

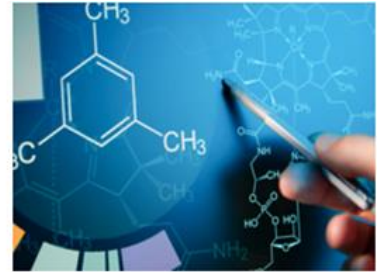
# ICMI Production Verification Protocol (Revision June 2021)

Summary Audit Report

## Draslovka Canada Bulk Transloading Facility

2022 Re-Certification Audit

# Draslovka



Submitted to:

The International Cyanide Management Institute  
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Washington, DC 20005  
USA

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# Table of Contents

- Operation General Information ..... 3**
- Operation Description ..... 3**
- Audit Implementation and Conclusions ..... 3**
- Auditor’s Finding ..... 4**
  - Compliance Statement ..... 4
  - Auditor Information ..... 4
  - Auditor Attestation ..... 5
  - Principles and Standards of Practice - Cyanide Production Verification Protocol..... 6
    - Principle 1 | OPERATIONS ..... 6
    - Principle 2 | WORKER SAFETY ..... 8
    - Principle 3 | MONITORING ..... 10
    - Principle 4 | TRAINING ..... 10
    - Principle 5 | EMERGENCY RESPONSE..... 11

## Operation General Information

<b>Name and location of Operation:</b>	Draslovka Canada Bulk Transloading Facility 80 Route 117 Malartic, QC JOY 1Z0
<b>Name and contact information for this Signatory:</b>	Joaquín Corres Barragán Customer Facing Technologies Manager Draslovka Mining Solutions Email: <a href="mailto:joaquin.corres@draslovka.com">joaquin.corres@draslovka.com</a>
<b>Information for operation audited:</b>	<b>Octium Solutions</b> Jennifer Tremblay Quality Audit Manager 80 Route 117 Malartic, QC JOY 1Z0

## Operation Description

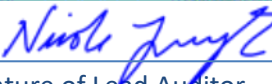
The Draslovka Canada Bulk Transloading Facility (Draslovka) in Malartic, Quebec is operated by Octium Solutions (parent company Quadra). Draslovka produces sodium cyanide for use in the gold mining sector at their Memphis, Tennessee plant in the United States. Sodium cyanide briquettes are received at the Draslovka Canada Bulk Transloading facility in Malartic, Quebec where they are re-packed from rail hopper cars into isotainers (iso tanks) mounted on chassis. The facility has been in operation since 2015 and was first certified to the International Cyanide Management Code (Cyanide Code) Production Protocol in 2020. This certification audit of the solid sodium cyanide storage and transloading practices was performed using the 2021 revision of the ICMI “Cyanide Production Verification Protocol”.

## Audit Implementation and Conclusions

This re-certification audit was conducted through on-site observations; reviews of records and procedures; and interviews with senior management, operations management, engineering, and environmental, health & safety (EH&S) staff. Draslovka Canada Bulk Transloading Facility personnel were involved in the audit. The audit team used the *ICMI Cyanide Production Verification Protocol* to evaluate International Cyanide Management Code (Cyanide Code) compliance.

Procedures, site conditions, and records were evaluated during this audit. The assessment was based on random samples of information and therefore deficiencies may exist which have not been identified. The depth to which records, and data were sampled was typical of an environmental, health and safety (EH&S) management system audit. Although legally required records were sampled to evaluate Cyanide Code

Draslovka Canada Bulk Transloading Facility  
Name of Operation

  
Signature of Lead Auditor

January 31, 2023  
Date

compliance, legal compliance with federal, regional, and local regulations was not part of the scope of this evaluation.

The audit was performed by an independent third-party auditor who fulfills all ICMI Cyanide Code Lead Auditor and Technical Auditor requirements for cyanide transportation and production operations.

All aspects of the cyanide operations were included in this Cyanide Code Re-Certification Audit. The operation was found to be in FULL COMPLIANCE with Cyanide Code Cyanide Production requirements.

## Auditor's Finding

This operation is in **FULL COMPLIANCE** with the International Cyanide Management Code.

The Draslovka Canada Bulk Transloading Facility cyanide safety performance for the re-certification period was excellent, there were no cyanide-related safety incidents, accidents, spills, or exposures. The cyanide management practices for Draslovka were evaluated for Cyanide Code compliance using the 2021 version of the *ICMI Cyanide Production Verification Protocol*. Draslovka internal standards, policies, practices, and procedures regarding the management of the cyanide operations were reviewed.

The auditor found that the overall level of preparedness and understanding of ICMI Cyanide Code requirements was excellent. Management systems upon which the operation is based are mature, and requested records were readily available for review.

The results of this re-certification audit demonstrate that the Draslovka Canada Bulk Transloading Facility cyanide-related production activities are in **FULL COMPLIANCE** with International Cyanide Management Code requirements.

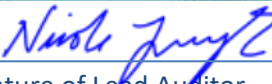
## Compliance Statement

This operation has not experienced any compliance issues or significant cyanide incidents during the three-year audit cycle.

## Auditor Information

<b>Audit Company:</b>	MSS Code Certification Service, a division of: Management System Solutions, Inc. <a href="http://www.mss-team.com">www.mss-team.com</a>
<b>Lead / Technical Auditor:</b>	Nicole Jurczyk E-mail: <a href="mailto:njurczyk@mss-team.com">njurczyk@mss-team.com</a>
<b>Date of Audit:</b>	November 15 – 16, 2022

Draslovka Canada Bulk Transloading Facility  
Name of Operation

  
Signature of Lead Auditor


January 31, 2023  
Date

### Auditor Attestation

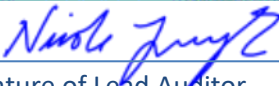
I attest that I meet the criteria for knowledge, experience, and conflict of interest for a Cyanide Code Certification Audit Lead Auditor, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the re-certification audit. I further attest that the re-certification audit was conducted in a professional manner in accordance with the International Cyanide Management Code *Cyanide Production Verification Protocol* and using standard and accepted practices for health, safety, and environmental audits.

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Draslovka Canada Bulk Transloading Facility		January 31, 2023
Name of Operation	Signature of Lead Auditor	Date

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Draslovka Canada Bulk Transloading Facility		January 31, 2023
Name of Operation	Signature of Lead Auditor	Date

## Principles and Standards of Practice - Cyanide Production Verification Protocol

### Principle 1 | OPERATIONS

Design, construct and operate cyanide production facilities to prevent release of cyanide.

**Production Practice 1.1:** Design and construct cyanide production facilities consistent with sound, accepted engineering practices and quality control/quality assurance procedures.

There have been no significant changes made to the facility since the previous audit when a report detailing the inspection of the transloading facility by a qualified individual was reviewed. The report confirmed the facility as being suitable for cyanide transloading. The report concluded that continued operation of the Draslovka Malartic facility within established parameters will protect against cyanide exposures and releases. One minor change was processed through the Management of Change (MOC) process. Approval for the change included an environmental, health, and safety review from Draslovka. Records were reviewed and found to be acceptable.

Process equipment is constructed of materials that are compatible with solid cyanide and cyanide solutions. Interlocks are in place to shut down the transloading process in the event of specific upset conditions or power outage. All process equipment and tanks are built on concrete. The concrete surfaces observed during this audit were suitable for prevention of seepage to the subsurface. High level alarms and interlocks are in place on tanks containing cyanide and load weight interlocks are employed at the transloading facility. Records showing regular inspection and maintenance during the recertification period were reviewed and found to be in order. The pit below the rail car loading area provides secondary containment. The capacity of this secondary containment area is more than twice the capacity of the wash water tank and associated piping. This is a solid sodium cyanide transloading facility and the wash water tank is the only tank that has dilute cyanide-containing water in it.

There is a Poly-Flex membrane liner at least 30 mils thick under the entire site. All pipelines are contained within a building and are over concrete. The site transloads cyanide entirely within a building. The facility is well ventilated. The perimeter of the site is well secured and access to the process and storage areas is highly controlled. No incompatible materials are stored on-site or near the cyanide.

The operation is:	<input checked="" type="checkbox"/> In full compliance with <input type="checkbox"/> In substantial compliance with <input type="checkbox"/> Not in compliance with	Standard of Practice 1.1
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Draslovka Canada Bulk Transloading Facility  
Name of Operation

*Nicole Jung*  
Signature of Lead Auditor

January 31, 2023  
Date

**Production Practice 1.2:** Develop and implement plans and procedures to operate cyanide production facilities in a manner that prevents accidental releases.


Procedures are in place for normal and upset conditions. The Emergency Response Plan (ERP) includes detailed steps to be taken in the event of an emergency situation. The facility also has a Crisis Management Plan in place as well as specific contingency procedures addressing upset situations. MOC procedures are used to evaluate any changes that will be made to the facilities or procedures and require the review and sign off by environmental, health and safety management. One example of a change to an HCN monitor and its location in the production area was reviewed. A Draslovka EHS technical expert was called for by the procedure to sign off on the change. Records were available to show that this approval was on file. No other changes were reportedly undertaken during the recertification period.

Preventive maintenance programs are in place. Regularly scheduled maintenance and functional checks (including calibrations) are performed on all process equipment and instrumentation. Transportation equipment inspections are conducted pre-use and once per week as part of the formal PM program for all equipment. Records of the inspections, including pressure testing records for bulk transportation containers (iso tanks), were available and were found to be complete. The method used for tracking pressure testing of the bulk containers was acceptable. Procedures are in place for the handling of cyanide containing wash water and solids. All process and wash-down water is stored on-site and sent off-site as a by-product to customers. Any solids that cannot be decontaminated appropriately are disposed of as hazardous waste. Waste manifests and product shipping records were available and were acceptable. Procedures are in place for specific placarding requirements for the sodium cyanide shipments. Packaging is not used in this part of the supply chain. Only bulk shipments are sent out to mine sites from this facility.

The operation is:	<input checked="" type="checkbox"/> In full compliance with <input type="checkbox"/> In substantial compliance with <input type="checkbox"/> Not in compliance with	Standard of Practice 1.2
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**Production Practice 1.3:** Inspect cyanide production facilities to ensure their integrity and prevent accidental releases.

A procedure details the inspections of tanks, valves, pipelines, and containments for integrity, closure of drains, presence of fluids, and deterioration. Vehicle inspections are conducted pre-use and once per week as part of the formal PM program for all equipment. The method used for tracking pressure testing of the bulk containers was acceptable. Appropriate inspection frequencies are set at weekly, monthly, every

Draslovka Canada Bulk Transloading Facility		January 31, 2023
Name of Operation	Signature of Lead Auditor	Date

three months, and annually. The frequencies of documented inspections were found to be appropriate for the site. Inspections are documented. The inspection forms have the date, inspector, and results of inspection. Deficiencies are entered into an action list and corrections are made.

The operation is:	<input checked="" type="checkbox"/> In full compliance with <input type="checkbox"/> In substantial compliance with <input type="checkbox"/> Not in compliance with	Standard of Practice 1.3
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## Principle 2 | WORKER SAFETY

Protect workers' health and safety from exposure to cyanide.

**Production Practice 2.1:** Develop and implement procedures to protect facility personnel from exposure to cyanide.

Worker exposure to cyanide is minimized through the use of personal protective equipment (PPE) and through the safe operation of facility equipment. The minimum PPE requirements are defined by procedure for all types of operations from receipt of material through packaging and shipping. Procedures are in place for describing the risk management process to be used for non-routine tasks. An Emergency Response Plan (ERP) is in place for emergencies. Maintenance activities are done following standard procedures. PPE requirements are defined in the procedures or the individual work permits for the task.

Employees are involved in the development and periodic review of health and safety procedures. Operations where cyanide exposure may be elevated have been identified and additional PPE requirements are defined in the appropriate procedures. Stationary cyanide detectors are in place to ensure cyanide concentrations are below 10 ppm instantaneous and 4.7 ppm continuously over an 8-hour period. Personal cyanide detectors are also used to monitor cyanide concentrations to ensure that they are below defined limits.

The location of the stationary monitors and when personal HCN monitors are required are procedurally defined. Procedures detail that when the 2.7 ppm alarm sounds that operators must stop working, identify the source of the gas, and eliminate it by cleaning (as necessary) and/or ventilating the area. Operators evacuate the area if the 4.7 ppm alarm sounds and ventilate the building by opening the overhead doors. If cleaning or decontamination activities are required, additional personal protective equipment (PPE) such as respirators must be worn. Operators showed good awareness of PPE requirements and actions required in the event of an alarm.

The stationary monitors and the personal monitors are part of the maintenance system to ensure their continued functionality and calibration. Records examined showed that calibration checks of stationary monitors are being done according to procedural requirements. A procedure defines the need for using the Buddy System - no one works at the facility alone. The Supervisor is responsible for monitoring

Draslovka Canada Bulk Transloading Facility  
Name of Operation

*Nicole Jung*  
Signature of Lead Auditor

January 31, 2023  
Date



employees daily to confirm fitness for duty. All employees are assessed upon new hire and at a designated frequency to determine fitness for duty. Site safety rules include the requirement that all employees, visitors, and contractors change clothes before and after being in the transload building. This practice was observed during the audit. PPE signs and “Authorized Personnel Only” signs were posted throughout and eating, drinking, and smoking restrictions were in place. Signage was found to be appropriate and acceptable by the auditor. Employees showed excellent cyanide awareness.

The operation is:  In full compliance with Standard of Practice 2.1  
 In substantial compliance with  
 Not in compliance with

**Production Practice 2.2:** Develop and implement plans and procedures for rapid and effective response to cyanide exposure.

The facility procedures addressing response to cyanide exposures were found to be appropriate. Commercially supplied combination shower / low-pressure eye wash stations and non-acidic fire extinguishers were available at the site. Regular equipment maintenance, inspection, and testing were confirmed. The facility has oxygen, resuscitators, antidote, and a means of communication readily available.

First aid equipment and medicines are appropriately maintained to ensure their availability during an emergency. The antidote is not stored in a refrigerator, but it is stored in temperature-controlled areas. The manufacturer recommended temperature range is upheld. Inspections of equipment and necessary replacements are made to ensure they are available and effective when needed. Safety Data Sheets (SDSs) were readily available at each of the sites and were observed to be in English and French. Awareness and ability to access SDS was confirmed with operations personnel. Facility piping shows the contents and direction of flow, and the wash water tank is appropriately labeled.

The facility has decontamination procedures and change out area for personnel to ensure cyanide does not come out of the transload building or leave the area. There are employees on-site who have been trained in CPR and first aid. The antidote can only be administered by a doctor or nurse in Canada. A procedure is in place requiring that 911 be called to arrange for an ambulance for transport to the hospital. Draslovka personnel contacted the local hospital and doctor to re-confirm capability for treating a cyanide exposure victim. A procedure is in place addressing incident investigation requirements, including near misses. No cyanide-related incidents occurred during the recertification period.

The operation is:  In full compliance with Standard of Practice 2.2  
 In substantial compliance with  
 Not in compliance with

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Draslovka Canada Bulk Transloading Facility *Nicole Jung* January 31, 2023  
Name of Operation Signature of Lead Auditor Date

### Principle 3 | MONITORING

Ensure that process controls are protective of the environment.

**Production Practice 3.1:** Conduct environmental monitoring to confirm that planned or unplanned releases of cyanide do not result in adverse impacts.

There are no discharges to surface water from the facility. Groundwater monitoring is performed according to a site procedure at the two observation wells located on the downgradient east side of the facility. There are no identified beneficial uses of groundwater or numerical standards identified by the jurisdiction. Draslovka operations are compliant with ICMC requirements, and its operations do not impact beneficial uses of groundwater. In the unlikely event that impact to beneficial use of groundwater occurs, Draslovka is committed to performing remedial activities. There are no cyanide emissions from the facility and there are no government-related air permits. Indoor air cyanide concentrations are monitored using stationary HCN detectors and operators use personal cyanide monitors. Work areas were found to be clean and protective of worker health. Monitoring frequencies are appropriate for the facility based on prior test results and regulatory requirements.


The operation is:	<input checked="" type="checkbox"/> In full compliance with <input type="checkbox"/> In substantial compliance with <input type="checkbox"/> Not in compliance with	Standard of Practice 3.1
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### Principle 4 | TRAINING

Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

**Production Practice 4.1:** Train employees to operate the facility in a manner that minimizes the potential for cyanide exposures and releases.

The facility trains workers annually on the hazards of cyanide. The proper use of PPE is a part of appropriate training programs. Respirator fit testing is done every two years. Employees are trained on procedures every two years and training is provided after a change to a procedure. Training is done for procedures covering activities from the receipt of material through transloading and maintenance activities. Procedures identify the appropriate PPE for the task. Employees are trained prior to working with cyanide. Critical procedures are reviewed with the team annually and other procedures are reviewed every two years. The training elements for each job are contained in the training materials. Training is

Draslovka Canada Bulk Transloading Facility		January 31, 2023
Name of Operation	Signature of Lead Auditor	Date

provided by appropriately qualified personnel. The facility evaluates the effectiveness of cyanide training through testing and observation.

The operation is:  In full compliance with Standard of Practice 4.1  
 In substantial compliance with  
 Not in compliance with

**Production Practice 4.2:** Train employees to respond to cyanide exposures and releases.

Training on the spill response procedure is given upon hire and if the procedure is changed. The procedure addresses actions to be taken in the event of a spill or leak of cyanide and first aid to be given. The site trains employees on what to do in the event of a cyanide exposure. All operators are trained on the procedure which requires that 911 be called to arrange for an ambulance. Additionally, all operators have received training in fire extinguisher use, detection of gas, and CPR. Detailed training records were retained in each employee file sampled during the audit. Records are maintained for at least as long as the employee is working at the site.

The operation is:  In full compliance with Standard of Practice 4.2  
 In substantial compliance with  
 Not in compliance with

**Principle 5 | EMERGENCY RESPONSE**

Protect communities and the environment through the development of emergency response strategies and capabilities.

**Production Practice 5.1:** Prepare detailed emergency response plans for potential cyanide releases.

The site has an Emergency Response Plan (ERP) to address a potential release of cyanide. The ERP functions as a roadmap to other emergency response procedures that are scenario-based. The ERP considers the potential failure scenarios appropriate for its site-specific environmental and operating circumstances. Individual procedures are in place to address specific situations such as those listed in the standard. Specific response actions are detailed for each type of emergency scenario, including the need to evacuate. Confirmation was made that the local hospital also has the antidote and the capabilities for managing a cyanide exposure victim. Spills are controlled at their source by shutting down the equipment and stopping the transload process. Procedures are in place for containment, assessment, mitigation and future prevention of releases.

Draslovka Canada Bulk Transloading Facility  
Name of Operation

*Nicole Jung*  
Signature of Lead Auditor

January 31, 2023  
Date

The operation is:	<input checked="" type="checkbox"/> In full compliance with	Standard of Practice 5.1
	<input type="checkbox"/> In substantial compliance with	
	<input type="checkbox"/> Not in compliance with	

**Production Practice 5.2:** Involve site personnel and stakeholders in the planning process.

Octium involves its workforce and external responders in the emergency response planning process. Draslovka is also involved in the emergency planning. Interviews and a review of records showed that Draslovka has reached out to external stakeholders regarding emergency planning. The pandemic years were difficult for community outreach activities, but the actions taken during the recertification period were deemed to be sufficient. Octium employees participate in daily safety meeting discussions regarding safety and emergency response.


Octium and Draslovka are committed to engaging stakeholders on a regular basis to ensure that its emergency plans remain current and address changing conditions. Draslovka communicates information regarding the nature of their risks with the Canadian government. In addition, the operation met with local town officials in 2018 and 2020 during safety committee meetings comprised of mine and town representatives to discuss the of the nature of the operation, potential risks, and emergency plans.

Additionally, Draslovka has trained its Canadian response contractor, per the Draslovka Emergency Response Assistance Plan (ERAP) that is required by Canadian regulations. Confirmation was made that the sodium cyanide is included in the ERAP approval. The ERAP covers transport of the materials by road, rail, and marine modes. All of Canada is covered by the ERAP.

The operation is:	<input checked="" type="checkbox"/> In full compliance with	Standard of Practice 5.2
	<input type="checkbox"/> In substantial compliance with	
	<input type="checkbox"/> Not in compliance with	

**Production Practice 5.3:** Designate appropriate personnel and commit necessary equipment and resources for emergency response.

Roles and responsibilities in a crisis are defined in the crisis plan. There is a checklist provided for each of the members of the crisis management team. A Team Leader and backup are named in the plan and these roles have explicit authority necessary to implement the plan. Emergency Response Team members are identified in the plan with emergency contact numbers. Each person is trained on the individual emergency response procedures. The facility coordinates with external responders such as the fire department and ambulance for emergency response. 24-hour call-out information is included for internal and external contacts, as appropriate. The ERP includes a list of emergency equipment that should be

Draslovka Canada Bulk Transloading Facility		January 31, 2023
Name of Operation	Signature of Lead Auditor	Date

available. Emergency response equipment is checked monthly to assure its availability when required. The ERP describes the roles of external emergency responders and medical facilities. The site meets with the Fire Department and the ambulance response team at least once each recertification period during the tabletop exercise. The involvement of external entities is confirmed, and response systems are evaluated during these meetings. Emergency drills are run together with the transporter, Draslovka, and occasionally a mining customer. Draslovka reached out to the local hospital during the recertification period to re-confirm capability for treating a cyanide exposure victim.

The operation is:  In full compliance with  
 In substantial compliance with  
 Not in compliance with

Standard of Practice 5.3

**Production Practice 5.4:** Develop procedures for internal and external emergency notification and reporting.

The list of contact personnel to be notified in the case of an emergency is documented in a procedure. The crisis plan addresses communication with the media and identifies who is authorized to talk with the media. Octium procedures included definitions and reporting requirements that were consistent with the ICMI's code and included a statement requiring notification to ICMI within 24 hours of a significant cyanide incident. There were no significant cyanide incidents during the recertification period.

The operation is:  In full compliance with  
 In substantial compliance with  
 Not in compliance with

Standard of Practice 5.4

**Production Practice 5.5:** Incorporate remediation measures and monitoring elements into response plans and account for the additional hazards of using cyanide treatment chemicals.

In the event of a spill that requires remediation, the recovery procedure addresses the requirements for an environmental firm to be brought in to consult with Draslovka on the remediation options. There is no need for the provision of an alternate drinking water supply in this area as the water is not potable, as reported by the operation. The area is already supplied with bottled / imported water for drinking. This response was accepted by the auditor.

The procedure prohibits the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide spills. The remediation contractor has been made aware of the ban on using these chemicals in surface water. A record of the written communication to the contractor was available

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Draslovka Canada Bulk Transloading Facility *Nicole Jung* January 31, 2023  
Name of Operation Signature of Lead Auditor Date

for review and was accepted.

Environmental monitoring needs would be determined together with Draslovka subject matter experts and authorities.

The operation is:                       In full compliance with  
     In substantial compliance with                      Standard of Practice 5.5  
     Not in compliance with

**Production Practice 5.6:** Periodically evaluate response procedures and capabilities and revise them as needed.

The ERP calls for annual reviews of the emergency response plans and an annual hands-on drill to test the emergency response procedures and training. The site conducts annual emergency drills, holds drill critiques, and evaluates the need for further training or adjustment to the emergency procedures in accordance with the site procedure. The ERP procedure states that the plan and documentation will be reviewed following any emergency where the emergency plans need to be activated and at least every year. There have been no actual emergencies that required the plan to be activated at the site. The most recent drill and ERP revisions were dated 2022. No significant changes to the ERP were deemed necessary following the different drills and exercises.

The operation is:                       In full compliance with  
     In substantial compliance with                      Standard of Practice 5.6  
     Not in compliance with

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Draslovka Canada Bulk Transloading Facility      *Nicole Jung*      January 31, 2023  
 Name of Operation                                      Signature of Lead Auditor                                      Date