosphorus was not achieved. The monthly average was 0.71 mg/L, while the objective is 0.70mg/L. It was determined that the tertiary filter was not performing at its best potential, with the sand becoming somewhat foiled. The filter system was run in a manual state while manual washing and stirring of the sand occurred to assist in the agitation and backwashing of the system.

In September, the Design Objective for Total Phosphorus was not achieved. The monthly average was 0.85 mg/L, while the objective is 0.70mg/L. The treatment plant had elevated influent phosphorus levels and become foamy because of the dry weather and alkalinity / pH drop, resulting in poor mixing within the alum channel. Some of this foam was making its way into the filter, which was causing some foiling. A hose was setup to knock the foam down within the alum mixing channel and slowly improved the remaining treatment processes.

The Town of Plympton-Wyoming has developed and put out Cross-Connectional bylaws and has put together a grant program to assist homeowners with the separation of sump pumps from the sanitary sewer system and installation of a Back Flow Preventor. This program developed by the Town has had great feedback with the public and is designed to help reduce the overall flow that the Wyoming STP receives during both normal seasonal weather and abnormal rainfall events. It appears that it will take several years to fully see the affects the stated program has on the treatment plant.

SECTION I

A tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summery of the locations to where the sludge was disposed.

Waste activated sludge (WAS) is stored in aerobic digesters with the capacity to decant and transfer the supernatant back to the Headworks for further treatment. A grab sample of the sludge is collected quarterly and analyzed for the parameters listed in Schedule D of the ECA under Sludge/Biosolids. A copy of the sludge analysis can be found in Appendix D of this report.

For the year 2025, it is anticipated that the volume of sludge and concentrations produced will increase slightly as new residential and business development within the area continues.

Sludge is currently hauled off site by Central Sanitation to Saul Farms biweekly or as needed. For the 2024 reporting year, a total of 80 loads with a total volume of 1,440 m^3 were hauled off site.

SECTION J

A summary of any complaints received, and any steps taken to address the complaints.

No complaints were received regarding the Wyoming STP for the 2024 reporting year.

The collections system had a total of 2 complaints for sanitary sewer backups. All complaints were responded to, with most issues being on private property where homeowners were instructed to call a plumber for remediation.

SECTION K

A summary of all Bypasses, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events.

During the 2024 reporting year, the Wyoming STP and its Works had a total of four (4) bypass and overflow events.

On January 26th, 2024, the Wyoming STP Filter needed to be bypassed due to heavy rains and snow melts resulting in abnormally high flows entering the treatment plant. The event lasted 9.7 hours and had a total bypass volume 1,300 m^3 that received UV disinfection. All applicable parties were notified of the event with a reference number of 1-4M8BZO.

On July 16th, 2024, Wyoming had received 54.7mm of rain, after receiving 26.9mm on July 15th, resulting in a Town wide sanitary backup. The Wyoming Main Pump station was not able to keep up with the flows being received and had overflowed to the Stonehouse Drain. A total estimated flow of 300m^3 of raw sewage had overflowed over the 5.4-hour event. All applicable parties were notified with a reference number of 1-8ZTNRU.

On July 16th, 2024, the Wyoming STP filter needed to be bypassed due to the rain fall amounts and the Wyoming Main Pump Station being inodiated with flow. The event lasted 6 hours and had a total bypass volume 1,600 m^3 that received UV disinfection. All applicable parties were notified of the event with a reference number of 1-8ZS9L8.

On December 30th, 2024, the Wyoming STP filter needed to be bypassed due to a mechanical failure and a 28.1 mm rain fall the night before resulting in higher-than-normal flows. The event lasted 6.3-hours and had a total bypass volume of 491 m^3 that received UV disinfection. All applicable parties were notified of the event with a reference number of 1-FCMP9N

SECTION L

A summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Limited Operations Flexibility Condition, including a report on status of implementation of all modification.

No Notices of Modifications were completed during the reporting year.

SECTION 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 overall Bypass / Overflow elimination including expenditures and proposed projects to eliminate Bypass / Overflows with estimated budget forecast for the year following that for which the report in submitted.

No projects were undertaken in the collections system to eliminate Bypass / Overflows.

The Town of Plympton-Wyoming and the Operating Authority work together to preform regular cleaning and inspections of the entire sanitary collections system to identify and prevent significant issues. In the reporting year, the system was flushed, and CCTV inspections occurred in range with the allowable budget set out by the Town of Plympton-Wyoming.

SECTION N

Any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es) / equipment groups in the Proposed Works.

Nothing to report in the reporting year.

APPENDIX A

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: January

Wyoming W.W.T.P.
Operations Number: 110002489 **YEAR:** 2024
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming **Analyst :** Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 3-Jan		6344	28	155	28.7	2.74	2.0	2.0	0.41	0.040	17.9	0.10	0.001	1	0.39	7.30	11-Jan	CT
2 9-Jan		4268					2.0	5.0	0.67	0.027	10.7	0.10	0.001	10	0.51	7.11	17-Jan	CT
3 16-Jan		5468					2.0	2.0	0.57	0.087	9.3	0.10	0.001	16	0.30	7.36	22-Jan	CT
4 23-Jan		6152					2.0	3.0	0.26	0.117	13.3	0.10	0.001	52	0.28	7.19	29-Jan	CT
5 30-Jan		3904					2.0	3.0	0.13	0.071	11.3	0.10	0.001	50	0.20	7.40	5-Feb	CT
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**		
Monthly Average:			**28**	**155**	**28.7**	**2.7**	**2.0**	**3.0**	**0.41**	**0.068**	**12.8**	**0.1**	**0.001**	**13.3**	**0.37**	**7.24**		
Monthly Min:			28	155	28.7	2.7	2	2	0.13	0.027	9.3	0.10	0.00	1	0.2	7.11		
Monthly Max:			28	155	28.7	2.7	2	5	0.67	0.117	17.9	0.10	0.00	52	0.51	7.40		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: February

Wyoming W.W.T.P.
Operations Number: 110002489 **YEAR:** 2024
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming **Analyst :** Christopher Toulouse

	Aeration MLSS#W	Aeration MLSS#E	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 6-Feb		4872	136	173	47.8	4.77	2.0	2.0	0.22	0,094	14.8	0.10	0.001	38	0.24	7.37	12-Feb	CT
2 13-Feb		5136					2.0	3.0	0.47	0.137	13.2	0.10	0.001	18	0.72	7.18	20-Feb	CT
3 21-Feb		5288					2.0	2.0	0.38	0.097	11.5	0.30	0.001	20	0.46	7.13	28-Feb	CT
4 27-Feb		5336					2.0	5.0	0.32	0.126	21.7	0.10	0.001	34	0.36	7.05	5-Mar	CT
5																		
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**		
Monthly Average:			**136**	**173**	**47.8**	**4.8**	**2.0**	**3.0**	**0.35**	**0.120**	**15.3**	**0.15**	**0.001**	**26.1**	**0.45**	**7.18**		
Monthly Min:			136	173	47.8	4.8	2	2	0.22	0.097	11.5	0.10	0.001	18	0.24	7.05		
Monthly Max:			136	173	47.8	4.8	2	5	0.47	0.137	21.7	0.30	0.001	38	0.72	7.37		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: March

Wyoming W.W.T.P.
Operations Number: 110002489
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming

YEAR: 2024

Analyst : Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 5-Mar		5420	200	461	86.6	9.9	4.0	4.0	0.45	0.108	5.3	0.10	0.001	6	0.53	6.93	18-Mar	CT
2 12-Mar		5604					2.0	4.0	0.47	0.055	10.7	0.10	0.001	8	0.46	7.02	18-Mar	CT
3 19-Mar		5612					3.0	7.0	0.52	0.091	18.6	0.10	0.001	62	0.41	6.98	26-Mar	CT
4 26-Mar		5436					3.0	6.0	0.50	0.142	8.8	0.20	0.001	76	0.45	6.81	1-Apr	CT
5																		
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**		
Monthly Average:			**200**	**461**	**86.6**	**9.9**	**3.0**	**5.3**	**0.49**	**0.099**	**10.9**	**0.13**	**0.001**	**21.8**	**0.46**	**6.94**		
Monthly Min:			200	461	86.6	9.9	2	4	0.45	0.055	5.3	0.10	0.00	6	0.41	6.81		
Monthly Max:			200	461	86.6	9.9	4	7	0.52	0.142	18.6	0.20	0.00	76	0.53	7.02		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: April

Wyoming W.W.T.P.
Operations Number: 110002489
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming

YEAR: 2024

Analyst : Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 3-Apr		5896	204	128	33.0	3.9	2.0	2.0	0.36	0.111	8.8	0.10	0.001	40	0.42	7.37	15-Apr	CT
2 9-Apr		6004					2.0	5.0	0.48	0.153	22.1	0.10	0.001	28	0.51	6.97	16-Apr	CT
3 16-Apr		4956					3.0	8.0	0.40	0.153	13.5	0.30	0.002	40	0.39	7.50	22-Apr	CT
4 23-Apr		4468					2.0	6.0	0.28	0.098	16.2	0.20	0.001	70	0.51	7.20	30-Apr	CT
5 29-Apr		5252					3.0	7.0	0.47	0.066	20.0	0.20	0.001	20	0.48	6.93	7-May	CT
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**		
Monthly Average:			**204**	**128**	**33.0**	**3.9**	**2.4**	**5.6**	**0.40**	**0.129**	**15.2**	**0.18**	**0.001**	**36**	**0.46**	**7.26**		
Monthly Min:			204	128	33	3.9	2	2	0.28	0.066	8.8	0.10	0.00	28	0.39	6.93		
Monthly Max:			204	128	33	3.9	3	8	0.48	0.153	22.1	0.30	0.00	70	0.51	7.50		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: May

Wyoming W.W.T.P.
Operations Number: 110002489 **YEAR:** 2024
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming **Analyst :** Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 6-May		5356	189	192	45.3	4.7	2.0	2.0	0.58	0.007	16.5	0.20	0.001	46	0.61	7.12	14-May	CT
2 14-May		5564					3.0	4.0	0.57	0.067	13.6	0.30	0.001	40	0.47	7.26	22-May	CT
3 21-May		5116					3.0	3.0	0.82	0.119	8.9	0.20	0.001	16	0.79	7.20	28-May	CT
4 28-May		4240					2.0	7.0	0.56	0.013	10.3	0.10	0.001	68	0.54	7.42	4-Jun	CT
5																		
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**		
Monthly Average:			**189**	**192**	**45.3**	**4.7**	**2.5**	**4.0**	**0.63**	**0.052**	**12.3**	**0.20**	**0.001**	**38**	**0.60**	**7.25**		
Monthly Min:			189	192	45.3	4.7	2	2	0.56	0.007	8.9	0.10	0.00	16	0.47	7.12		
Monthly Max:			189	192	45.3	4.7	3	7	0.82	0.119	16.5	0.30	0.00	68	0.79	7.42		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: June

Wyoming W.W.T.P.
Operations Number: 110002489 **YEAR:** 2024
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming **Analyst :** Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 3-Jun		5156	220	302	39.8	3.6	2.0	5.0	0.44	0.012	11.0	0.20	0.001	6	0.48	6.99	11-Jun	CT
2 11-Jun		5096					2.0	3.0	0.71	0.152	20.8	0.30	0.001	8	0.81	6.80	17-Jun	CT
3 18-Jun		5368					2.0	4.0	1.01	0.046	25.2	0.30	0.001	32	0.85	6.66	25-Jun	CT
4 25-Jun		4804					2.0	5.0	0.72	0.091	15.9	0.40	0.001	12	0.94	6.92	3-Jul	CT
5																		
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**		
Monthly Average:			**220**	**302**	**39.8**	**3.6**	**2.0**	**4.3**	**0.72**	**0.075**	**18.2**	**0.30**	**0.001**	**12**	**0.77**	**6.84**		
Monthly Min:			220	302	39.8	3.6	2	3	0.44	0.012	11	0.20	0.00	6	0.48	6.66		
Monthly Max:			220	302	39.8	3.6	2	5	1.01	0.152	25.2	0.40	0.00	32	0.94	6.99		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: July

Wyoming W.W.T.P.
Operations Number: 110002489 **YEAR:** 2024
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming **Analyst :** Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 3-Jan		5620	296	255	41.6	5.09	2.0	3.0	0.58	0.172	21.0	0.30	0.001	20	0.54	7.04	10-Jul	CT
2 9-Jan		6160					2.0	5.0	0.70	0.175	21.5	0.10	0.001	14	0.76	6.80	17-Jul	CT
3 16-Jul		5584					5.0	7.0	0.63	0.011	19.6	0.20	0.001	22	0.55	6.87	25-Jul	CT
4 22-Jul		8376					4.0	8.0	0.36	0.051	13.5	0.10	0.001	6	0.36	7.39	30-Jul	CT
5 29-Jul		4888					4.0	4.0	0.59	0.157	15.9	0.20	0.001	12	0.62	7.06	7-Aug	CT
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**		
Monthly Average:			**296**	**255**	**41.6**	**5.1**	**3.4**	**5.4**	**0.57**	**0.102**	**18.9**	**0.18**	**0.001**	**13**	**0.55**	**7.03**		
Monthly Min:			296	255	41.6	5.1	2	3	0.36	0.011	13.5	0.10	0.00	6	0.36	6.80		
Monthly Max:			296	255	41.6	5.1	5	8	0.7	0.175	21.5	0.30	0.00	22	0.76	7.39		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: August

Wyoming W.W.T.P.
Operations Number: 110002489 **YEAR:** 2024
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming **Analyst :** Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 7-Aug		6824	165	204	41.7	5.3	2.0	3.0	0.65	0.048	10.5	0.10	0.001	2	1.26	6.99	20-Aug	CT
2 12-Aug		5316					2.0	4.0	0.56	0.015	24.5	0.20	0.001	2	0.85	6.98	21-Aug	CT
3 20-Aug		5300					2.0	4.0	0.66	0.061	18.6	0.20	0.001	6	0.61	6.60	27-Aug	CT
4 27-Aug		5121					2.0	9.0	0.95	0.102	19.4	0.40	0.001	2	0.97	6.59	4-Sep	CT
5																		
Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
CA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**		
Monthly Average:			**165**	**204**	**41.7**	**5.3**	**2.0**	**5.0**	**0.71**	**0.057**	**18.3**	**0.23**	**0.001**	**3**	**0.92**	**6.79**		
Monthly Min:			165	204	41.7	5.3	2	3	0.56	0.015	10.5	0.10	0.00	2	0.61	6.59		
Monthly Max:			165	204	41.7	5.3	2	9	0.95	0.102	24.5	0.40	0.00	6	1.26	6.99		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: September

Wyoming W.W.T.P.
Operations Number: 110002489 **YEAR:** 2024
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming **Analyst :** Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 4-Sep		7800	202	256	77.0	8.0	2.0	2.0	0.90	0.078	10.8	0.10	0.001	2	0.85	6.94	11-Sep	CT
2 10-Sep		5856					2.0	3.0	0.73	0.092	18.9	0.20	0.001	2	0.59	6.78	17-Sep	CT
3 17-Sep		5645					2.0	3.0	0.84	0.150	20.5	0.30	0.001	2	0.82	6.72	24-Sep	CT
4 24-Sep		4895					2.0	2.0	0.91	0.100	21.5	0.20	0.001	2	0.88	6.60	30-Sep	CT
5																		
Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
CA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**		
Monthly Average:			**202**	**256**	**77.0**	**8.0**	**2.0**	**2.5**	**0.85**	**0.105**	**17.9**	**0.20**	**0.001**	**2**	**0.79**	**6.76**		
Monthly Min:			202	256	77	8.0	2	2	0.73	0.078	10.8	0.10	0.00	2	0.59	6.60		
Monthly Max:			202	256	77	8.0	2	3	0.91	0.15	21.5	0.30	0.00	2	0.88	6.94		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: October

Wyoming W.W.T.P.
Operations Number: 110002489 **YEAR:** 2024
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming **Analyst :** Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 1-Oct		4612	151	273	44.8	4.51	2.0	3.0	0.71	0.100	27.7	0.10	0.001	1	0.65	6.68	9-Oct	CT
2 8-Oct		5494					2.0	2.0	0.50	0.095	19.6	0.20	0.001	2	0.47	6.54	15-Oct	CT
3 15-Oct		5236					2.0	2.0	0.46	0.091	24.2	0.70	0.001	2	0.50	6.58	23-Oct	CT
4 22-Oct		5496					2.0	2.0	0.54	0.121	17.6	0.20	0.001	2	0.52	6.55	29-Oct	CT
5 29-Oct		5716					2.0	2.0	0.71	0.105	21.1	0.20	0.001	2	0.69	6.60	5-Nov	CT
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**		
Monthly Average:			**151**	**273**	**44.8**	**4.5**	**2.0**	**2.2**	**0.58**	**0.102**	**22.3**	**0.30**	**0.001**	**2**	**0.54**	**6.59**		
Monthly Min:			151	273	44.8	4.5	2	2	0.46	0.091	17.6	0.10	0.00	1	0.47	6.54		
Monthly Max:			151	273	44.8	4.5	2	3	0.71	0.121	27.7	0.70	0.00	2	0.69	6.68		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: November

Wyoming W.W.T.P.
Operations Number: 110002489
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming

YEAR: 2024

Analyst : Christopher Toulouse

	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 5-Nov		5694	83	137	56.9	5.3	2.0	2.0	0.71	0.096	18.9	0.20	0.001	4	0.68	6.65	12-Nov	CT
2 12-Nov		6528					2.0	3.0	0.67	0.071	19.2	0.20	0.001	2	0.65	6.68	20-Nov	CT
3 19-Nov		7796					2.0	2.0	0.59	0.016	16.2	0.10	0.001	2	0.64	6.93	27-Nov	CT
4 26-Nov		8060					2.0	2.0	0.45	0.008	11.8	0.10	0.001	50	0.47	7.45	3-Dec	CT
5																		
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**		
Monthly Average:			**83**	**137**	**56.9**	**5.3**	**2.0**	**2.3**	**0.61**	**0.048**	**16.5**	**0.15**	**0.001**	**5**	**0.61**	**6.93**		
Monthly Min:			83	137	56.9	5.3	2	2	0.45	0.008	11.8	0.10	0.00	2	0.47	6.65		
Monthly Max:			83	137	56.9	5.3	2	3	0.71	0.096	19.2	0.20	0.00	50	0.68	7.45		

Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

2024 WEEKLY ANALYTICAL and MONTHLY AVERAGE RESULTS

MONTH: December

Wyoming W.W.T.P.
Operations Number: 110002489
Operating Authority: Jacobs
Municipality: Town of Plympton-Wyoming

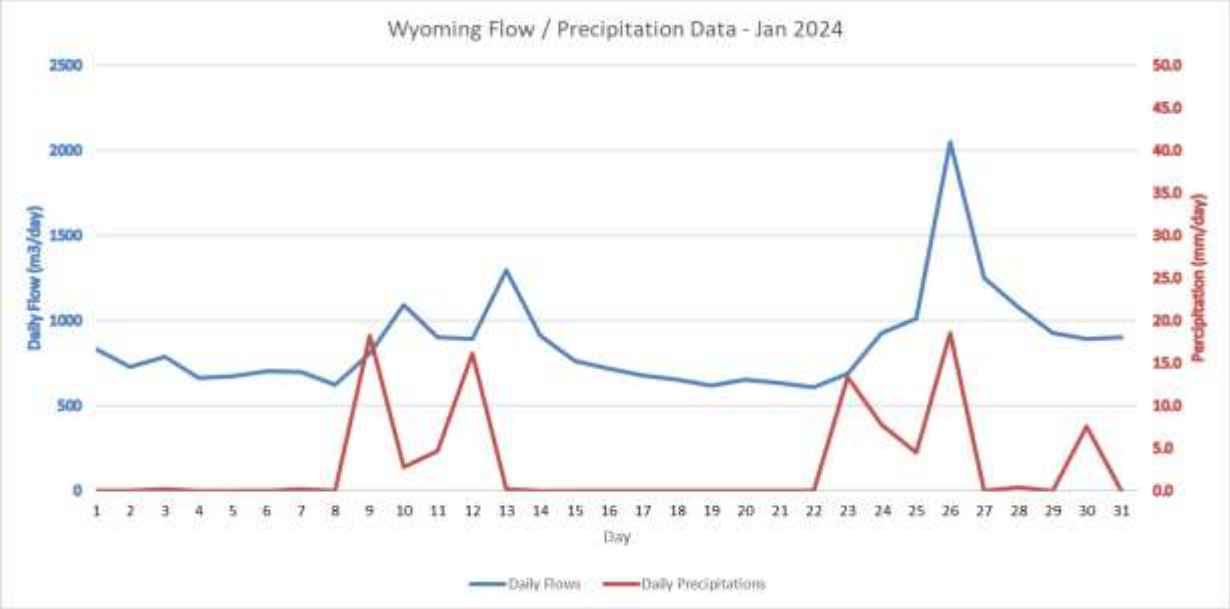
YEAR: 2024

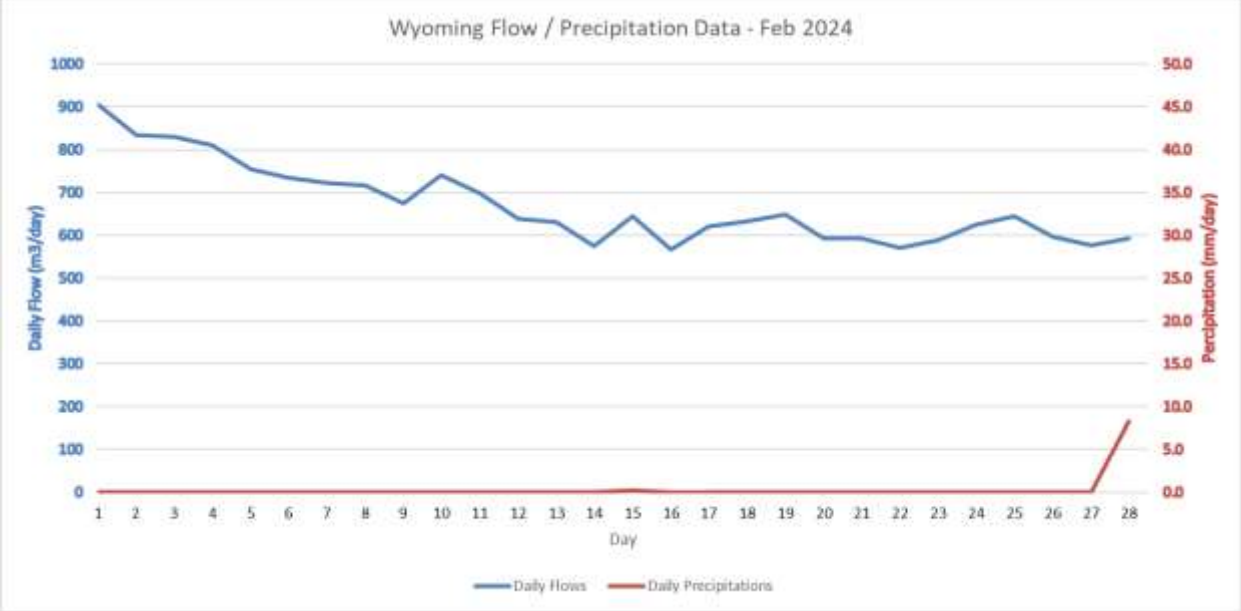
Analyst : Christopher Toulouse

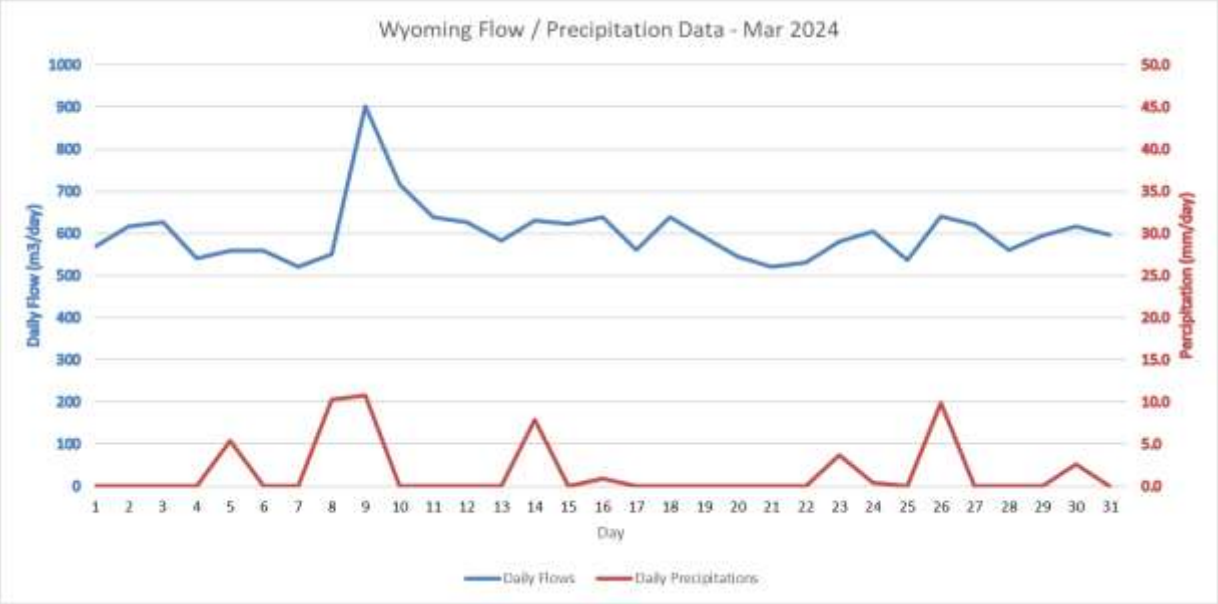
	Aeration MLSS#1	Aeration MLSS#2	RAW INFLUENT				FINAL EFFLUENT										Lab Report Received	
Test # Date	mg/L	mg/L	BOD5 mg/L	S. S. mg/L	TKN mg/L	Total P mg/L	CBOD5 mg/L	S. S. mg/L	Total P mg/L	Nitrite NO2 mg/L	Nitrate NO3 mg/L	Ammonia NH3 mg/L	Unionized Ammonia mg/L	E-Coli Per 100ml	Reactive P mg/L	pH	Date	Initial
1 3-Dec		7988	290	361	74.7	8.0	2.0	2.0	0.57	0.034	13.3	0.10	0.001	2	0.71	6.76	10-Dec	CT
2 9-Dec		6576					2.0	2.0	0.51	0.045	17.6	0.10	0.001	2	0.51	7.25	16-Dec	CT
3 17-Dec		7928					2.0	2.0	0.45	0.042	10.1	0.10	0.001	2	0.38	6.85	23-Dec	CT
4 23-Dec							2.0	2.0	0.43			0.10	0.001	2	0.48	7.63	31-Dec	CT
5																		
ECA Objectives							**10**	**12**	**0.70**			**see below**		**100-Geo**		**6.5-8.5**		
ECA Limits							**15**	**15**	**1.0**			**see below**		**200-Geo**		**6.0- 9.5**		
Number of Tests			**1**	**1**	**1**	**1**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**		
Monthly Average:			**290**	**361**	**74.7**	**8.0**	**2.0**	**2.0**	**0.49**	**0.040**	**13.7**	**0.10**	**0.001**	**2**	**0.52**	**7.12**		
Monthly Min:			290	361	74.7	8.0	2	2	0.43	0.034	10.1	0.10	0.00	2	0.38	6.76		
Monthly Max:			290	361	74.7	8.0	2	2	0.57	0.045	17.6	0.10	0.00	2	0.71	7.63		

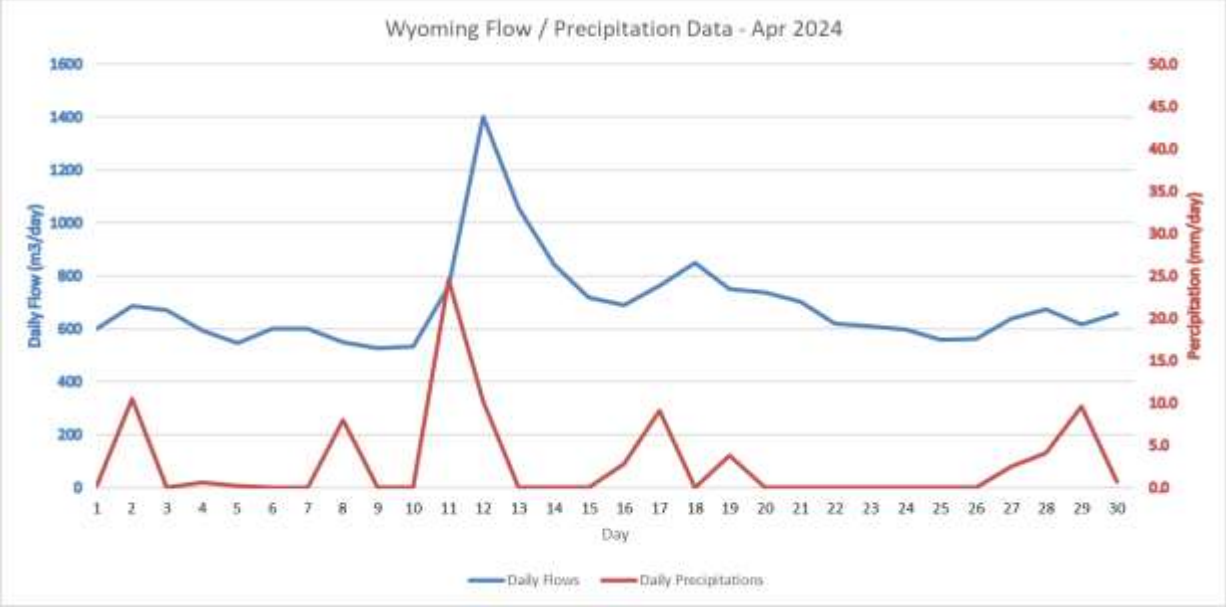
Total Ammonia Nitrogen (May 1st - Oct 31) Limit is 5.0 mg/L / Objective is 3.0 mg/L
Total Ammonia Nitrogen (Nov 1st - April 30th) Limit is 7.0 mg/L / Objective is 5.0 mg/L

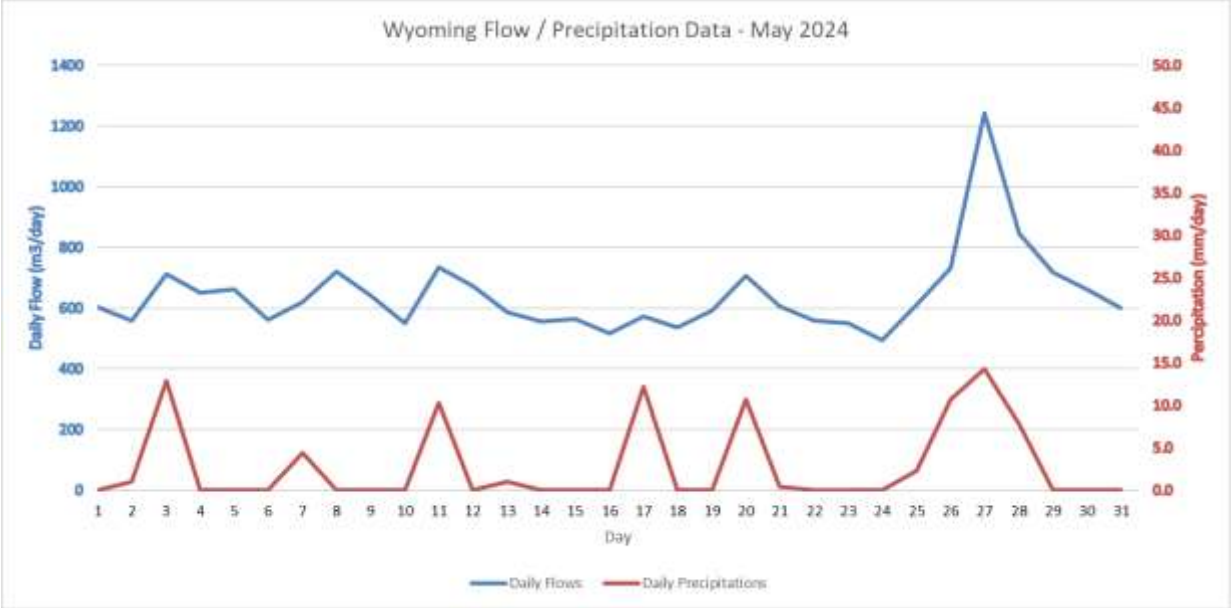
APPENDIX B

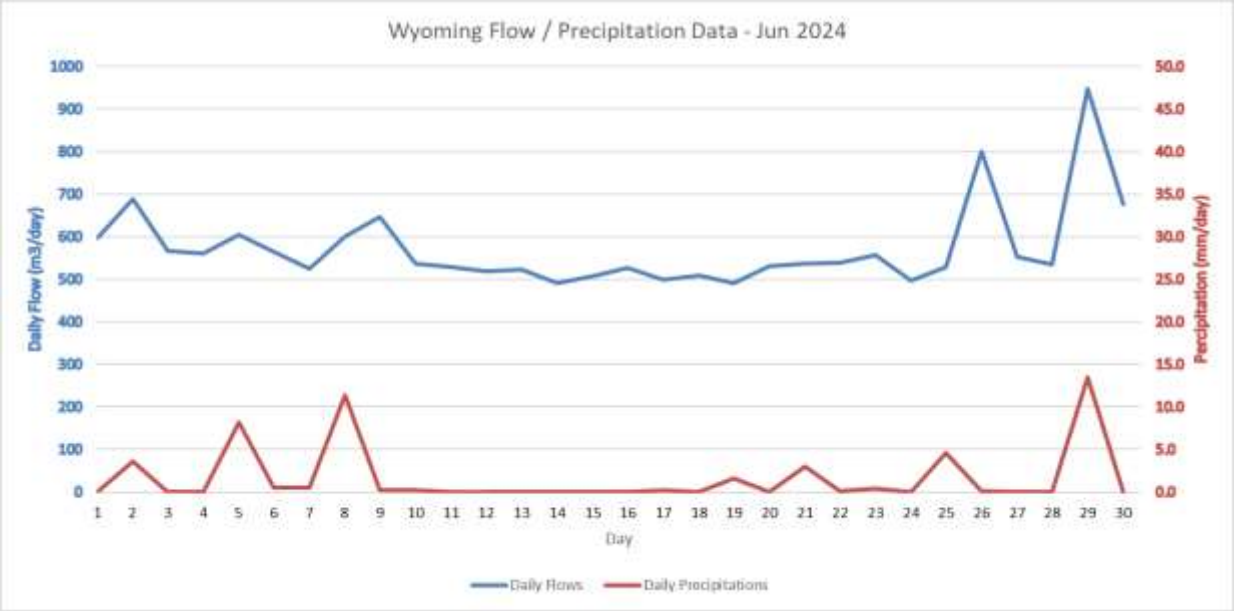

Wyoming Flow / Precipitation Data - Jan 2024
Daily Flow (m3/day)
Percipitation (mm/day)
Day
Daily Flows
Daily Precipitations

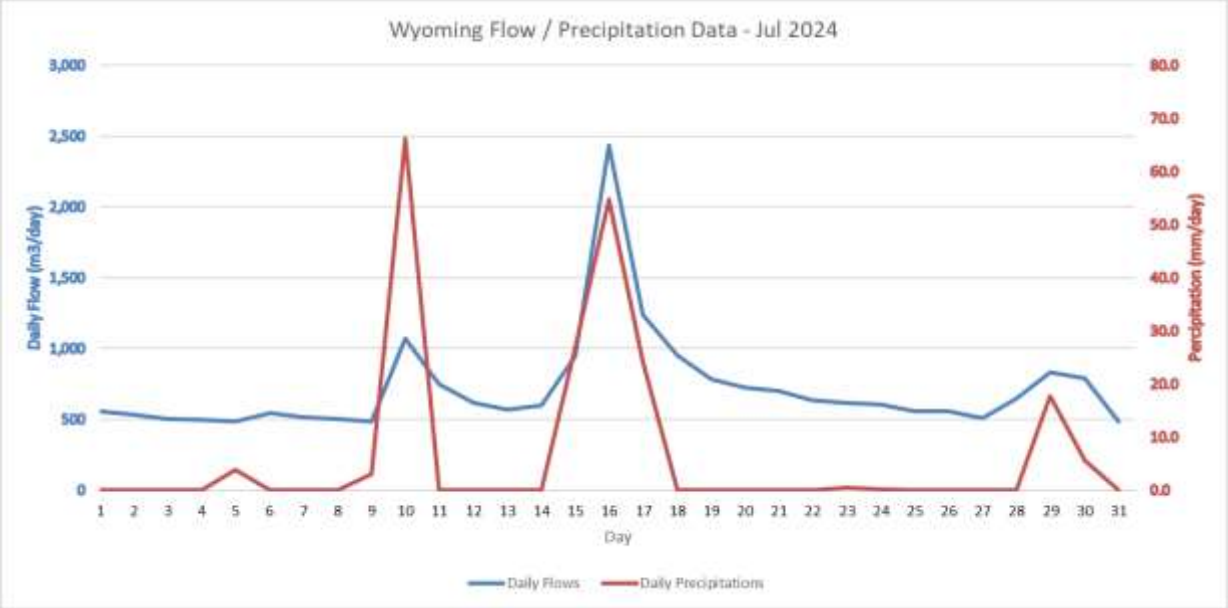

Wyoming Flow / Precipitation Data - Feb 2024
Daily Flow (m3/day)
Percipitation (mm/day)
Day
Daily Flows
Daily Precipitations

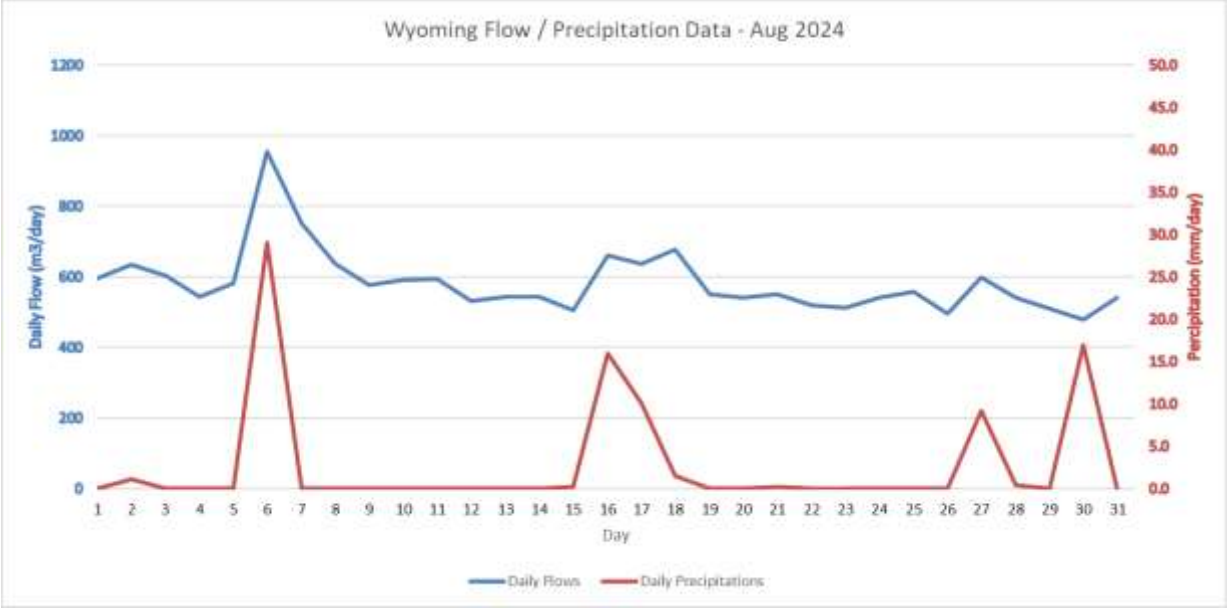

Wyoming Flow / Precipitation Data - Mar 2024
Daily Flow (m3/day)
Percipitation (mm/day)
Day
Daily Flows
Daily Precipitations

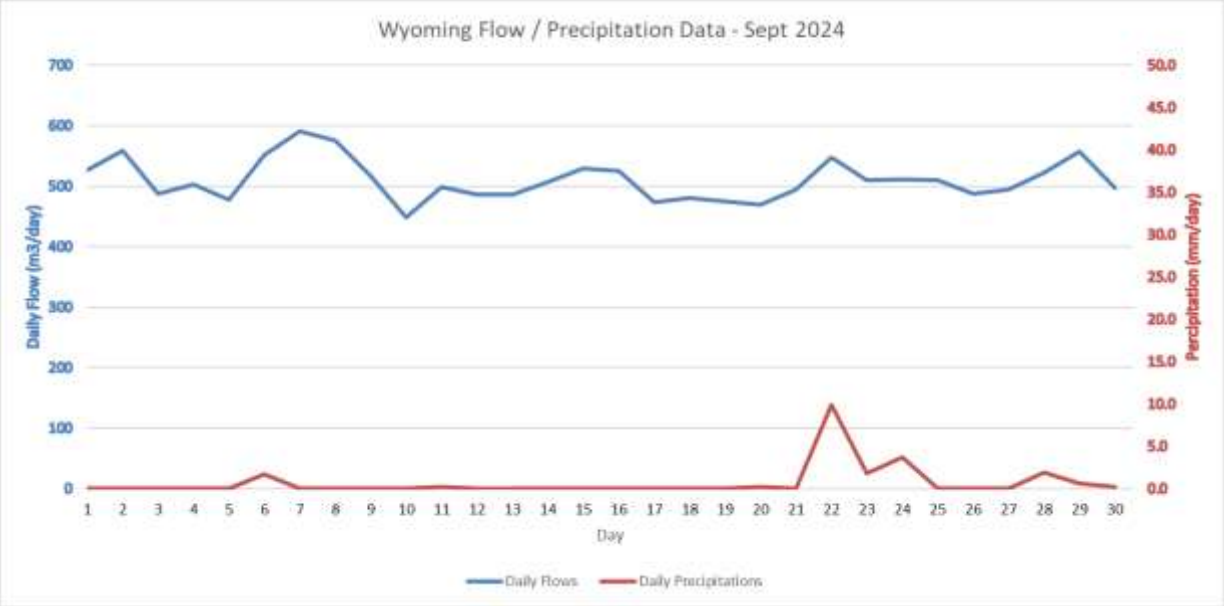

Wyoming Flow / Precipitation Data - Apr 2024
Daily Flow (m3/day)
Percipitation (mm/day)
Day
Daily Flows
Daily Precipitations

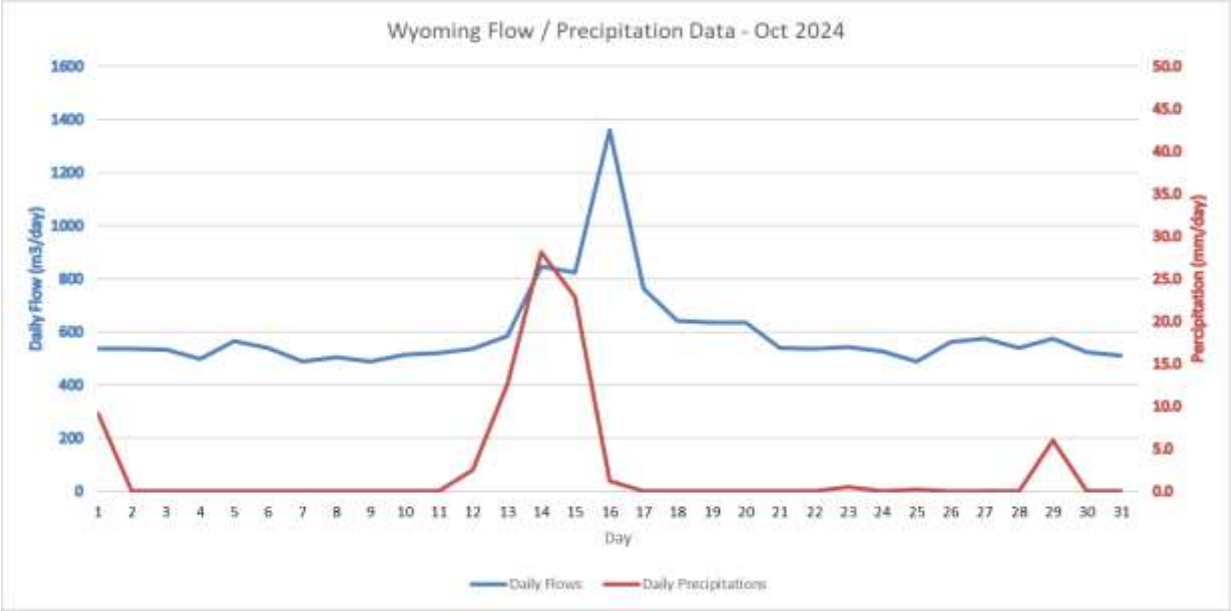

Wyoming Flow / Precipitation Data - May 2024
Daily Flow (m3/day)
Percipitation (mm/day)
Day
Daily Flows
Daily Precipitations

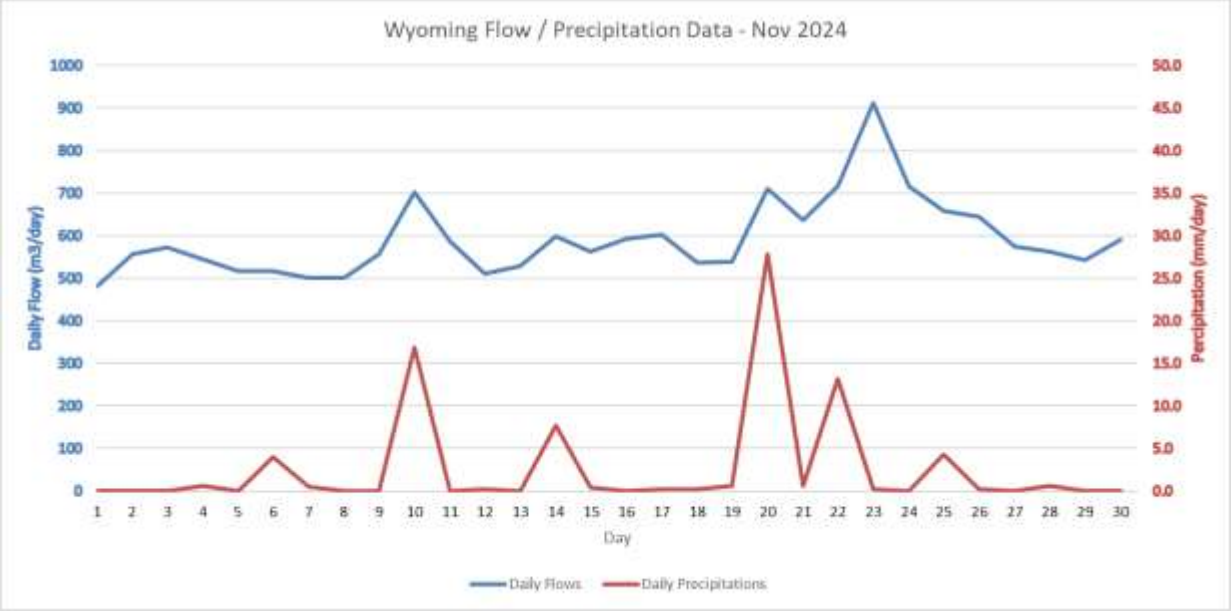

Wyoming Flow / Precipitation Data - Jun 2024
Daily Flow (m3/day)
Percipitation (mm/day)
Day
Daily Flows
Daily Precipitations

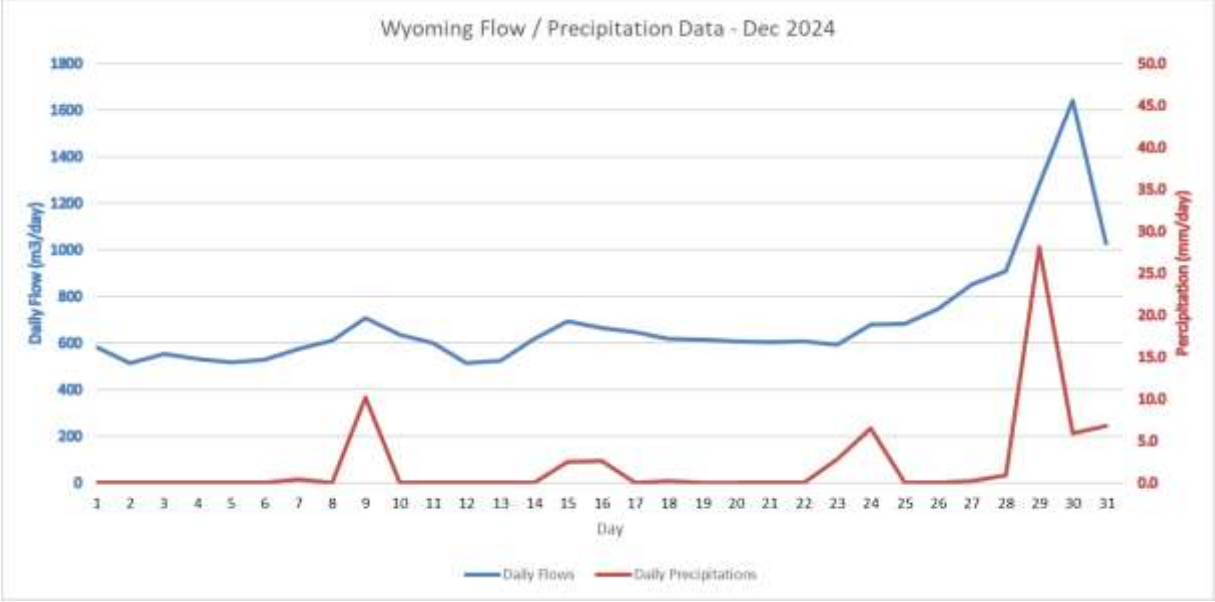

Wyoming Flow / Precipitation Data - Jul 2024
Daily Flow (m3/day)
Precipitation (mm/day)
Day
Daily Flows
Daily Precipitations


Wyoming Flow / Precipitation Data - Aug 2024
Daily Flow (m3/day)
Precipitation (mm/day)
Day
Daily Flows
Daily Precipitations


Wyoming Flow / Precipitation Data - Sept 2024
Daily Flow (m3/day)
Percipitation (mm/day)
Day
Daily Flows
Daily Precipitations


Wyoming Flow / Precipitation Data - Oct 2024
Daily Flow (m3/day)
Percipitation (mm/day)
Day
Daily Flows
Daily Precipitations


Wyoming Flow / Precipitation Data - Nov 2024
Daily Flow (m3/day)
Precipitation (mm/day)
Day
Daily Flows
Daily Precipitations


Wyoming Flow / Precipitation Data - Dec 2024
Daily Flow (m3/day)
Precipitation (mm/day)
Day
Daily Flows
Daily Precipitations

APPENDIX C

Pierce Services & Solutions Inc.
45 Wilton Road
Guelph, ON N1E 7L6
Phone: 519.820.4853
Fax: 519.824.9402

Flowmeter Report

Verification: X **Calibration:**

Client: CHCMHill OMI
Description: Mag Meter
Manufacturer: ABB
Model: Wastewater
Inventory No.:

Location: Wyoming RAS
Date: 27-Aug-24
Checked By: Greg Pierce
Serial No.: 3K62000201984

Volocity	Input	As Found	As Left	Pass/Fail
	Program Test OK			
	Functional Test OK	**NO ERRORS**		
	Output Test OK			
	7.52 m/a		674.31 l/m	
3.0111 m/s	9.785 mA	1.084.7 l/m	1084.7 l/m	Pass

Confirmed Run Mode: X Returned to service: X

Service Comments:

Flowmeter Information

Flow Unit: l/s
Meter Size: 150 mm
Pipe Material: Stainless Steel
Liner Material: PU
Range: 3456 m3/d
Tag Number: FIT 1711

Comments:
Verification of original calibration

E1 -1.20 kΩ
E2 - 1.21kΩ
E1 - 0.202 V
E2 - 0.193 V
E12 - -0.007 V
CDI -179.94 mA
CDR - 3 Ω

Signature:
Greg Pierce, CCST

Pierce Services & Solutions Inc.

519.820.4853 Fax 519.824.9402

Instrument Verification Sheet

Client Name: Jacobs

Date: August 27, 2024

Equipment Description: Flow Meter

Assigned Number:FIT 602

Area Located: Plympton Wyoming WPCP

Drawing Number:_____

Instrument Data

Manufacturer: Siemens/Milltronics

Model Number: OCM III
S/N PBD/U5290245

Type: Ultrasonic Measument

Flume/Weir Type: .076m Parshall Flume

Range:0 - 5219 m3/d

Accuracy: +/- 1%

Method Of Calibration: Standard Measurment

Application: Wastewater

Calibration Data

Input %	Input	As Found	Therorectical	Pass/Fail
0.0	0 cm	0.00 m3/d	0.00 l/s	Pass
	10 cm	432.7934 m3/d	432.72 m3/d	Pass
	20 cm	1264.66 m3/d	1264.8 m3/d	Pass
	30 cm	2368.03 m3/d	2368.32 m3/d	Pass
	40 cm	3695.45 m3/d	3695.40 m3/d	Pass
100	50 cm	5219 m3/d	5219 m3/d	Pass
14	14.63	778.12	778.12	Pass

Confirmed Run Mode: ✓

Placed back in service: ✓

Comments:

Measurements confirmed with ISCO open channel flow measurement handbook (sixth edition)

Checked By: Greg Pierce CCST

Signature:

Pierce Services & Solutions Inc.

Alphabetical Parameter Listing OCM III

Tag # Effluent Flow

Date: August 27, 2024

#	Parameter	Value	#	Parameter	Value
P0	Language	0	D0	Head	13.93
P1	Dimensional Units	1	D1	Flow Rate	723.312
P2	Temperature Units	0	D2	Short Total	477407.5
P3	Primary Element	0	D3	Maximum Flow Rate	6701.01
P4	Method of Calculation	1	D4	Minimum Flow Rate	0
P5	Flow Rate Units	7	D5	Temperature	22.22
P6	Flow at Maximum Head	5219	D6	Maximum Temperature	21.28
P7	Height of Maximum Head	50	D7	Minimum Temperature	-11.6
P8	Volts in at Zero Velocity	—	D8	Velocity	—
P9	Velocity at 5 Volts In	—	D9	Nominal Target Range	76
P10	Velocity at maximum flow	—	D10	Analog Milliamps	6.25
P13	Display Damping	2	D11	Internal DC Volts	29.99
P14	Display Lighting	0	D12	Velocity Volts	—
P15	Relay 1 Assignment	1	D13	Auxiliary Input Volts	0.01
P16	Relay 1 High Set Point	—	D14	Temperature Sensor Ohms	9361
P17	Relay 1 Low Set Point	—	D15	Self-test Checksum	0000H
P18	Relay 2 Assignment	4	D16	Restarts	853
P19	Relay 2 High Set Point	3.9	D17	Exceptions	0
P20	Relay 2 Low Set Point	3.4	D18	Valid Echos per 100	66
P21	Relay 3 Assignment	0			
P22	Relay 3 High Set Point	---			
P23	Relay 3 Low Set Point	—			
P24	mA assignment	0	F2	Run Mode l/s	
P25	If Custom mA, 20 mA =?	---		Total X 1000	
P26	mA Span	0	F6	Software Identification Number	
P27	mA Damping	10	F7	View Min/Max Data	
P28	mA Options	0		Max Flow	6701.01
P29	Fail-safe Time	60		Time	10:49:54
P30	Fail-safe Analog Mode	0		Date	2024-07-16
P31	Fail-safe Analog mA	0		Min Flow	0.00
P32	Totalizer Multiplier	3		Time	16:14:42
P33	Flow Rate Display	2		Date	2023-02-24
P34	Printer Mode	0		Max Temperature	31.28
P35	Printer Timing	---		Time	12:35:41
P36	Measurement Interval	0		Date	2024-06-19
P37	Serial Data Rate	5		Min Temperature	-11.6
P38	Site Number	0		Time	0:59:18
P39	Data Logging Rate	2		Date	2024-01-15
P40	Log Rapid Setpoint	—	F8	Reset Min/Max Data	√
P41	Log Normal Setpoint	—			
P42	Head Determination	0			
P43	Volts in For Zero Head	—			
P44	Head at 5 Volts In	—			
P45	Low Flow Cut-off Head	0			
P46	Range at Zero Head	90.3			
P47	Blanking Distance	30.48264			
U0	Exponent	1.547			

Site Location: Wyhoming STP

APPENDIX D

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO#145004557

29-February-2024

O.M.I. Canada Inc.(Wyoming WPCP)
Attn : Doug Marsh

842 Broadway St.
Wyoming, ON
N0N 1T0, Canada

Phone: On Call Operator 1-888-399-1643
Fax:226-307-0029

Date Rec. : 21 February 2024
LR Report: **CA30364-FEB24**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Wyoming WWTP Sludge (grab)
Sample Date & Time					21-Feb-24 09:15
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	8.0
Temperature Upon Receipt [°C]	---	---	---	---	6.0
Total Solids [mg/L]	23-Feb-24	17:04	27-Feb-24	09:42	15100
Total Kjeldahl Nitrogen [as N mg/L]	26-Feb-24	11:39	28-Feb-24	11:18	960
Ammonia+Ammonium (N) [as N mg/L]	26-Feb-24	17:55	29-Feb-24	13:00	35.1
Nitrite (as N) [mg/L]	26-Feb-24	22:23	29-Feb-24	13:41	< 3
Nitrate (as N) [mg/L]	26-Feb-24	22:23	29-Feb-24	13:41	< 3
Nitrate + Nitrite (as N) [mg/L]	26-Feb-24	22:23	29-Feb-24	13:41	< 3
Arsenic [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	< 0.1
Cadmium [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	0.011
Cobalt [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	0.03
Chromium [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	0.21
Copper [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	3.8
Mercury [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	0.004
Potassium [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	82
Molybdenum [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	0.08
Nickel [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	0.20
Phosphorus (Total) [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	430
Lead [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	0.2
Selenium [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	< 0.1
Zinc [mg/L]	28-Feb-24	15:13	29-Feb-24	12:07	9

Note: Metals and mercury were analyzed on the as-received sample.

Carrie Greenlaw
Project Specialist,
Environment, Health & Safety

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : PO#145004557

07-May-2024

O.M.I. Canada Inc.(Wyoming WPCP)
Attn : Doug Marsh

842 Broadway St.
Wyoming, ON
N0N 1T0, Canada

Phone: On Call Operator 1-888-399-1643
Fax:226-307-0029

Date Rec. : 30 April 2024
LR Report: **CA30608-APR24**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Wyoming WWTP Sludge (grab)
Sample Date & Time					30-Apr-24 08:45
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	13.2
Temperature Upon Receipt [°C]	---	---	---	---	10.0
Total Solids [mg/L]	01-May-24	18:22	03-May-24	13:18	21700
Total Kjeldahl Nitrogen [as N mg/L]	02-May-24	07:13	06-May-24	10:08	1310
Ammonia+Ammonium (N) [as N mg/L]	02-May-24	17:57	03-May-24	13:15	67.2
Nitrite (as N) [mg/L]	03-May-24	11:37	07-May-24	12:38	< 3
Nitrate (as N) [mg/L]	03-May-24	11:37	07-May-24	12:38	< 3
Nitrate + Nitrite (as N) [mg/L]	03-May-24	11:37	07-May-24	12:38	< 3
Arsenic [mg/L]	06-May-24	14:26	07-May-24	11:34	< 0.1
Cadmium [mg/L]	06-May-24	14:26	07-May-24	11:34	0.018
Cobalt [mg/L]	06-May-24	14:26	07-May-24	11:34	0.17
Chromium [mg/L]	06-May-24	14:26	07-May-24	11:34	1.3
Copper [mg/L]	06-May-24	14:26	07-May-24	11:34	23
Mercury [mg/L]	06-May-24	14:26	07-May-24	11:34	0.012
Potassium [mg/L]	06-May-24	14:26	07-May-24	11:34	79
Molybdenum [mg/L]	06-May-24	14:26	07-May-24	11:34	0.16
Nickel [mg/L]	06-May-24	14:26	07-May-24	11:34	1.4
Phosphorus (Total) [mg/L]	06-May-24	14:26	07-May-24	11:34	880
Lead [mg/L]	06-May-24	14:26	07-May-24	11:34	0.4
Selenium [mg/L]	06-May-24	14:26	07-May-24	11:34	0.1
Zinc [mg/L]	06-May-24	14:26	07-May-24	11:34	19

Note: Metals and mercury were analyzed on the as-received sample.

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

Project : PO#145004557

19-August-2024

O.M.I. Canada Inc.(Wyoming WPCP)
Attn : Doug Marsh

842 Broadway St.
Wyoming, ON
N0N 1T0, Canada

Phone: On Call Operator 1-888-399-1643
Fax:226-307-0029

Date Rec. : 07 August 2024
LR Report: **CA30126-AUG24**

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Wyoming WWTP Sludge (grab)
Sample Date & Time					07-Aug-24 10:20
Temperature Upon Receipt [at London Lab °C]	---	---	---	---	13.9
Temperature Upon Receipt [°C]	---	---	---	---	4.0
Total Solids [mg/L]	09-Aug-24	19:43	13-Aug-24	09:20	7940
Total Kjeldahl Nitrogen [as N mg/L]	12-Aug-24	15:51	14-Aug-24	15:05	446
Ammonia+Ammonium (N) [as N mg/L]	13-Aug-24	13:17	14-Aug-24	09:39	74.0
Nitrite (as N) [mg/L]	10-Aug-24	11:23	15-Aug-24	11:17	< 3
Nitrate (as N) [mg/L]	10-Aug-24	11:23	15-Aug-24	11:17	< 3
Nitrate + Nitrite (as N) [mg/L]	10-Aug-24	11:23	15-Aug-24	11:17	< 3
Arsenic [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	< 0.1
Cadmium [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	0.006
Cobalt [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	0.02
Chromium [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	0.13
Copper [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	1.9
Mercury [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	0.003
Potassium [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	56
Molybdenum [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	< 0.05
Nickel [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	0.11
Phosphorus (Total) [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	240
Lead [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	0.1
Selenium [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	< 0.1
Zinc [mg/L]	14-Aug-24	20:17	15-Aug-24	09:39	5

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
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Phone: 705-652-2000 FAX: 705-652-6365

Project : PO#145004557

22-October-2024

Date Rec. : 16 October 2024
LR Report: **CA30437-OCT24**

Copy: #1

O.M.I. Canada Inc.(Wyoming WPCP)
Attn : Doug Marsh

842 Broadway St.
Wyoming, ON
N0N 1T0, Canada

Phone: On Call Operator 1-888-399-1643
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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: Wyoming WWTP Sludge (grab)
Sample Date & Time					15-Oct-24 15:15
Temperature Upon Receipt [at London Lab °C]	—	—	—	—	15.9
Temperature Upon Receipt [°C]	—	—	—	—	8.0
Total Solids [mg/L]	18-Oct-24	21:25	22-Oct-24	09:26	30300
Total Kjeldahl Nitrogen [as N mg/L]	21-Oct-24	06:53	22-Oct-24	10:45	1840
Ammonia+Ammonium (N) [as N mg/L]	18-Oct-24	12:41	22-Oct-24	10:37	130
Nitrite (as N) [mg/L]	18-Oct-24	08:58	21-Oct-24	16:05	< 3
Nitrate (as N) [mg/L]	18-Oct-24	08:58	21-Oct-24	16:05	< 3
Nitrate + Nitrite (as N) [mg/L]	18-Oct-24	08:58	21-Oct-24	16:05	< 3
Arsenic [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	0.1
Cadmium [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	0.024
Cobalt [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	0.07
Chromium [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	0.44
Copper [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	8.4
Mercury [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	0.008
Potassium [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	92
Molybdenum [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	0.18
Nickel [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	0.37
Phosphorus (Total) [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	1000
Lead [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	0.4
Selenium [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	0.2
Zinc [mg/L]	21-Oct-24	12:10	22-Oct-24	09:38	21

Note: Metals and mercury were analyzed on the as-received sample.

Hawley Anderson

Hawley Anderson, Hon.B.Sc
Project Specialist,
Environment, Health & Safety