PEREGRINE
DIAMONDS LTD.

BULK-SAMPLING MONITORING: STANDARD OPERATING PROCEDURES (SOPs)

- **Removal of Drill Cuttings to Cuttings-Deposition Area**
- **Fuelling of RC Drill Fuel Tank – Bulk Sample Location**

PEREGRINE DIAMONDS SAFE WORKING PROCEDURES			
Division:	Bulk Sample Monitoring		
Section:			
Subject:	Removal of Drill Cuttings to Cuttings-Deposition Area		
Owner:	**Corporate EHS Manager**	Effective Date:	**January 2012**
Revision:		Replaces:	

OBJECTIVE

1.01 To ensure the health, safety and wellbeing of all personnel, workers, contractors, operators and the environment in respect of safe removal and proper storage of drill cuttings. Further, Peregrine will provide the steps to remove mega-bags from the reverse-circulation (RC) bulk-sampling drill and placement of cuttings in an area appropriate for storage. (For the purpose of this Bulk-Sampling Monitoring Plan, this storage area is referred to as the Cuttings-Deposition Area.)

SCOPE

2.01 This procedure applies to all workers, contractors and visitors working on the Chidliak Project and specifically applies to the work site and movement to and from the Cuttings-Deposition Area.

INTRODUCTION

3.01 This procedure covers all forms of RC, core, RC rotary air-blast, air-core, percussion; vacuum and mechanised auger drilling conducted by Peregrine for exploration, construction and other purposes on Chidliak Project designated work sites.

Procedure

4.01 The drill rig system is built to contain the separation of the clean cuttings (relict material from the raw sample) coming out of the bored hole into a catch-all nylon bag (mega-bag). The bag is hung within a containment box where the process begins receiving the cuttings coming out of the large-diameter (LDDH) RC or core hole. The cuttings are comprised of wet rock flour (water in the closed-loop drill circuit).

4.02 Operators will notify the CAT Morooka driver when the cuttings bag has been filled to capacity. Once full, the bags containing the cuttings will be secured and tied at the top to avoid any loose materials from becoming airborne as dust or spilt to ground or snow underneath. Once secured, the mega-bag, weighing approx. 1 tonne, will be slid along gantry beams to a location away from the drill containment housing, and close enough to the hook of the Marooka picker boom. Once the mega-bag load is secured to the picker hook, the Morooka will pull away from the location.

4.03 Once away from the drilling equipment, the Morooka heavy equipment will travel a set route to the designated Cuttings Deposition Area. The Morooka will then approach the Cuttings Deposition Area by access trail, lower the mega-bag to the inner edge of the Area (a natural basin or bermed flat plateau in 2012), release the load and return to the work site for removal and deposition of the next bag. Where possible to do so, the mega-bag will be separated from its load and returned as garbage to the Discovery base camp for storage in a designated area until the inert waste is outshipped via the camp airstrip.

4.04 Operations staff will monitor the Cuttings Deposition Area during the drill shift to ensure the cuttings mega-bags are properly contained and that no leakage has occurred away from the Cuttings Deposition Area.

4.05 The Equipment Operator shall report all spills and leaks to the Supervisor immediately. A Spill Report will be filled out and amounts > **100L** of clean inert cuttings will be reported to appropriate regulators via an NWT-NU Spill Report form, following the current procedure in the Peregrine Spill Contingency Plan.

4.06 Cuttings spills will be cleaned up immediately by the Camp Spill-Response Team, who will place all spilt materials, used absorbents (if hydrocarbons are involved in the spill), affected snow or water into properly-labelled refuge drums inside a designated bermed area adjacent to the Cuttings Deposition Area. Documentation of cleanup will be added to the spill record to complete it.

Addressing Environmental Concerns

- Large quantities of substances that have the potential to cause harm to the environment, such as a fuel-storage berm or transfer berm, shall be under controlled and observed conditions. A Designated Fuel Station will be established at Discovery Camp and shall be under control of a Fuel Specialist at all times (*please refer to Fuel-Management SOPs for further details*). Fuel berms and transfer berms at other camps – the CH-6 Temporary Camp and Sunrise Camp – also shall be under control of the Camp Manager and designated fuel-management staff. As per the Peregrine land-use permit and water licence, all storage of hydrocarbons and other hazardous substances is no closer than 31m from the ordinary high-water mark of the nearest water source.

- At the RC drill, all fuel shall be stored or transferred in containment.

- The Morooka and other heavy equipment at the RC drill shall be parked over drip pans or troughs when stationary whilst awaiting cuttings loads.

- A fully-equipped, full-sized spill kit and extra absorbents shall be readily available at the RC drill site and at any location of petroleum products, fuels and other substances that have the potential to cause harm to the environment.

- Fuel-management SOPs will be implemented to avoid, contain and remedy any fuel spillage during all refuelling.

- All spills of substances that have the potential to cause harm to the environment shall be cleaned up immediately and reported to the Peregrine Supervisor. Reportable spills >**50L** of petroleum products shall be reported to the applicable regulators.

- All petroleum products must be contained and disposed of accordingly when equipment maintenance is carried out. All soiled rags, drip cloths, absorbent “diapers” and fluids must be stored in proper refuge drums within a designated waste area and properly identified and labelled as hazardous waste, *e.g.*, Class 9 miscellaneous hazardous waste, solid or liquid.

- Drip pans or troughs must contain all drips under stationary equipment. All soiled rags, drip cloths, absorbent “diapers” and fluids must be stored in proper refuge drums within a designated waste area and properly identified and labelled as hazardous waste, *e.g.*, Class 9 miscellaneous hazardous waste, solid or liquid.

- When leakage on equipment such as the Morooka or other mobile heavy equipment is detected, repairs are to be conducted immediately and inside the lined equipment storage and maintenance quonset shed being constructed at Discovery Camp. All soiled rags, drip cloths, absorbent “diapers” and fluids must be stored in proper refuge drums within a designated waste area and properly identified and labelled as hazardous waste, *e.g.*, Class 9 miscellaneous hazardous waste, solid or liquid.

Storage and Handling

- Hazardous materials shall be handled and stored in accordance with existing territorial and federal legislation and all governing permits and licences, with due regard for this Plan and other Chidliak monitoring plans.

- Hazardous materials must be clearly labelled, including even inert cuttings spills contained in refuge drums. Appropriate Material Safety Data Sheets (MSDS) must be readily available for all products. MSDS and inventory lists for all manufactured products are readily available via the Peregrine MSDS CD and Spill Plan.
- Equipment and materials at the RC drill where cuttings are transferred and at all other sites shall be arranged to minimise storage/stacking and handling hazards at all times, in order to minimise risk to the wellbeing of workers and to the receiving environment.

REFERENCES AND RELATED DOCUMENTS

6.01 NWT and NU Mine Health and Safety Act and Regulations: 6.01, 1.135 and 1.137

Attachments

Morooka MST 3000 tracked carrier for lifting and transport of cuttings mega-bags will be equipped with an AMCO VEBA 105 Series picker boom (*(illustrated above)*. The crane will be attached at the front of the Morooka at a 45°angle and equipped with a picker hook.

APPROVED RECORD

7.01 Approved Record

NAME	POSITION	DATE	REV #	NOTES

PEREGRINE DIAMONDS SAFE WORKING PROCEDURES			
Division:	Bulk Sample Monitoring		
Section:			
Subject:	Fuelling of RC Drill Fuel Tank – Bulk Sample Location		
Owner:	**Corporate EHS Manager**	Effective Date:	**January 2012**
Revision:		Replaces:	

OBJECTIVE

1.01 To ensure fuel transfer from a sleigh-mounted enviro-tank to the reverse circulation (RC) drill tank during conduct of bulk sampling at a Chidliak Project drill site so as to prevent or minimise environment impacts and potential splash-back injuries to Equipment Operator or other adjacent personnel. (For the purpose of this Bulk-Sampling Monitoring Plan, the "enviro-tank" is understood to be a 10 000L steel tank within a tank holder mounted on a custom-built deck, surrounded by steel railing, and conveyed to and from the drill site by a Challenger 875C, Morooka MST 3000 or other heavy equipment.)

SCOPE

2.01 This procedure applies primarily to the Equipment Operator and refuelling workers at the drill and secondarily to other contractors and visitors working on the Chidliak Project and specifically applies to the RC drill site.

INTRODUCTION

3.01 This procedure applies primarily to the 2012 RC bulk-sample drill rig and secondarily to all forms of RC, core, RC rotary air-blast, air-core, percussion, vacuum and mechanised auger drilling equipment that must be refuelled for the Chidliak Project bulk sample programme.

RESPONSIBILITY

4.01 The **Project Manager** is responsible for:

- Ensuring this procedure is implemented and maintained,
- Ensuring that written authorisation is given to the Equipment Operator, refuelling workers and their cross-shift personnel, and
- Ensuring these authorised personnel receive the appropriate training.

4.02 The **Authorised Personnel** transferring fuel at the RC drill are responsible for:

- Understanding and complying with the requirements of this procedure.

4.03 The **Environment Manager** is responsible for:

- Monitoring the implementation of this procedure, compliance and reporting, and

4.04 The Site Health, Safety and Environment (HSE) Co-ordinator is responsible for

- managing spills and maintaining records.

5 PREPARATION

- **TOOLS:** PPE (Gloves, Goggles, Respiratory protection, if required)

Procedure

6.01 Fuel Transfer to Drill Tank using Sleigh-Mounted Pump (Mobile Fuel Station)

- Ensure spill equipment is readily available and in usable form. Ensure supplies are adequate in the event of a spill or leak, including fire extinguishers.
- It is important to note that the sleigh-mounted fuel tank (the enviro-tank) is enclosed in its own containment made of the same materials as the tank. This will serve to catch leaks or drips off the tank pump itself.
- Ensure any wheels are chocked so no movement can take place. Ensure engines of the equipment are turned off before any fuelling takes place.
- Pull mobile fuelling sleigh with enviro-tank up to the RC drill fuel tank, remaining at least 3m away. Ensure that mobile fill station is on the opposite side of any rock faces or high walls.
- Open the fuel cap on the mounted enviro-tank and check the fuel level prior to fuelling.
- Unwind the hose from the fuel sleigh and insert the nozzle securely into the drill-tank filling inlet, ensuring that no fuel drips onto the snow, ground or on the equipment. (A drip pan or absorbents are to be placed underneath equipment to prevent spillage.)
- Set the sleigh pump to the "on" position. Stand to the side. Squeeze the nozzle handle to begin dispensing fuel into the drill tank. In extreme cold temperatures, set the nozzle to the "on" position and insert it securely into the tank inlet and remain by the sleigh pump, ensuring the nozzle remains securely in place for the duration of the fuel transfer. This is permitted to prevent frostbite from handling cold nozzles. If the nozzle slips out, immediately set the vehicle pump to the "off" position.
- The nozzle shall *not* be placed in the "on" position unless the Equipment Operator or designated refuelling worker is holding the nozzle. Proper PPE will be worn at all times to prevent frostbite and an additional assistant will be available to ensure extra help is always available.
- For larger refuelling loads during extreme cold temperatures, set the nozzle to the "on" position and place it securely into the tank inlet. Remain outside the equipment and watch the fuel nozzle closely to ensure it remains securely in place for the duration of the fuel transfer.
- Periodically check the level of filling to prevent overfilling. Wait several seconds after stopping before looking into the drill tank inlet to avoid surging fuel. Only fill the drill tank to **90%** of capacity to allow for expansion and avoid splash-backs.
- When returning the nozzle after use, avoid drips and spills. Reseal the enviro-tank and secure the lid to the secondary containment, if applicable.

6.02 Fuel Transfer to Other Fuel Tanks at the Drill Site (for example, Compressor, Pumps using Sleigh-Mounted Pump [Mobile Fuel Station]

- Follow same procedural steps as per 6.01 above, always ensuring that spill equipment is readily available and in usable form. Ensure supplies are adequate in the event of a spill or leak, including fire extinguishers.

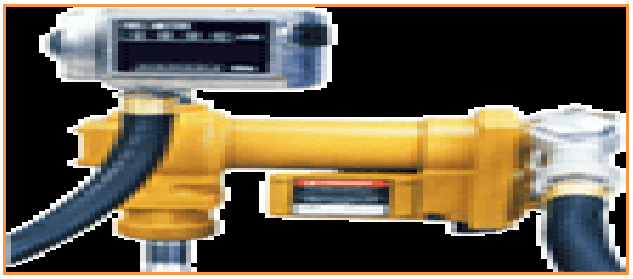
NOTE: If any fuel spills occur, ensure spillage is cleaned up right away with absorbent material. All cleanup materials are to be safely disposed of as hazardous waste and separated in their own containment berms/containers. In the event of a spill or leak, the Equipment Operator, refuelling worker at the drill or Fuel Specialist at Discovery Camp will notify the Supervisor so an incident/spill report can be filled out. All focus and attention shall be on the spill and proper spill response. Peregrine reports fuel spills of **50L** or more to the NU-NWT Spill Line and proper authorities.

Attachments

Fuel enviro-tank with spill containment

Fuel sleigh that enviro-tank will be secured to

Manual pump without hose and nozzle (Optional to electrical (battery) pump)



Electrical pump for filling tank from enviro-tank

CAT Challenger to pull sleighs

Canterra (Foremost) CT350 RC drill

APPROVED RECORD

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NAME	POSITION	DATE	REV #	NOTES