Notice of Alteration Form

Dangerous Goods Handling and
Transportation Act Licence

Manitoba
Sustainable Development

Client File No. : 4320.10	DGH&TA Licence No. : 334HW

Legal name of the Licencee: GFL Environmental Inc.

Name of the FACILITY: Hazardous Waste Transfer Facility - Kenaston

Type of Activity:

Storage, processing, treatment, bulking, blending, and transfer facility.

Licencee Contact Person: Cameron Prichard
Mailing address of the Licencee: 4208-84th Avenue NW
City: Edmondon Province: AB Postal Code: T6B 3N5
Phone Number: (780) 805-6107 Fax: Email: cprichard@gflenv.com

Name of proponent contact person for purposes of the environmental assessment (e.g. consultant):
Fiona Scurrah, WSP E&I Canada Ltd.

Phone: (204) 918-3277	Mailing address:
Fax:	6 High Level Road, Oak Bluff, MB, R4G 0E2

Email address: fiona.scurrah@wsp.com

Description of Alteration *(max 150 characters)*:

Addition of an aeration box, shredder, and waste oil tank.

Date: 2023-07-17	Signature: [redacted]
	Printed name: Cameron Prichard

A complete Notice of Alteration **(NoA)** consists of the following components:

- ☑ **Cover letter**
- ☑ **Notice of Alteration Form**
- ☑ **2 hard copies and 1 electronic copy of the reports/plans supporting the alteration to the facility**

Submit the complete NoA to:

Director
Environmental Approvals Branch
Manitoba Sustainable Development
1007 Century Street
Winnipeg, Manitoba R3H 0W4

For more information:

Phone: (204) 945-8321
Fax: (204) 945-5229
http://www.gov.mb.ca/sd/eal

17 July 2023

Mr. James Capotosto, Director - Environmental Approvals Branch
Manitoba Environment and Climate
1007 Century Street
Winnipeg, MB R3H 0W4

RE: Notice of Alteration for *Dangerous Goods Handling and Transportation Act* Licence No. 334 HW for the Addition of a Aeration Box, Recycling Shredder, and Waste Oil Tank, File No.: 4320.10

Dear Mr. Capotosto,

GFL Environmental Inc. is submitting a Notice of Alteration (NoA) for an alteration to the Development associated with the *Dangerous Goods Handling and Transportation Act* Licence No. 334HW. The NoA is to address the addition of the following equipment for the overall operation of the Development of the Facility:

- Innovation within GFL Winnipeg Facility to reduce VOCs - Aeration Box designed to aerate and dry out miscellaneous solvent or oil soaked materials, such as oil rags, oil filters, paint rags, prior to final disposal;
- Camec GSR 480/15 Shredder – single shaft shredding machine designed to shred materials such as a mix of solids wastes such as , plastics, wood, rubber, paper and cardboard, and bulky industrial waste; and
- 50,000 L Aboveground Storage Tank – waste oil storage.

The intent of the NoA Report and submission is to ensure Clause 62 is updated to capture the additional equipment that will be in operation Building B at the Development.

While the alteration constitutes a slight change in the Facility's overall operation, it does not change any of the emergency response or operational processes or procedures at the Development. There are no additional environmental effects created by the additional equipment. Given the insignificant environmental effects, this alteration would be considered minor.

In fulfillment of Manitoba Environment and Climate requirements, please find enclosed with this cover letter, a completed Notice of Alteration (NoA) Form, and one (1) electronic copy of the detailed NoA Report. Hard copies can be provided if required by MECP.

Additionally, MEC has the ability to waive the $500 application fee if the alteration does not involve significant environmental effects. As noted within the NoA, the additional equipment does not create significant environmental effects, and GFL respectively requests that the NoA application fee be waived.

Should you have any questions, please do not hesitate to contact the undersigned or Fiona Scurrah (fiona.scurrah@wsp.com, 204-918-3277) and Christa DeBlaere at WSP E&I Canada Ltd. (christa.deblaere@wsp.com , 431-279-4895) who are coordinating our Notice of Alteration submission.

Sincerely,

[redacted]

Cameron Prichard, EH&S Manager - Regulatory Compliance
GFL Environmental Inc.

14 July 2023

Mr. James Capotosto, Director – Environmental Approvals Branch
Environmental Approvals Branch
Manitoba Environment and Climate
1007 Century Street
Winnipeg MB R3H 0W4

Subject: **File No.: 4320.10: Notice of Alteration for *Dangerous Goods Handling and Transportation Act* Licence No. 334 HW for the Addition of a Aeration Box, Recycling Shredder, and Waste Oil Tank**

Dear Mr. Capotosto:

WSP E&I Canada Limited was retained by GFL Environmental Ltd., to compile a Notice of Alteration (NoA) related to its *Dangerous Goods Handling and Transportation Act* Licence 334HW (the Licence), for the GFL Hazardous Waste Facility located at 1090 Kenaston Avenue in Winnipeg Manitoba. As per Clause 109 of the licence, GFL is required to obtain approval in writing from the Director for any proposed alteration to the Facility.

This letter report provides an environmental assessment associated with the additional equipment to the facility and forms part of the NoA submission along with the NoA application form to MEC. The additional equipment to the facility would constitute a minor alteration to the Licence, given the environmental impacts are not significant. As per guidance by MEC, there is a requirement for payment of five hundred dollars ($500.00) for the NoA fee; however, as the alteration does not alter or change the current environmental effects related to the Development, this fee may be waived by MEC.

1 ALTERATION

The alteration to the Facility is the continued operation of the Hazardous Waste Collection Facility and the installation of additional equipment which includes:

- Innovation within GFL Winnipeg Facility to reduce VOCs - Aeration Box designed to aerate and dry out miscellaneous solvent or oil soaked materials, such as oil rags, oil filters, paint rags, prior to final disposal;
- Camec GSR 480/15 Shredder – single shaft shredding machine designed to shred materials such as a mix of solids wastes such as , plastics, wood, rubber, paper and cardboard, and bulky industrial waste; and
- 50,000 L Aboveground Storage Tank – waste oil storage.

The Facility's overall operation will remain the same. The purpose for the additional equipment to be installed within the Facility is due to business growth and expanded volumes.

WSP E&I Canada Limited
6 High Level Road
Oak Bluff (Winnipeg), MB R4G 0E2

T: +1 204-488-2997
wsp.com

1.1 PROTOTYPE AERATION BOX

The GFL Winnipeg Facility accepts non-hazardous / hazardous waste solids and temporarily stores, processes, or directly transports the waste solids to a licensed facility for further processing, reuse, or disposal, as per Clause 32 and 33 of the Licence.

Through a pilot innovation GFL, is working to reduce their volatile organic compounds (VOCs) from hazardous solid waste materials received, prior to disposal at the City of Winnipeg Landfill (Brady Road Resource Management Facility). As such, GFL acquired a 25 cubic yard, liquid tight aeration box (see Attachment B for the box specifications) for the removal and/or reduction of VOCs from collected flammable solids from a mixture of hazardous and non-hazardous materials including but not limited to rags, paper, plastics, and paint sticks.

The mixture of hazardous and non-hazardous solid materials are placed inside the aeration box within totes, with an industrial fan operating continuously for 48 hours to aerate the VOCs from the materials. After this process, the solids will no longer be considered hazardous and can be discarded at the landfill.

A debris sample was submitted to ALS Canada Ltd. post aeration to analyze VOCs. A copy of the laboratory analysis is included in Attachment C. GFL proposes to conduct an annual analysis of VOCs from the solid materials from an accredited laboratory. The aeration box was placed west of Building B (Photo 3, Attachment A) in December of 2022.

The aeration box and its operation will be included into the Site's operational plans and associated emergency response plan.

1.2 SHREDDER

GFL is in the process of acquiring a Camec GSR 480/15 single-shaft shredder. The shredder will be installed within Building B. This piece of equipment is designed to shred a mix of solids wastes such as plastics, wood, rubber, paper, cardboard, bulky industrial waste, and locomotive filters. Excess liquids will be drained into a false floor sump/holding tank where it will be screened and filtered for solids. The holding tank will then be pumped via hydro-vac truck and transported to the City of Winnipeg North End Treatment Plant, as per GFL's agreement with the City of Winnipeg.

It is anticipated that the environmental impact related to this process is negligible. The process uses electricity and hydraulic oil in a closed loop system with limited risk of release to the environment other than annual oil changes for maintenance purposes. The shredder and its operation will be included into the Site's operational plans and associated emergency response plan.

Operational procedures and specification are included in Attachment D.

1.3 STORAGE TANKS

As per the environmental assessment undertaken for the Facility to obtain its current licence, the Winnipeg Kenaston facility receives shipments of processed oil, waste glycol, waste oil, and waste fuel to be transferred into one of the storage tanks within the main tank farm. Received products are stored, blended, and sold to GFL customers or recyclers to be made into reusable products.

The existing main tank farm, as per Clause 58 of the licence includes:

- Six (6) – 120,000 L vertical storage tanks identified as Tanks K1 to K6;
- Six (6) – 124,500 L vertical storage tanks identified as Tanks K7 to K12;

- Two (2) – 640,000 L vertical storage tanks identified as Tank F1 and F2; and
- One (1) – 50,000 L horizontal storage tank identified as Tank B1.

The total tank volume of the main tank farm is 2,797,000 L.

The Facility has an Emergency Response Plan (ERP) in place and an emergency response team stationed in Winnipeg in the event of any spills or releases from these tanks.

ADDITION

GFL Winnipeg Facility will acquire a 50,000 L aboveground storage tank (Photo 1, Attachment A), that will be installed within the main tank farm, adjacent to Tank B1 (Photo 2, Attachment A). The tank will be used to store waste oil.

The tank was originally installed in 2014 at the Regina, Saskatchewan facility and utilized to store wastewater. As per Manitoba's *Storage and Handling of Petroleum Products and Allied Products Regulation, M.R. 188/2001*, the tank will be drained and cleaned by a certified licences petroleum technician (LPT) prior to being relocated to the Winnipeg facility. Decommissioning of the tank will comply with the Government of Saskatchewan Ministry of Environment guidelines. GFL will follow the *Canadian Council of Ministers of the Environment (CCME) Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products*, redacted version for Manitoba for the installation of the tank once it has been placed on Site.

Details of the tank are as follows:

Volume (Litres)	Configuration	Contents	Manufacture Year	Secondary Containment	Gov't Reg. No.	Manufacturer
50,000	Horizontal	Waste Fuel	1996	Steel - Double Walled	65939-00-00	Northern Steel

WSP consulted with the Petroleum Storage Program to confirm the requirements related to the installation and operation of the 50,000 L tank. As per Rena Nayar, Hazardous Waste and Petroleum Officer, Environmental Compliance and Enforcement, Manitoba Environment and Climate, the following will be required:

- Registration with both Petroleum Storage and Hazardous Waste programs.
- An LPT would need to apply for a permit to construct/alter the tank.
- GFL is required to apply for a permit to operated, following installation.
- A Hazardous Waste Generator Registration will need to be completed for the operation.
- Tank must be in conformation with Section 3.5 of the redacted CCME *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products*

It is WSP's opinion that the addition of the tank does not alter to change the environmental effects of the Facility and will increase the capacity of current operations, due to business growth and expanded volumes. The environmental effect of the additional tank is determined not to be significant. GFL will continue to comply with the Licence requirements.

2 SUMMARY OF EFFECTS

The Facility operates as per the Licence terms and conditions. The Operational Plan (OP) and Emergency Response Plan (ERP) for the Facility will be updated to include the additional equipment and their contents. The ERP itself, in terms of processes and procedures related to responding to any emergency situation at the

Facility, will not change. The OP itself, in terms of procedures for the Facility will be updated to include these alterations and their operational requirements.

Environmental effects as identified in the Licence's initial environmental assessment for its Licence do not change with the Alteration. GFL will continue to comply with the Licence requirements. Thus, the environmental impacts associated with the Alteration are considered to be not significant.

3 CONCLUSION

Based on the information provided, WSP is of the opinion that the Alteration, consisting of the aeration box, the shredder, and the waste oil storage tank, do not create additional environmental effects at the Site, therefore it would be considered a minor alteration under Section 14(1) of the *Environment Act*.

This NoA Report has been prepared for the exclusive use of GFL Environmental Ltd. and their agent(s) for specific application to the property identified in this report. The NoA was compiled in accordance with generally accepted assessment practices. No other warranty, expressed, or implied, is made. General limitations are provided in Attachment E.

We trust that this report meets your present requirements. Should you have any questions, or concerns, please do not hesitate to contact WSP.

Prepared by

[redacted]

Jamie Ziegler, B.Sc.
Environmental Scientist

Project Manager

[redacted]

Christa DeBlaere, B.A., C.E.T.
Environmental Professional

Reviewed by

[redacted]

Fiona Scurrah, M.Sc., R.P. Bio., P.Biol.
Senior Principal Environmental Scientist

Attachment A

Photographs

Photo 1 – 50,000 L AST that will be brought to Site.

Photo 2 – Future AST location, main tank farm.

wsp	**NOTICE OF ALTERATION – GFL WINNIPEG** **1090 KENASTON, WINNIPEG, MB** **WINNIPEG, MANITOBA**
DATE: JULY 2023	PROJECT NO.: WX19809 PLATE 1

Photo 3 –Vacuum Box, placed to west of Building B.

Attachment B

Aeration Box Specification

W.I.S.E.

Environmental Solutions Inc.

BE WISE BE SAFE

Vacuum Box
25 Cubic Yard

FEATURES:

- Roll Off compatible
- Large top man-ways for easy cleaning
- 6" camlock fittings for easy operation
- Permanently mounted placards
- 25 cubic yards
- Liquid Tight

APPLICATIONS:

Consolidate vacuum truck contents for storage and transportation savings.

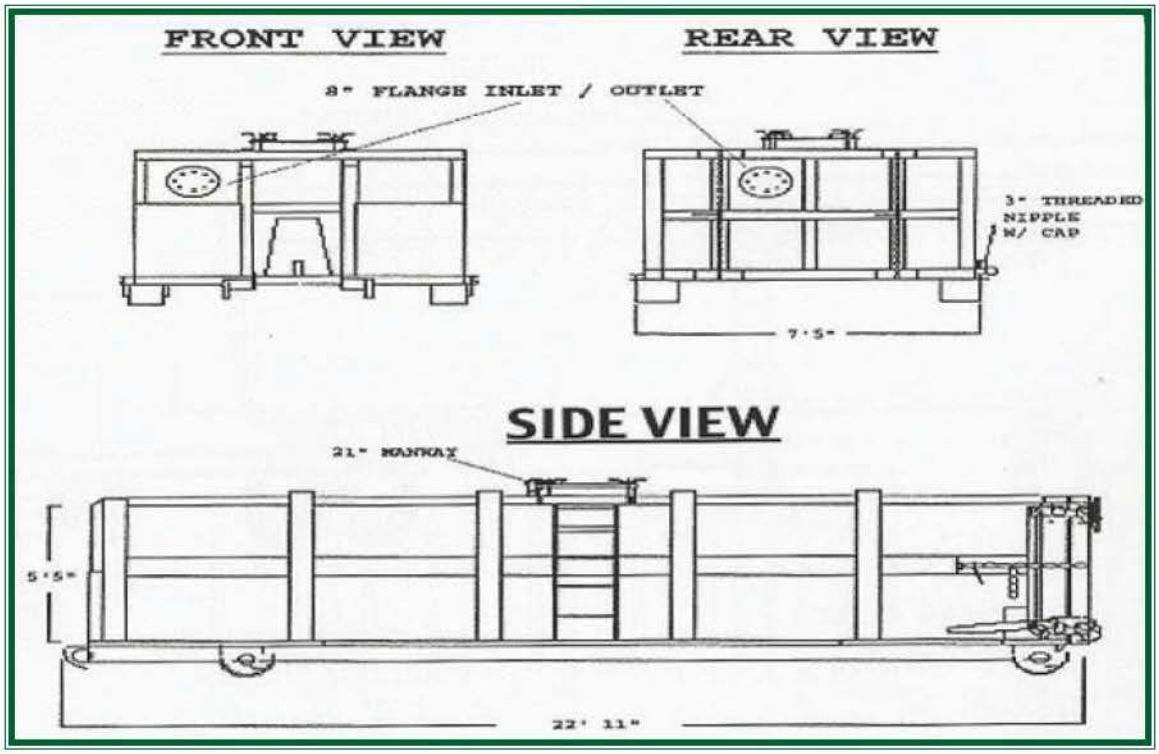
E-mail: amanda@wiseenv.com | www.wiseenv.com

Direct: 519.860.5589 | Office: 519.542.6667 | Fax: 1-866-277-3162

WASTE IS A SERIOUS EXPENSE

25 Cyd, Liquid Tight Vacuum Box Specifications

Floor:	1/4 PL
Cross member:	3 x 4.1 Channel 12" on center
Walls / Roof:	1/4 PL solid welded, inside liner hooks
Structure:	Tubing and formed channel supports rated to operated at 30" hg
Door:	1/4 PL with tubing frame
Front:	1/4 PL with push plates
Pick Up:	Standard cable with 2 x 6 x 1/4 rails, gusset at each cross member
Wheels:	4 Each 10 DIA x 9 long with grease fittings
Door Latch:	4 Independent ratchet binders with chains, vertical second latch
Gasket:	Extruded rubber seal with metal retainers
Welds:	All welds continuous except substructure cross members
Hydro-testing:	Full capacity static test
Dimensions:	22' - 11' Long (21' - 8" inside), 94" wide (83" Inside), see drawing for height



E-mail: amanda@wiseenv.com | www.wiseenv.com
Direct: 519.860.5589 | Office: 519.542.6667 | Fax: 1-866-277-3162

Attachment C

Laboratory Analysis

CERTIFICATE OF ANALYSIS

Work Order	: **WP2303073**	Page	: 1 of 5
Client	: **GFL Environmental Inc.**	Laboratory	: Winnipeg - Environmental
Contact	: Mark Bilinski	Account Manager	: Judy Dalmaijer
Address	: 1090 Kenaston Boulevard Winnipeg MB Canada R3P 0R7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 987 9600	Telephone	: +1 204 255 9720
Project	: ----	Date Samples Received	: 15-Mar-2023 09:50
PO	: ----	Date Analysis Commenced	: 20-Mar-2023
C-O-C number	: ----	Issue Date	: 23-Mar-2023 16:39
Sampler	: ----		
Site	: ----		
Quote number	: SK Landfill Class II		
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
- Surrogate Control Limits

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*
Colby Bingham	Laboratory Supervisor	Inorganics, Saskatoon, Saskatchewan
Colby Bingham	Laboratory Supervisor	Metals, Saskatoon, Saskatchewan
Collin Vinish	Laboratory Assistant	Organics, Saskatoon, Saskatchewan
Jeremy Greuel	Laboratory Assistant	Inorganics, Saskatoon, Saskatchewan
Justin Kuzek	Team Leader - Organics	Organics, Saskatoon, Saskatchewan

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).

Unit	*Description*
-	no units
%	percent
°C	degrees celsius
µg/L	micrograms per litre
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

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.

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

Sample WP2303073-001 LTV: Limited sample was available for TCLP volatiles extraction (< 25 grams). Extraction fluid volume was scaled down proportionately to permit analysis. Test results from modified TCLP procedures may be unsuitable for regulatory purposes.

Sample Comments

Sample	Client Id	*Comment*
WP2303073-001	4.1 DEBRIS	Unable to add qualifier to sample. LTV: Limited sample was available for TCLP volatiles extraction (< 25 grams). Extraction fluid volume was scaled down proportionately to permit analysis. Test results from modified TCLP procedures may be unsuitable for regulatory purposes.

Qualifiers

Qualifier	Description
DLIS	Detection Limit Adjusted due to insufficient sample.
FR10	As per applicable reference method(s), soil:water ratio for Fixed Ratio Leach was modified to 1:10 due to high soil organic content.
LTIS	Limited sample available for TCLP or SPLP inorganics/SVOCs (<100g). Leachate fluid volume & sample weight were scaled down proportionately to permit analysis. Test results from modified TCLP or SPLP procedures may be unsuitable for regulatory purposes.
LTV	Limited sample was available for TCLP volatiles extraction (< 25 grams). Extraction fluid volume was scaled down proportionately to permit analysis. Test results from modified TCLP procedures may be unsuitable for regulatory purposes.

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	4.1 DEBRIS	----	----	----	----
					Client sampling date / time	15-Mar-2023	----	----	----	----
Analyte	CAS Number	Method	LOR	Unit		WP2303073-001	-------	-------	-------	-------
						Result	---	---	---	---
Physical Tests										
Flash point	---	E211	30	°C		>75	----	----	----	----
Free liquid	---	E212	-	-		Absent	----	----	----	----
Moisture	---	E144	0.25	%		2.58	----	----	----	----
pH (1:1 soil:water)	---	E111AR	0.10	pH units		7.42 FR10	---	---	---	---
TCLP Metals										
pH, TCLP 1st preliminary	---	EPP444	0.010	pH units		7.48 LTS	----	----	----	----
pH, TCLP 2nd preliminary	---	EPP444	0.010	pH units		1.88 LTS	----	----	----	----
pH, TCLP extraction fluid initial	---	EPP444	0.010	pH units		4.90 LTS	----	----	----	----
pH, TCLP final	---	EPP444	0.010	pH units		5.17 LTS	----	----	----	----
Antimony, TCLP	7440-36-0	E444	0.10	mg/L		<0.10 LTS	---	---	---	---
Arsenic, TCLP	7440-38-2	E444	1.0	mg/L		<1.0 LTS	---	---	---	---
Barium, TCLP	7440-39-3	E444	2.5	mg/L		<2.5 LTS	---	---	---	---
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L		<0.025 LTS	---	---	---	---
Boron, TCLP	7440-42-8	E444	0.50	mg/L		<0.50 LTS	---	---	---	---
Cadmium, TCLP	7440-43-9	E444	0.050	mg/L		<0.050 LTS	---	---	---	---
Chromium, TCLP	7440-47-3	E444	0.25	mg/L		3.55	---	---	---	---
Cobalt, TCLP	7440-48-4	E444	0.050	mg/L		<0.050 LTS	---	---	---	---
Copper, TCLP	7440-50-8	E444	0.050	mg/L		<0.050 LTS	---	---	---	---
Iron, TCLP	7439-89-6	E444	5.0	mg/L		<5.0 LTS	---	---	---	---
Lead, TCLP	7439-92-1	E444	0.25	mg/L		<0.25 LTS	---	---	---	---
Mercury, TCLP	7439-97-6	E512	0.0010	mg/L		<0.0010 LTS	---	---	---	---
Nickel, TCLP	7440-02-0	E444	0.25	mg/L		<0.25 LTS	---	---	---	---
Selenium, TCLP	7782-49-2	E444	0.10	mg/L		<0.10 LTS	---	---	---	---
Silver, TCLP	7440-22-4	E444	0.050	mg/L		<0.050 LTS	---	---	---	---
Thallium, TCLP	7440-28-0	E444	1.0	mg/L		<1.0 LTS	---	---	---	---
Uranium, TCLP	7440-61-1	E444	0.20	mg/L		<0.20 LTS	---	---	---	---
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L		<0.15 LTS	---	---	---	---
Zinc, TCLP	7440-66-6	E444	0.50	mg/L		27.7	---	---	---	---
TCLP VOCs										
Benzene, TCLP	71-43-2	E615A	5.0	µg/L		<5.0 LTV	---	---	---	---

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	4.1 DEBRIS	----	----	----	----
					Client sampling date / time	15-Mar-2023	----	----	----	----
Analyte	CAS Number	Method	LOR	Unit		WP2303073-001	-------	-------	-------	-------
						Result	---	---	---	---
TCLP VOCs										
Ethylbenzene, TCLP	100-41-4	E615A	5.0	µg/L		<5.0 LTV	---	---	---	---
Toluene, TCLP	108-88-3	E615A	5.0	µg/L		9.0 LTV	---	---	---	---
Xylene, m+p-, TCLP	179601-23-1	E615A	5.0	µg/L		8.2 LTV	---	---	---	---
Xylene, o-, TCLP	95-47-6	E615A	5.0	µg/L		5.0 LTV	---	---	---	---
Xylenes, total, TCLP	1330-20-7	E615A	7.5	µg/L		13.2 LTV	---	---	---	---
TCLP VOCs Surrogates										
Bromofluorobenzene, 4-, TCLP	460-00-4	E615A	1.0	%		93.2 LTV	---	---	---	---
Difluorobenzene, 1,4-, TCLP	540-36-3	E615A	1.0	%		102 LTV	---	---	---	---
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A	0.0050	mg/kg		<0.0170 DLHS	---	---	---	---
Ethylbenzene	100-41-4	E611A	0.015	mg/kg		0.223	---	---	---	---
Toluene	108-88-3	E611A	0.050	mg/kg		0.383	---	---	---	---
Xylene, m+p-	179601-23-1	E611A	0.030	mg/kg		1.08	---	---	---	---
Xylene, o-	95-47-6	E611A	0.030	mg/kg		0.729	---	---	---	---
Xylenes, total	1330-20-7	E611A	0.050	mg/kg		1.81	---	---	---	---
BTEX, total	---	E611A	0.10	mg/kg		2.42	---	---	---	---
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A	0.10	%		74.7	---	---	---	---
Difluorobenzene, 1,4-	540-36-3	E611A	0.10	%		101	---	---	---	---

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

ALS Canada Ltd.

right solutions. right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2303073**	Page	: 1 of 7
Client	: **GFL Environmental Inc.**	Laboratory	: Winnipeg - Environmental
Contact	: Mark Bilinski	Account Manager	: Judy Dalmaijer
Address	: 1090 Kenaston Boulevard Winnipeg MB Canada R3P 0R7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 987 9600	Telephone	: +1 204 255 9720
Project	: ----	Date Samples Received	: 15-Mar-2023 09:50
PO	: ----	Issue Date	: 23-Mar-2023 16:39
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: SK Landfill Class II		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00 00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Soil/Solid

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Flashpoint by Pensky-Martens Closed Cup										
Glass soil jar/Teflon lined cap 4.1 DEBRIS	E211	15-Mar-2023	----	----	----		20-Mar-2023	7 days	6 days	✓
Physical Tests : Free Liquids by Paint Filter Test										
Glass soil jar/Teflon lined cap 4.1 DEBRIS	E212	15-Mar-2023	----	----	----		20-Mar-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap 4.1 DEBRIS	E144	15-Mar-2023	----	----	----		20-Mar-2023	----	----	
Physical Tests : pH by Meter (1:1 Soil:Water Extraction) (Wet)										
Glass soil jar/Teflon lined cap 4.1 DEBRIS	E111AR	15-Mar-2023	21-Mar-2023	----	----		21-Mar-2023	30 days	7 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved) 4.1 DEBRIS	E512	20-Mar-2023	21-Mar-2023	----	----		21-Mar-2023	28 days	7 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) 4.1 DEBRIS	E444	20-Mar-2023	21-Mar-2023	----	----		21-Mar-2023	180 days	7 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) 4.1 DEBRIS	EPP444	15-Mar-2023	20-Mar-2023	----	----		----	----	----	

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP VOCs : BTEX by Headspace GC-MS (TCLP)										
Glass vial (sodium bisulfate) 4.1 DEBRIS	E615A	20-Mar-2023	21-Mar-2023	---	----		21-Mar-2023	14 days	7 days	✓
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil jar/Teflon lined cap 4.1 DEBRIS	E611A	15-Mar-2023	20-Mar-2023	0 days	5 days	× EHTL	20-Mar-2023	0 days	0 days	✓

Legend & Qualifier Definitions

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	869092	1	20	5.0	5.0	✓
Flashpoint by Pensky-Martens Closed Cup	E211	869264	1	3	33.3	5.0	✓
Moisture Content by Gravimetry	E144	869095	1	20	5.0	5.0	✓
pH by Meter (1:1 Soil:Water Extraction) (Wet)	E111AR	869037	1	3	33.3	5.0	✓
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	869092	1	20	5.0	5.0	✓
Flashpoint by Pensky-Martens Closed Cup	E211	869264	1	3	33.3	5.0	✓
Moisture Content by Gravimetry	E144	869095	1	20	5.0	5.0	✓
pH by Meter (1:1 Soil:Water Extraction) (Wet)	E111AR	869037	2	3	66.6	10.0	✓
Me hod Blanks (MB)							
BTEX by Headspace GC-MS	E611A	869092	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS (TCLP)	E615A	870424	1	3	33.3	5.0	✓
Mercury by CVAAS (TCLP)	E512	870400	1	3	33.3	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	870402	1	3	33.3	5.0	✓
Moisture Content by Gravimetry	E144	869095	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	869092	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS (TCLP)	E615A	870424	1	3	33.3	5.0	✓
Mercury by CVAAS (TCLP)	E512	870400	1	3	33.3	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	870402	1	3	33.3	5.0	✓

Methodology References and Summaries

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. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:1 Soil:Water Extraction) (Wet)	E111AR Saskatoon - Environmental	Soil/Solid	CSSS Ch. 16/APHA 4500-H (mod)	pH is determined by potentiometric measurement wi h a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). Soil samples are mixed (as-received) at a 1:1 ratio by weight wi h deionized water, mechanically mixed for at least 30 minutes, followed by equilibration and clarification. For samples which readily absorb water, a greater extraction ratio may be used (typically a 1:2 ratio, or higher if necessary to obtain sufficient liquid for analysis, e.g. for peat soils).
Moisture Content by Gravimetry	E144 Saskatoon - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Flashpoint by Pensky-Martens Closed Cup	E211 Saskatoon - Environmental	Soil/Solid	ASTM D93 (mod)	Flashpoint is determined by adding sample to a brass cup of specified dimensions, which is covered and heated with stirring at specified rates using one of 3 defined procedures. An ignition source is directed into the cup at regular intervals until a flash is detected. The flash point is the lowest temperature corrected for barometric pressure, at which the vapour of the sample ignites.
Free Liquids by Paint Filter Test	E212 Saskatoon - Environmental	Soil/Solid	EPA 9095B (mod)	Free Liquids are determined by the Paint Filter Test, where a specified amount of material is placed in a paint filter. If any por ion of the test material passes through the filter in the five minute test period, the material is deemed to contain free liquids. The absence of any amount of free liquid classifies the sample as a solid
Metals by CRC ICPMS (TCLP)	E444 Saskatoon - Environmental	Soil/Solid	EPA 1311/6020B (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by Collision/Reaction Cell ICPMS.
Mercury by CVAAS (TCLP)	E512 Saskatoon - Environmental	Soil/Solid	SW 846 -1311/245.1 CVAA ON TCLP LEACHATE	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by CVAAS.
BTEX by Headspace GC-MS	E611A Saskatoon - Environmental	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
BTEX by Headspace GC-MS (TCLP)	E615A Saskatoon - Environmental	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:1 Soil:Water (wet)	EP111AR Saskatoon - Environmental	Soil/Solid	CSSS Ch. 16	This procedure involves mixing the wet as received sample with ultra pure water at a 1:1 ratio of wet sediment to water.
VOCs Methanol Extraction for Headspace Analysis	EP581 Saskatoon - Environmental	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted wi h methanol. Extracts are then prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
VOCs Preparation for Headspace Analysis (TCLP)	EP582 Saskatoon - Environmental	Soil/Solid	EPA 5021A (mod)	Liquid obtained after the TCLP process is prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)	EPP444 Saskatoon - Environmental	Soil/Solid	EPA 1311	Preparation of a Toxicity Characteristic Leaching Procedure (TCLP) solid sample involves particle size reduction, homogenization, then determination of appropriate extraction fluid. A measured por ion of fresh subsample is placed in an extraction bottle with the appropriate extraction fluid then tumbled in a rotary extractor for 18+/- 2 hours at 23 +/- 2 C. The liquid leachate is filtered to separate from solids then bottled and prepared for analytical tests.
TCLP Leachate Preparation (VOCs)	EPP582 Saskatoon - Environmental	Soil/Solid	EPA 1311	An extract produced by the Toxicity Characteristic Leaching Procedure (TCLP) as per EPA 1311.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Numb

Environmental Division
Winnipeg
Work Order Reference
WP2303073

Telephone : +1 204 255 9720

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	Select Service Level Below - Contact your
Company:	GFL Environmental	Select Report Format: ☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)	Regular [R] ☑ Standard TAT if received
Contact:	Mark Bilinski	Quality Control (QC) Report with Report ☑ YES ☐ NO	PRIORITY (Business Days): 4 day [P4-20%] ☐ / 3 day [P3-25%] ☐ / 2 day [P2-50%] ☐
Phone:	431 334 7057	☐ Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Bus / Same (Labo
	Company address below will appear on the final report	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	Date and Time Required for all E&P TATs:
Street:	1090 Kenaston	Email 1 or Fax: mbilinski@gflenv.com	For tests that can not be performed according to the service level
City/Province:	Winnipeg, Manitoba	Email 2: coulton@gflenv.com	
Postal Code:	R3P 0R7	Email 3: Kbenson@gflenv.com	
Invoice To	Same as Report To ☑ YES ☐ NO	Invoice Distribution	
	Copy of Invoice with Report ☑ YES ☐ NO	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax: mbilinski@gflenv.com	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:		Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:

Analysis Request

ALS Sample # (lab 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	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐		SIF Observations	Yes ☐	No ☐	
Ice Packs ☐	Ice Cubes ☐	Custody seal intact	Yes ☐	No ☐	
Cooling Initiated ☐					

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				18.0			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Kieran Benson	Date: 03/14/23	Time:	Received by: SC	Date: MAR 15 2023	Time: 9:50	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

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

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 22 -

Page of

Environmental Division Winnipeg
Work Order Reference
WP2303073

Telephone : +1 204 255 9720

Report To	Contact and company name below will appear on the final report
Company:	GFL Environmental Inc
Contact:	Colin Dutton
Phone:	204-987-9600
	Company address below will appear on the final report
Street:	1090 Kenaston Blvd
City/Province:	Winnipeg, MB
Postal Code:	R3P 0R7
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	GFL Environmental Inc
Contact:	Tia Brisebois

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
Email 1 or Fax	cdutton@gflenv.com
Email 2	mbilinski@gflenv.com
Email 3	bmcintosh@gflenv.com
Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	tbrisebois@gflenv.com
Email 2	cdutton@gflenv.com

Turnaround Time (TAT) Requested
☐ Routine [R] if received by 3pm M-F - no surcharges appl
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharg
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharg
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharg
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharg
☐ Same day [E2] if received by 10am M-S - 200% rush s
Additional fees may apply to rush requests on w
Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm
For all tests with rush TATs requested, please contact your AM to confirm availability.

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	GFLE100	AFE/Cost Center:	PO#
Job #:	WP2303073	Major/Minor Code:	Routing Code:
PO / AFE:	PO310005646	Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (ALS use only):		ALS Contact:	Sampler:

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	SK03	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	4.1 Debris	15-Mar-23	8:00	Waste	5	R				

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: Kieran Benson	Date: March 15 2023	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JAN 2023 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

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

Attachment D

Shredder Specification & Operational Procedures

MONOROTORI POTENZIATI

PRESTAZIONI SUPERIORI

I macinatori potenziati della linea GS e GL soddisfano standard qualitativi e livelli di performance elevati specialmente nel trattamento di RSU, plastiche, legno, gomma, carta e cartone e rifiuti industriali ingombranti. Potenti nella struttura e nel risultato, i macinatori potenziati sono caratterizzati da un'alta produttività e da una massima affidabilità. Grazie alla presenza di una griglia, questi macinatori permettono una produzione di materiale in uscita in pezzatura omogenea, preparando il materiale per eventuali lavorazioni e impieghi successivi. Inoltre, l'utilizzo di placchette intercambiabili permette veloci manutenzioni con fermi macchina ridotti. Le lame configurabili in base a spessore e numero rappresentano la grande flessibilità di queste macchine, mentre l'impiego di placchette intercambiabili con riporto anti usura proteggono la macchina da possibili danneggiamenti.

HIGH-POWERED SINGLE-SHAFT SHREDDERS

SUPERIOR PERFORMANCE

The high-powered shredders of the GS and GL line meet high standards of quality and performance especially for the processing of MSW, plastics, wood, rubber, paper and cardboard, and bulky industrial waste. With a powerful structure and performance, the high-powered shredders guarantee high productivity and reliability. Thanks to their screen, these shredders produce homogeneous output size, preparing the material for subsequent processing and uses. The use of interchangeable cutters also permits quick maintenance, minimizing downtime. The blades can be configured in various thicknesses and numbers for great flexibility, while the use of interchangeable cutters with a wear-resistant coating protects the machine from damage.

GSR480

GSR480 con rotore potenziato a 480 mm è un monorotore con spintore radiale e dotato di motorizzazione elettrica. La maggiore superficie macinante permette una maggiore produzione. La possibilità di avere il motoriduttore ad assi paralleli e l'inversione di marcia automatica fanno di queste macchine un monorotore dalle elevate prestazioni.

GSR480 *with its enhanced 480-mm rotor is a single-shaft shredder with a radial ram and an electric motor. It has an increased shredding surface for greater production. The possibility of having a gearmotor with parallel shafts and automatic reverse improves the performance of these single-shaft machines.*

GSR480 LINE

	GSR480/13	**GSR480/15**	**GSR480/18**
Ingombro \ *Overall dimension* \ mm	3.609 x 2.513 x 3.242	3.809 x 2.513 x 3.242	4.109 x 2.513 x 3.242
Camera di taglio \ *Cutting chamber* \ mm	1.130 x 1.350	1.130 x 1.550	1.130 x 1.850
Diametro rotore \ *Rotor diameter* \ mm	480	480	480
Peso \ *Weight* \ kg	10.000	12.000	15.000
Motore \ *Motor* \ kW	55	75	90
Lame \ *Blades*	Placchette \ *Cutters*	Placchette \ *Cutters*	Placchette \ *Cutters*
Dimensione placchette \ *Cutter dimensions* \ mm	60 x 60 x 20	60 x 60 x 20	60 x 60 x 20

Title	Shred-Tech GSR 480 Operation		
Document No.	GFL-EHS-LIQ-0120-355A-SOP	Page No.	1 of 11
Document Owner	LW PRF Operations Supervisor	Revision Number	1.1
Approved by	Rylan Jullion	Revision Date	8-Dec-22
Document Location:	Workhub		

1. JOB INFORMATION

Purpose and Scope of Job	Materials and Equipment Required	Repetitiveness

To process and shred multiple different waste streams using the single shaft shredder. After review of this SOP, an employee will understand how to operate the shredder and will understand all known risks, hazards, and controls associated with this task.	• Standard PPE
	  ○ Hard Hat
	  ○ Safety Glasses
	  ○ Gloves
	  ○ Steel Toed Boots
	  ○ High-Vis Coveralls
	• Hearing Protection
	• Hyflex Gloves
	• Hycron Gloves
	• GSR480 Shredder
	• Containment Bin
	• Shovel
	• Rotating Forklift
		☐ 1 – Hourly
		☐ 2 – Daily
		☒ 3 – Weekly
		☐ 4 – Monthly
		☐ 5 - Annually

2. PROCESS OVERVIEW

All approved waste streams are dumped into the hopper and shredded.

3. HAZARDS AND RISKS (Under normal operating conditions)

Hazard / Risk	Category	*Severity of Consequences*		*Likelihood of Outcome*		Overall Risk (A+B)
		Without Controls	*With Controls (A)*	*Without Controls*	*With Controls (B)*	
Excessive noise levels from the process	Noise / Sound	*4 - Major*	*1 - Negligible*	*4 - Will likely occur*	*1 - Doubtful occurance*	2
Moving parts may cause injury	Pinch Points	*4 - Major*	*1 - Negligible*	*3 - Possible occurance*	*1 - Doubtful occurance*	2
Slippery surfaces due to liquid products being shredded	Slips Trips	*3 - Moderate*	*1 - Negligible*	*3 - Possible occurance*	*1 - Doubtful occurance*	2
Single shaft shredder teeth may cause injury	Crush Zones	*5 - Catastrophic*	*1 - Negligible*	*2 - May occur in exceptional circumstances*	*1 - Doubtful occurance*	2
Loading the conveyor could lead to strains due to repetitive motion	Manual Lifting	*3 – Moderate*	*1 – Negligible*	*3 – Possible occurrence*	*1 – Doubtful occurrence*	2
Fire or explosion	Fire	*5 – Catastrophic*	*1 – Negligible*	*3 – Possible Occurrence*	*1 – Doubtful occurrence*	2

4. TRAINING & COURSES REQUIRED	FREQUENCY OF RETRAINING
Internal training and SOP review	Annual or as changes to SOP are made

5. JOB PLANNING REQUIRED

Risk Mitigations	Additional Forms & Related Documents	Permits Required
☒ LMRA ☐ Toolbox Meeting ☒ FLRA ☐ Rescue Plan ☐ JSA/JHA ☐ Supervisor Sign Off ☒ Pre-task Inspection ☒ Post-task Inspection ☐ Other: _____	☐ Purchase Order ☐ Service Order ☐ Bill of Lading ☐ Customer / Client Signature Required ☐ Managers Approval ☐ Other: _____	☐ Hot Work ☐ Confined Space ☐ LOTO ☐ Excavation ☐ Critical Lift ☐ Working at Heights ☐ IDLH ☐ Traffic ☐ Other: _____

6. PERSONAL PROTECTIVE EQUIPMENT AND MEASURES FOR SPECIFIC TASK

Category	Common Name	Additional Details
 Head	Standard hard hat	CSA certified & approved hard hat (CSA Z94.1-05). The hard hat is to be worn in the manner the manufacturer suggests – with the peak facing forward. The exterior of the hard hat should be maintained in a clean condition. Only required stickers shall be on the hard hat.
 Eyes / Face	Sidewall safety glasses	CSA certified & approved foam lined safety glasses (CSA Z94.3-07 / Z93.3-02 / Z94.3-99). Prescription eyewear must also be CSA approved foam lined safety glasses complete with side-shields.
 Hearing	Earplugs, Earmuffs	Earplugs as required (CSA Z94.2-02).
 Respiratory	N/A	Half-Mask APR w/ Honeywell 75SCL Defender cartridges (or equivalent). Operator must be fit tested to use APR or SCBA equipment.
 Hands	Cut Resistant Gloves Hyflex Gloves Hycron Gloves	Standard issue leather-palmed gloves must be on the worksite for all hands on. Where needed, cut resistant, chemical resistant or hazard specific gloves, may be selected and used to address certain risks.
 Body / Clothing	High Vis, FR coveralls	Standard issue Fire Resistant (FR) rated Class 1 reflective coveralls Z96-09 (R2014).

6. PERSONAL PROTECTIVE EQUIPMENT AND MEASURES FOR SPECIFIC TASK

 Feet	Met-guard boots	Boots must extend above the ankle, have Metatarsal protection, and additionally be CSA approved with Grade 1 protection. Rubber boots must meet CSA Z195-09 / ASTM F2413-11 or OSHA standard ASTM F2413-05, MT/75 Metatarsal Protection standards, and be CSA approved Class 1 Steel Toe and Plate.
 Chemical / Decontamination	Eyewash kit available within 100m First aid kit available within 100m	SDS information reviewed prior to job task for chemicals or products (SDS attached to SOP).
 Fire / Explosion	Fire extinguisher available within 100m	Emergency plan reviewed and current. Fire Extinguishers nearby and checked.
 Environmental Conditions	Building airflow controlled, no additional measures necessary	
 Environmental Damage	Spill kit available within 100m	Spill Kit in place and fully stocked with supplies. Review protocols for any spill and thresholds for escalation.

7. EMERGENCY PROCEDURES

Category	Procedure	Additional Details
7.1 MEDICAL EMERGENCY - TRAUMA		
Minor	• As per site Emergency plan	See lockout procedure
Major	• As per site Emergency plan	Call 911 for major emergencies
7.2 MEDICAL EMERGENCY – CHEMICAL EXPOSURE		
Eyes	• Wash eyes x 15 minutes, • seek medical attention	See SDS attached
Skin	• Wipe affected area down, • wash with soap and water, • monitor for any irritation, • seek medical attention if symptoms worsen	See SDS attached

Ingestion	• Do not induce vomiting • Seek medical attention	See SDS attached
7.3 ENVIRONMENTAL RELEASE PROCEDURES		
Under 5 L	• Control Spill using absorbent pads • Use spill kit	Contact supervisor Complete internal spill report
Over 200 L	• Control spill as much as possible • Report to supervisor immediately • Activate internal spill response procedures	Contact Supervisor Complete internal spill report
7.4 EQUIPMENT FAILURES		
Overheat / Seize	• Turn off equipment • Disconnect power	Report to supervisor
Medium Jam	• Lock out equipment • ***At least two locks required for repair / unjam	Report to supervisor

8. JOB SEQUENCE

Step No.	Task Steps	Possible Hazards / Concerns and Controls
1	Before starting up the machine, inspect for any damage. Perform Pre-Trip inspection document for GSR 480. Pre-Trip will have all the necessary items covered that require a check over. Ensure all proper PPE is donned before starting the machine. All facility staff will be required to wear hearing protection when this unit is operating.	*Make sure the machine is in good working condition prior to use; report any issues to supervisor.* *All staff to wear ear protection when this unit is operating.*
2	Place the designated bin/tray underneath the shredder's discharge to collect the shredded material. A blower system will be added in the future for the discharge.	*Be careful to line the bin directly underneath the discharge to prevent waste and debris from falling on the ground.*
3	**Power the shredder**. Turn on the main power switch. Move to the control panel and turn the power switch to ON. You are now ready to start the shredder. Ensure both emergency stops are disengaged. If there are any alarms press the reset buttons to close them. Make sure the key is turned to "3-Automatic" operating mode. Press the "Start Cycle" to start the shredder. To stop the shredder hit the "Stop Cycle" or in case of emergency hit one of the Emergency Stop buttons.	*Ensure hands are dry and clean while turning on and operating the controls of the shredder. Only start the shredder once you are ready to start processing.* *The emergency stop button is located on the control panel.* *Make sure shredder area is clear of coworkers and obstacles before startup to prevent damage and personal injury.*
4	Using the rotator forklift, dump the contents of the material into the hopper of the shredder. Be careful not to hit any items on the roof while doing so. No metal must be shredded in this machine.	*Inspect the material before* *Remove any non-compliant waste streams such as batteries, compressed gases, metal, etc.*
5	Monitor the shredder while processing for any abnormalities that may occur. (Strange sounds, smoke, etc.) The shredder is equipped with a fire suppression system. The water can be activated with a switch on the wall beside the power supply. The water can be used to suppress a fire or rinse out the machine after shredding.	*If there is material in the shredder that will cause damage immediately stop the machine.* *Only approved items can be shredded , talk to your supervisor. Flammable products or batteries pose a fire risk*

6	The shredded discharge will have to be manually shoveled into containers until the blower system has been built.	
7	Monitor the fill level of the bin and once it is full stop the shredder and empty out the bin using shovels.	*Be sure not to overfill the bin.*
8	Once all material has been shredded and processed, shut down all powered equipment and inspect for any signs of damage or wear. Ensure all power switches are in the OFF position.	*Report any damage to your Supervisor*
9	If the shredder requires cleaning, spray down the shredder with the pressure washer or use the built-on suppression system.	*Make sure the power switches are in the OFF position before cleaning* ***Be careful not to get any of the motors or electrical panels/controls wet while cleaning, this could cause damage to the unit.***
10	LOTO procedure will need to be followed before any maintenance can be completed that is required	*Reference Lock-Out Tag-Out SOP.*
11	If the shredder has any fault conditions occur during normal operation, notify the Operations Supervisor or Manager before clearing the fault and continuing	*Damage to the shredder can occur when faults are ignored and not addressed properly*
	Maintenance Operation of the GSR 480	
12	The following steps will show you how to open the various parts on the GSR 480 for maintenance, washing, or inspection.	
13	Turn the key to "1=Maintenance" operating mode.	
14	Press the "Menu" button on the screen. Press the "Manual Command" button next. You will need to turn on the hydraulic unit, press "Start". A "Login & Logout" screen may appear. Just "OPE" from the drop down for the index. The Password will be "OPE", once typed press enter on the keyboard. Then login. Once succeeds, close the login & logout box. Start the hydraulic unit.	*Only personnel who have been trained on the shredder should operate the controls.*
15	Grab the yellow controller. This will allow you to control which parts on the shredder you can open or close.	*Do not use dirty gloves when handling the remote*
16	Turn the switch to "Screen" section.	
17	Using two hands press and hold the "Close Section" and "Unlock Screen" at the same time. This will lower the screen locks on the back of the shredder. This must be down first to open the back hatch or the front screen of the shredder.	*Ensure personnel are cleared away from the shredder when opening and closing screens.*
18	To open the front screen on the shredder press and hold the "Open Section" and "unlock Screen" at the same time. This will allow you access to service the teeth on the rotor. To close the front screen on the shredder press and hold the "Close Section" and "Unlock Screen".	
19	To open the back maintenance hatch on the shredder, turn the switch to "Maint" Section. Then press and hold the "Open Section" and "Unlock Screen" at the same time. To close the back maintenance hatch on the shredder, press and hold the "Close Section" and "Unlock Screen" at the same time. When closing the back hatch, watch the sensors on the side of the unit, the green lights will light up when the hatch is closed. If you close the hatch to far, the sensors will not line up and this will not allow you to lock the screen. See picture for reference	*When opening the back hatch the safety locking pins must be installed before entering inside the hatch to service the machine*
20	Now turn the switch back to "Screen" Section on the remote. To lock the screens in place press and hold "Open Section" and "Lock Screen" . The shredder will be locked and no alarms present.	

9. DIAGRAMS / PHOTOS

Step No.	Description
	 **GSR 480**
3	 **GSR 480 Main Power Switch**

3	 **GSR 480 Power Switch**
3	 **Location of both Emergency stops and the control panel**

14	 **GSR 480 Menu**
17	 **The screen locks "Locked Position"**

17	 **The screen lock "Unlocked Position"**
18	 **Front Screen Open**

19	  **Locking Safety Pin (one of two)**
19	 **Green lights on sensor pads.**

15	

Attachment E

Limitations

Limitations

1. The work performed in the preparation of this report and the conclusions presented are subject to the following:
   a. The Standard Terms and Conditions which form a part of our Professional Services Contract;
   b. The Scope of Services;
   c. Time and Budgetary limitations as described in our Contract; and
   d. The Limitations stated herein.
2. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.
3. The conclusions presented in this report were based, in part, on visual observations of the Site and attendant structures. Our conclusions cannot and are not extended to include those portions of the Site or structures, which are not reasonably available, in WSP's opinion, for direct observation.
4. The environmental conditions at the Site were assessed, within the limitations set out above, having due regard for applicable environmental regulations as of the date of the inspection. A review of compliance by past owners or occupants of the Site with any applicable local, provincial or federal bylaws, orders-in-council, legislative enactments and regulations was not performed.
5. The Site history research included obtaining information from third parties and employees or agents of the owner. No attempt has been made to verify the accuracy of any information provided, unless specifically noted in our report.
6. Where testing was performed, it was carried out in accordance with the terms of our contract providing for testing. Other substances, or different quantities of substances testing for, may be present on-site and may be revealed by different or other testing not provided for in our contract.
7. Because of the limitations referred to above, different environmental conditions from those stated in our report may exist. Should such different conditions be encountered, WSP must be notified in order that it may determine if modifications to the conclusions in the report are necessary.
8. The utilization of WSP's services during the implementation of any remedial measures will allow WSP to observe compliance with the conclusions and recommendations contained in the report. WSP's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.
9. This report is for the sole use of the party to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or the part, or any reliance thereon or decisions made based on any information or conclusions in the report is the sole responsibility of such third party. WSP accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein.
10. This report is not to be given over to any third party for any purpose whatsoever without the written permission of WSP.
11. Provided that the report is still reliable, and less than 12 months old, WSP will issue a third-party reliance letter to parties that the client identifies in writing, upon payment of the then current fee for such letters. All third parties relying on WSP's report, by such reliance agree to be bound by our proposal and WSP's standard reliance letter. WSP's standard reliance letter indicates that in no event shall WSP be liable for any damages, howsoever arising, relating to third-party reliance on WSP's report. No reliance by any party is permitted without such agreement.