Bulk Sample Monitoring Plan

Chidliak Project - March 7, 2018

Peregrine Diamonds Ltd. has authorization to collect bulk samples at six kimberlites located within the Chidliak Property: These 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

The purpose of bulk sampling is to obtain sufficient quantities of diamonds to assess the economic potential of kimberlites. Bulk sample drill/trench programs are typically done in the winter.

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
Mineral Claim: CH325 (K12817)

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 90 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
Mineral Claim: CH050 (K12542)

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 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
Mineral Claim: CH392 (K12884)

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
Mineral Claim: CH393 (K12885)

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
Mineral Claim: CH393 (K12885)

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
Mineral Claim: CH392 (K12884)

Trenching

Trenching can utilize hand or mechanical tools 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 subcrops. 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.

Unique 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 subsequent to the winter season in which the work was done.

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.

Peregrine utilizes a remanufactured Cooper CT 550 drill rig 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 permit 2BE-CHI1218. The class B permit authorizes up to 221 cubic meters per day for drill purposes. Bulk sampling is conducted in the winter and under ice water removal is authorized from several water bodies. All are detailed in the section entitled Authorized Water Sources.

The drilling is conducted by Contractor Cooper Drilling Canada Inc. by a 7 person crew using a remanufactured CT550 large diameter reverse circulation drilling rig modified to meet the needs of the project and the arctic climate. 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.

Drilling 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, 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 with picker arm is used for this. The desilted water is then returned to the circuit.

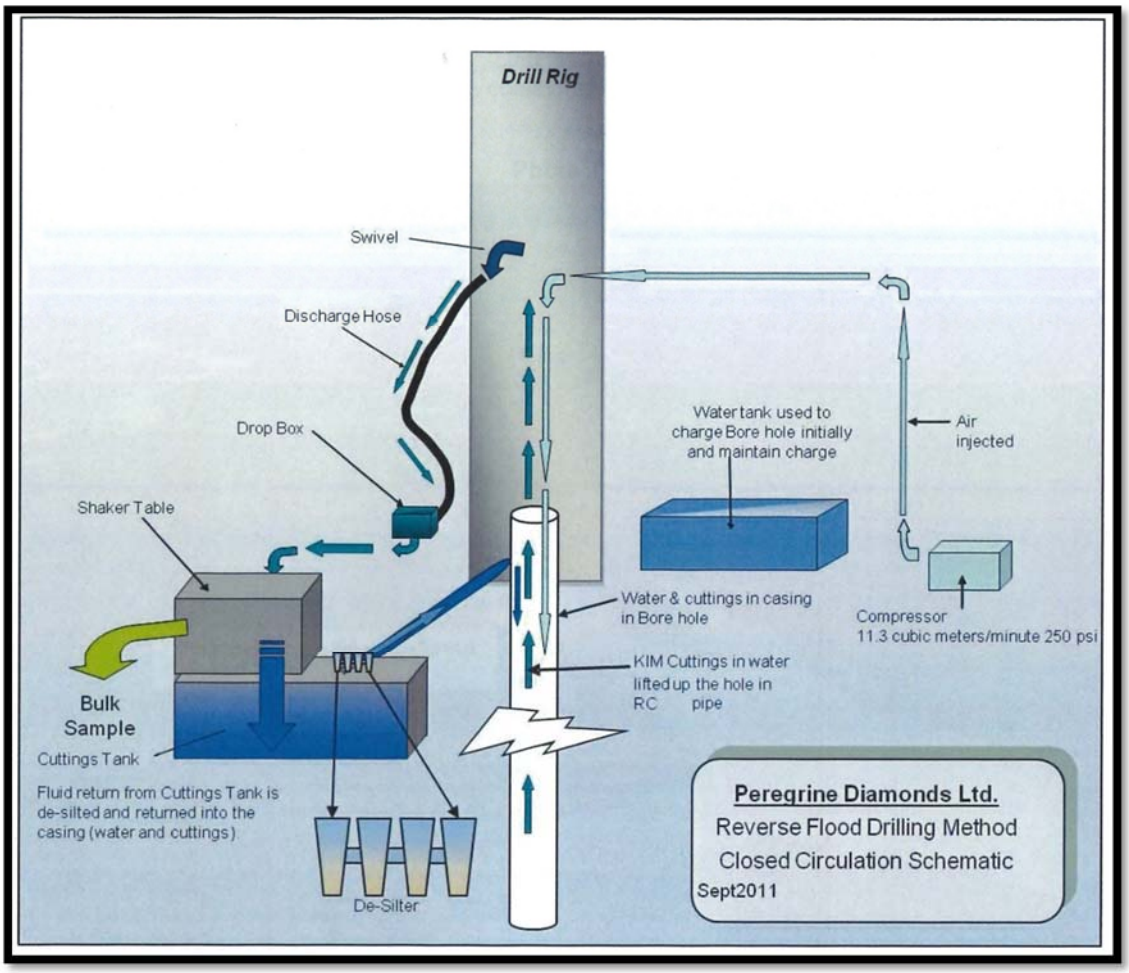


Figure 1 – Drill Circuit

Drill Cuttings

It should be noted that cuttings from the extraction of kimberlite are clean cuttings mixed with water. Use of drilling mud is infrequent with northern bulk sampling and when deployed is typically represented by bentonite, an inert volcanic clay.

Cuttings Disposal Locations.

Cuttings-deposition locations with more than sufficient capacity for containment of the cuttings from planned bulk sample activities were identified and selected by geotechnical engineers employed by EBA TetraTech in the summer of 2011.

Water at cutting disposal locations, if present, will be tested in the summer season subsequent to the winter season in which the work was done.

The location and a brief description of each of the locations is listed

Cuttings Containment Area 1 - CH-7 Rock Basin

This engineer selected cutting containment area has a 7,000 m^3 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
Mineral Claim: CH393 (K12885)

Cuttings Containment Area 2 - Flat Area

This engineer selected cuttings containment area has a 2,000 m^3 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
Mineral Claim: CH393 (K12885)

Cuttings Containment Area 4 – CH-6 Rock Basin

This engineer selected cuttings containment area has a 4,000 m^3 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
Mineral Claim: CH050 (K12542)

Authorized Water Sources.

Bulk Sampling and Large Diameter Drilling is typically conducted during winter months. As such, Peregrine has conducted bathymetry on five water bodies that can serve as water sources for bulk sample drilling. Average daily water consumption for the 2015 LD drilling was 50 cubic meters per day.

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 m^3.

Projection: Latitude/Longitude
Datum: WGS 84
Latitude: 64°13' 26.13"N
Longitude: 66°10' 34.63"W
50K NTS: 26B01
Mineral Claim: CH418 (K12910)

Winter Water Withdrawal - "Y" Lake

The under ice water volume of this lake based upon bathymetry surveys conducted in 2011 is 47,800,100 m^3.

Projection: Latitude/Longitude
Datum: WGS 84
Latitude: 64°18' 59.81"N
Longitude: 66°46'53.71"W
50K NTS: 26B07
Mineral Claim: CH083 (K12575)

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 m^3.

Projection: Latitude/Longitude
Datum: WGS 84
Latitude: 64°16' 20.25"N
Longitude: 66°33' 17.25W
50K NTS: 26B07
Mineral Claim: CH049 (K12541)

Winter Water Withdrawal - Island Lake

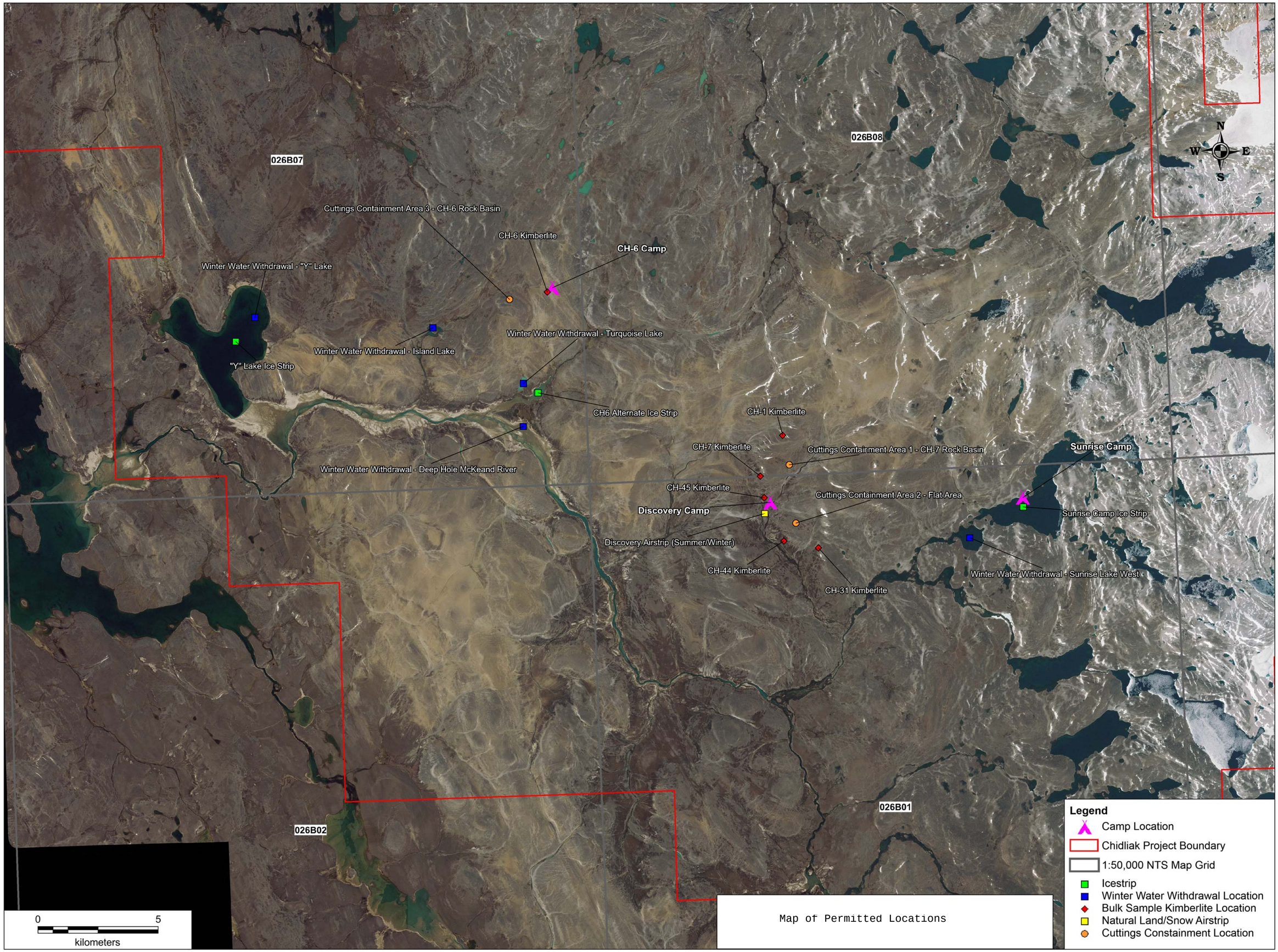
The under ice water volume of this lake based upon bathymetry surveys conducted in 2011 is 35,400 m^3. This winter water source is used for contingency purposes such as bad weather or other emergencies.

Projection: Latitude/Longitude
Datum: WGS 84
Latitude: 64°18' 37.48"N
Longitude: 66° 37' 43.95”W
50K NTS: 26B07
Mineral Claim: CH062 (K12554)

Winter Water Withdrawal - Turquoise Lake

The under ice water volume of this lake based upon bathymetry surveys conducted in 2011 is 39,500 m^3.

Projection: Latitude/Longitude
Datum: WGS 84
Latitude: 64°17' 18.07"N
Longitude: 66° 33' 11.46"W
50K NTS: 26B07
Mineral Claim: CH049 (K12541)



Map of Permitted Locations