De Beers
Group of Companies

Chidliak Exploration Project

Bulk Sample Monitoring Plan
V1.1

April 2023

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REVISION HISTORY

Revision	Date	Comments
0.0	March 7, 2018	Peregrine version submitted to the NWB for the 2017 renewal application.
1.0	March 1, 2023	Revision to update Peregrine info to De Beers format with submission to NWB 2023 application.
1.1	April 10, 2023	Updates to address NWB Public Comment Recommendations

1 INTRODUCTION

De Beers, as the sole owner of Peregrine Diamonds Ltd., has authorization to collect bulk samples at six kimberlites located within the Chidliak property: The target kimberlites are CH-1, CH-6, CH-7, CH-31, CH-44 and CH-45.

Bulk sampling methods can take two forms:

1) Trenching

2) Large Diameter Reverse Circulation Drilling

This plan describes how De Beers will manage and monitor the bulk sampling programs at the Chidliak exploration site.

1.1 PURPOSE

The purpose of bulk sampling is to obtain a sufficient volume of kimberlite to assess the economic potential for future diamond mining. Bulk sample drill/trench programs are typically done in the winter however could occur during other seasons as well.

1.2 SCOPE

There are six primary kimberlites of interest for bulk sampling. Each of these are described below, including a synopsis of sampling that has already occurred. Additional bulk sampling may occur at other kimberlites in the project area following completion of successful preliminary drilling programs.

1.2.1 CH-1 Kimberlite

The CH-1 kimberlite was discovered in 2009. It was the subject of core and small diameter reverse circulation drilling during programs completed in 2009, 2010 and 2012. A total of nine (9) drill holes have been completed consisting of six (6) core holes and three (3) small diameter reverse circulation (RC) holes. Mini-bulk trench samples were collected in 2008 (2.28 tonnes) and 2009 (50 tonnes).

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64° 15' 54.36"N

Longitude: 66° 19' 59.16""W

50K NTS: 26B08

Mining Lease: L-5813 (Former Mineral Claim CH325, K12817)

1.2.2 CH-6 Kimberlite

The CH-6 Kimberlite was discovered in 2009. The kimberlite has been the subject of drill programs in 2009, 2010, 2011, 2012, 2014, 2015 and 2017. A total of 104 drill holes have been completed at the CH-6 kimberlite consisting of 44 small diameter reverse circulation (RC) holes and 46 core holes. A 508 tonne trench sample was taken from the CH-6 kimberlite in 2013.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64° 19' 19.20"N

Longitude: 66° 31' 46.92"W

50K NTS: 26B07

Mining Lease: L-5806 (Former Mineral Claim CH050, K12542)

1.2.3 CH-7 Kimberlite

The CH-7 kimberlite was discovered in 2010. The kimberlite has been the subject of drill programs in 2010, 2011, 2012, 2014 and 2015. A 50 tonne mini-bulk sample was collected from a trench in 2010 and a 558 tonne large diameter drill (LDD) program was completed in 2015. A total of 76 drill holes have been completed at CH-7 consisting of 29 core holes, six (6) large diameter RC holes and 41 small diameter RC holes.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64° 15' 1.08""N

Longitude: 66° 21' 13.68"W

50K NTS: 26B08

Mining Lease: L-5814 (Former Mineral Claim CH392, K12884)

1.2.4 CH-31 Kimberlite

The CH-31 kimberlites was discovered in 2010. It was subject of drill programs in 2010, 2011 and 2012. A total of 14 drill holes have been completed at CH-31 consisting of 11 core holes and three (3) small diameter RC holes.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64° 13' 21.36"N

Longitude: 66° 18' 23.76"W

50K NTS: 26B01

Mining Lease: L-5815 (Former Mineral Claim CH393, K12885)

1.2.5 CH-44 Kimberlite

The CH-44 kimberlite was discovered in 2010. Drill campaigns were undertaken on this kimberlite in 2010, 2011, 2012, and 2014. A total of 49 drill holes have been completed at CH-44 consisting of 18 core holes and 31 small diameter RC holes.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64° 13' 32.52"N

Longitude: 66° 20' 08.88"W

50K NTS: 26B01

Mining Claim: L-5815 (Former Mineral Claim CH393, K12885)

1.2.6 CH-45 Kimberlite

The CH-45 kimberlite was discovered in 2010 and the subject of drill programs in 2010 and 2011. A total of 5 drill holes have been completed at CH-45 consisting of four (4) core holes and one (1) small diameter RC hole.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64° 14' 31.92"N

Longitude: 66° 21' 03.96"W

50K NTS: 26B01

Mining Lease: L-5814 (Former Mineral Claim CH392, K12884)

1.3 REGULATORY SETTING

1) CIRNAC – Class A Land Use Permit N2012C002
2) NWB – Class B – Water Use and Waste Water Disposal Permit #2BE-CHI1823
3) GN – Department of Environment - Waste Generator Number #NUG-100030

2 METHODS

2.1 TRENCHING

Trenching is a method to collect a large sample of kimberlite. It is most often used when the kimberlite of interest is close to the surface and can be readily accessed by digging. Both hand and mechanical tools are utilized to extract kimberlite at or near surface. Hand tools can be used in the summer months to collect small tonnage samples that outcrop or have shallow sub crops. Large tonnage trenching activities must take place in winter under frozen ground conditions. Winter trenching programs utilize a pneumatic percussion drill for the placement of blast holes and a track mounted excavator for removing overburden and sample collection. Overburden is stockpiled at the side of the trench. Kimberlite is then collected from the trench and placed in large mega-bags. At the completion of trenching activities the overburden is placed back in the hole and levelled. Typically, in the spring, post reclamation subsidence occurs and a small hollow forms where the trench was excavated.

Trench plans are prepared for each trench location to reflect the unique topographic features of the kimberlite being sampled.

Water at trench locations, if present, will be tested in the summer season following completion of trenching activity. Currently Trenching will not be a component of the upcoming Bulk Sample to be taken in 2024. If it is determined trenching will be required an update to this document will be necessary. This should include consideration for mitigation measures to prevent the transport of sediments, blasting residuals, and other contaminants from trench areas to nearby waterbodies. It will also include plans for a water quality sampling analysis of trench water during the summer months.

2.2 LARGE DIAMETER REVERSE CIRCULATION DRILLING

Large Diameter Reverse Circulation drilling involves the usage of a drill rig that is capable of drilling large diameter drill holes with hole diameters ranging between 13 and 28 inches with current tooling on site. A remanufactured Cooper CT 550 drill rig, or similar, will be used to collect chip samples for this purpose.

This type of drilling was approved with Permit Amendment #3 in February 2012 for AANDC (Now INAC) Permit N2008C0005.

Water use for large diameter drilling is authorized by Nunavut Water Board class B water licence 2BE-CHI1823. De Beers anticipates requiring up to 299 m3/day to support the

drilling program. Bulk sampling will be conducted in the winter and under ice water removal is authorized from several water bodies as described below in Section 2.2.3 Authorized Water Sources.

The rotary drill uses water in a closed loop, reverse flood method, with the addition of air via a compressor to lift the kimberlite chips gently to surface inside the drill pipe to safeguard against breakage of any diamonds contained in the sample.

2.2.1 Drill Methodology

As illustrated in Figure 1 below, water conveyed to the drill in a tank and the outer pipe (casing) is filled with water. Compressed air is injected into the inner pipe. This reduces the head pressure of the water inside the inner pipe relative to the water in the casing/hole causing the drilled chips to travel up the inner pipe. The raw sample (kimberlite chips + kimberlite cuttings + water from the circuit) then is discharged through a connecting hose to a drop-box and then onto a shaker table. The kimberlite chips are agitated and screened to a +1.15mm size or similar, dewatered and then directed from the table into a waiting 1.8-tonne capacity mega bag for removal, security tagging and shipment for processing. The remaining water in the cuttings tank is then desilted via a bank of desilting cones, with the fines reporting to a separate 1-tonne mega bag for transport to the designated cuttings deposition area. A tracked Morooka or alternative with picker arm is used for this. The desilted water is then returned to the circuit.

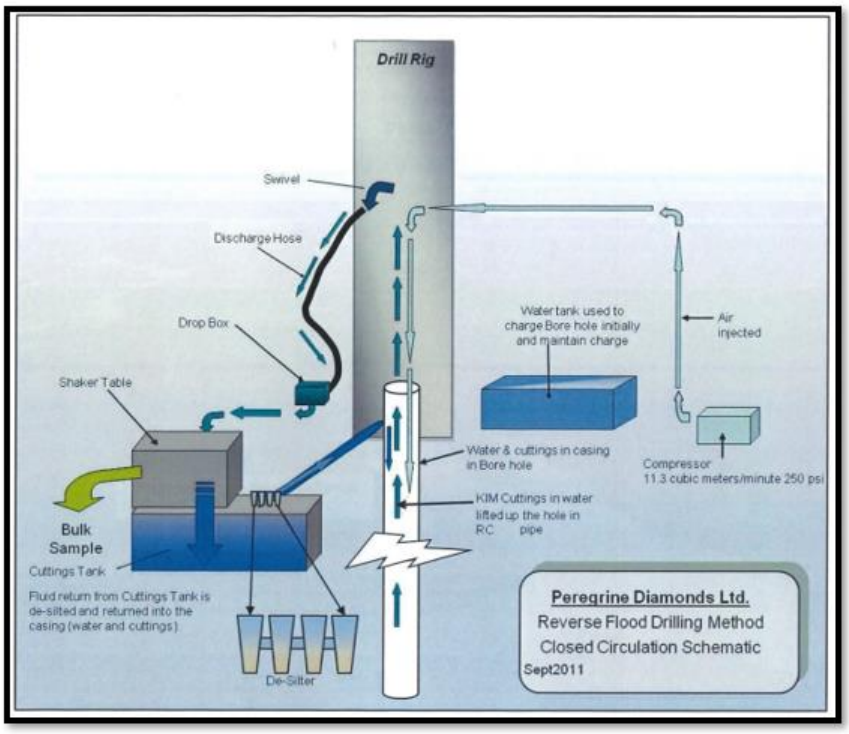

Figure 1 - Drill Circuit

2.2.2 Cuttings Disposal

Cuttings-deposition locations were identified and selected by geotechnical engineers employed by EBA TetraTech in the summer of 2011. These locations were reviewed and approved as part of previous permit applications/renewals.

Water at trench locations, if present, will be tested in the summer season following completion of trenching activity. Currently Trenching will not be a component of the upcoming Bulk Sample to be taken in 2024. If it is determined trenching will be required an update to this document will be necessary. This should include consideration for mitigation measures to prevent the transport of sediments, blasting residuals, and other contaminants from trench areas to nearby waterbodies. It will also include plans for a water quality sampling analysis of trench water during the summer months.

The location and a brief description of each of the locations is provided below:

1) Cuttings Containment Area 1 - CH-7 Rock Basin

This engineer selected cutting containment area has a 7,000 m3 estimated volume. It was used in 2015. A total of 124.8 cubic meters of kimberlite deposited in 2015. Any released water is filtered slowly though the rock rubble at the base of the containment area.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64° 15' 50.6268”N

Longitude:66° 19' 43.0536"W

50K NTS: 26B08

Mining Lease: L5815 (Former Mineral Claim CH393 K12885)

2) Cuttings Containment Area 2 - Flat Area

This engineer selected cuttings containment area has a 2,000 m3 estimated volume. This area is approved but has not been utilized. This area requires a perimeter snow berm when cuttings are deposited. The cuttings would then thaw slowly over the spring. Water released from the cuttings is expected to infiltrate into the active soils at this site (i.e. the clean granular glacial till) that would naturally run off from the cuttings.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64° 13' 55.8768”N

Longitude:-66° 19' 29.622"W

50K NTS: 26B01

Mining Lease: L-5815 (Former Mineral Claim CH393, K12885)

3) Cuttings Containment Area 4 – CH-6 Rock Basin

This engineer selected cuttings containment area has a 4,000 m3 estimated volume. This area is approved but has not been utilized.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64° 19' 11.3484""N

Longitude:-66° 33' 44.3772""W

50K NTS: 26B07

Mining Lease: L-5806 (Former Mineral Claim CH050 K12542)

2.2.3 Authorized Water Sources

There are five water bodies approved for use as water sources to support the bulk sample drilling program. Average daily water consumption for the 2015 LD drilling was 50 cubic meters per day but may be higher in future years depending on the drilling program. The maximum daily withdrawal requested is 299m3/day. A synopsis of each approved water source is provided below.

1) Winter Water Withdrawal - Sunrise Lake West

The under-ice water volume of this lake based upon bathymetry surveys conducted in 2011 is 7,462,500 m3.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64°13' 26.13"N

Longitude:66°10' 34.63"W

50K NTS: 26B01

Mining Lease: L-6006 (Former Mineral Claim CH418, K12910)

2) Winter Water Withdrawal - "Y" Lake

The under-ice water volume of this lake based upon bathymetry surveys conducted in 2011 is 47,800,100 m3.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64°18' 59.81"N

Longitude: 66°46'53.71"W

50K NTS: 26B07

Mining Lease: L5884 (Former Mineral Claim CH083, K12575)

3) Winter Water Withdrawal - Deep Hole McKeand River

The under-ice water volume of this lake based upon bathymetry surveys conducted in 2011 is 81,700 m3.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64°16' 20.25"N

Longitude: 66°33' 17.25W

50K NTS: 26B07

Mining Lease: L-5851 (Former Mineral Claim CH049, K12541)

4) Winter Water Withdrawal - Island Lake

The under-ice water volume of this lake based upon bathymetry surveys conducted in 2011 is 35,400 m3. This winter water source is used for contingency purposes such as bad weather or other emergencies.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64°18' 37.48"N

Longitude: 66° 37' 43.95”W

50K NTS: 26B07

Mining Lease: L-5863 (Former Mineral Claim CH062, K12554)

5) Winter Water Withdrawal - Turquoise Lake

The under-ice water volume of this lake based upon bathymetry surveys conducted in 2011 is 39,500 m3.

Projection: Latitude/Longitude

Datum: WGS 84

Latitude: 64°17' 18.07"N

Longitude: 66° 33' 11.46"W

50K NTS: 26B07

Mining Lease: L-5851 (Former Mineral Claim CH049, K12541)

3 ENVIRONMENTAL CONSIDERATIONS

The environmental concerns associated with a LDD program include surface disturbance, fluid management, cuttings disposal and wildlife safety.

The drill rig will be transported over land during the winter months when there is adequate snow cover to eliminate the risk of damage to the surface. Summer operations are currently not planned in 2024. Site preparation for the drill will have to be done so as not to disturb the ground surface. Snow on the drill sites should be packed and leveled well in advance of the rig arriving to allow the surface to freeze. Once frozen, drill mats should be laid on the surface to support the drill and aid in moving the rig after a hole is finished. The site prep and drill move procedures will be well defined prior to the start of the program.

Fluid management consists of drill fluid disposal and the handling and storage of all fluids and chemicals used at the drill. The Land Use Permit requires approval of chemicals. SDS sheets for a number of fluids and chemicals including diesel, oil, lubricants, grease, and drill fluid additives such as muds, polymers, bentonite and CaCl are required. For substances that will be used in the LDD program, but are not listed in prior submissions, SDS sheets should be submitted to the regulator for approval prior to the start of the program.

Water use, including potential water sources, is addressed in the Land Use Permit and Water License. Reverse Recirculation Drilling recirculates water. Therefore, little water is lost or required. Additional water may be necessary if recirculation is lost. If drill fluid is to be pumped off for any reason, sump locations must be identified prior to the program. Appropriate sump locations should be identified during the summer season for submission to the regulators.

All petroleum products or other dangerous substances should be handled, stored and disposed of as per the guidelines in the Chidliak Exploration Project Waste Management Plan. A detailed Spill Contingency Plan for any discharge of petroleum products or dangerous chemicals into the environment will also be adhered to. The drilling crew should be familiar with the Spill Contingency Plan and a spill kit should be at the drill site at all times. If drill fluid has to be pumped off, suitable locations should be identified in advance during the summer. The sites should also be chosen to minimize the visual impact of any discharge. In no intended circumstances should their be a release into a natural water body.

Drill cuttings should be deposited in the sites specified in Section 2.2.2 of this document. The sites were inspected by a consulting engineer and include: the CH-6 basin (~ 2 km

west of CH-6) the CH-7 basin (~2.3km from CH-7) and the flat plateau (~1km northeast of CH-44). Snow should be removed prior to loading the sites (this should be confirmed prior to the program).

3.1 WATER TESTING

Should an accidental release occur into a natural waterbody a sample will be taken of the water at the source of contamination as soon as it is practical to do so. Additional samples proceeding the cleanup may be necessary to ensure the contaminant has been fully removed. All spills will be treated in accordance with The Chidliak Exploration Project Spill Contingency Plan including proper cleanup and reporting. If drill water is to be pumped off for any reason, sump locations must be identified prior to the program. Appropriate sump locations should be identified during the summer season for submission to regulators. Current bulk sample plans do not include the use of trenching. Should trenching be used in the future an update to this document with water quality measures and any effluent discharge considerations included.

In the summer proceeding the deposition of cuttings into a described approved containment area a water quality sample will be taken of standing water within the area where the cuttings were deposited. A sample will also be taken of any down gradient water that may appear to be runoff or melt. Water samples will be shipped to an accredited laboratory and analyzed for the full suite of parameters listed in the effluent quality criteria under the current Water License condition Part D (15). In total there are eight water quality parameters and defined limits for; arsenic, copper, lead, nickel, zinc, total suspended solids, oil and grease and PH. It is anticipated that the total suspended solids may be elevated if there is a lack of water flow in the area. Any parameters which exceed the limits should involve discussion and reporting to the Inspector and appropriate professionals consulted to determine a course of action.

3.2 CONTAMINANTS

Current large diameter drill plans will target diamonds within kimberlite pipes for Bulk Sample extraction. Kimberlite is an ultrabasic rock. Should the drill encounter country rock, the rock will be sampled to determine if it is potentially acid generating or at high risk of metal leaching. If it is found to be PAG or at high risk of metal leaching, the rock will be contained in a designated area and continue to be monitored. Plans for longer term storage and containment will be developed in consultation with the necessary regulators and professionals at that time.

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 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. 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. The cuttings are comprised of wet rock flour (water in the closed-loop drill circuit). Cuttings spills will be cleaned up immediately, all spilt materials, used absorbents (if hydrocarbons are involved in the spill), affected snow or water will be placed into properly labelled refuge drums inside a designated bermed area adjacent to the cuttings deposition area. Should the spill involve any chemicals the drums will then be brought back to camp and treated as hazardous waste. Documentation of cleanup will be added to the spill record to complete it. Deposition of the cuttings into the containment areas will include removal of the mega-bag to be treated as inert waste prior to the final deposit of the cuttings.

3.3 MITIGATION MEASURES

Safe Operating procedures will be established prior to undertaking the bulk sample program and reviewed by staff.

Movement of the cuttings from the drill to the cuttings deposition area will occur during the winter months to minimize environmental impacts. Cuttings should not be stockpiled at the Drill location but transported to the containment area once the bag is full. A set predetermined travel route will be designated to travel between the two areas. Equipment approved under the current land use permit such as a Morooka tracked carrier Picker, will be used to transport the cuttings. Prior to transport the equipment operator should ensure their load is secure in consideration for the environment and health and safety. 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.

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 trained site Fuel Handler.

All storage of hydrocarbons and other hazardous substances will be 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 for prolonged periods or left unattended.

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 Supervisor. Reportable spills shall be reported to the applicable regulators. Petroleum products will be contained and disposed of accordingly when equipment maintenance is carried out. Soiled rags, drip cloths, absorbent diapers and fluids will be stored in proper refuge drums within a designated waste area and properly identified and labelled as hazardous waste, e.g., miscellaneous hazardous waste, solid or liquid.

Drip pans or troughs will contain all drips under unattended stationary equipment. When leakage on equipment such as the Morooka or other mobile heavy equipment is detected, when reasonable to do so repairs will be conducted immediately and inside the lined equipment storage and maintenance quonset shed at Discovery Camp.

Hazardous materials will 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 will be clearly labelled, including even inert cuttings spills contained in refuge drums. Appropriate Safety Data Sheets (SDS) will be readily available for all products. SDS and inventory lists for all manufactured products are readily available via the De Beers sharepoint, and Spill Plan.

Equipment and materials at the RC drill where cuttings are transferred and at all other sites will 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. The drill area will be inspected daily during operations for any unnecessary airborne dust releases.

The drill area will be inspected daily during operations for any water or chemical releases. Should any water from the drill operation be observed entering a natural water body be observed the release will be considered a spill and cleaned up and reported accordingly. The RC drilling does not anticipate water escape and in the rare circumstance should any drill site runoff be observed mitigation measures will be taken accordingly. This may include the use of mats, trays or berms.