2018 Technical Report:
MINERAL RESOURCE UPDATE FOR THE CHIDLIAK PROJECT, BAFFIN ISLAND, NUNAVUT, CANADA

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LIST OF ABBREVIATIONS

Unit of Measure Symbol	Description
$	dollar
%	percent
ac	acre
cm	centimetre
cpt	carat per tonne
ct	carat
cts	carats
ft	foot
g	gram
g/cm^3	grams per cubic metre
Ga	billion years
ha	hectare
in	inch
kg	kilogram
km	kilometre
kW	kilowatt
L	litre
lb	pound
m	metre
Ma	million years
masl	metres above mean sea level
mbs	metres below surface
Mct	Million carats
mm	millimetre
Mm^3	million cubic metres
Mt	million metric tonnes
^{o}C	degrees Celsius
ppm	parts per million
S.G.	specific gravity
st/kg	stones per kilogram
t	metric tonne
tph	tonnes per hour
µm	micrometre

Rock Type	Description
ACK	Apparent Coherent Kimberlite
BCR	Broken Country Rock
CK	Coherent Kimberlite
CR	Country Rock
CRB	Country Rock Breccia
HK	Hypabyssal Kimberlite
LSTX	Paleozoic carbonate xenolith
NR	No Recovery
OVB	Overburden
PK	Pyroclastic Kimberlite
RVK	Resedimented Volcaniclastic Kimberlite
VK	Volcaniclastic Kimberlite

Other Abbreviations	Description
3D	Three-dimensions
ARD	Acid Rock Drainage (e.g. Acid Base Accounting)
Au	Gold
B	Boron
B	Brecciated
BHPB	BHP Billiton Limited
CIM	Canadian Institute of Mining and Metallurgy
Cu	Copper
DEIS	Draft Environmental Impact Statement

Other Abbreviations	Description
DGPS	Digital Global Positioning System
DICAN	Diamonds International Canada
DMS	Dense Media Separation
DTC	Diamond Trading Company
E	East
EIA	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GTZ	Glacial Terrain Zone
H2O	Water
HLEM	Horizontal loop electro-magnetic
HPGR	High pressure grinding rolls
HQ	Drill core diameter of 63.5 mm
ICP-MS	Inductively coupled plasma mass spectrometry
INAC	Indian and Northern Affairs Canada
IOL	Inuit-owned lands
IRS	Intact Rock Strength
ISO	International Organization of Standardization
K	Kimberlite
KIM	Kimberlitic Indicator Minerals
KIM-L.HG	High grade resource domain of the KIM-L unit
KIM-L.NG	Normal grade resource domain of KIM-L unit
LDD	Large-diameter drill(ing)
LGM	Last glacial maximum
Li	Lithium
LLC	Limited Liability Corporation
mbs	metres below surface
MIDA	Microdiamond
MSC	Mineral Services Canada Inc.
N	North
NAD	North American Datum
Ni	Nickel
NI 43-101	National Instrument 43-101
NIRB	Nunavut Impact Review Board
NMR	Nunavut Mining Recorder
NQ	Drill core diameter of 47.6 mm
O	Oxygen
P.Geo.	Professional Geoscientist
PCR	
PEA	Preliminary Economic Assessment
PGE	Platinum group elements
QA/QC	Quality assurance/quality control
QIA	Qikiqtani Inuit Association
QP	Qualified Person
RC	Reverse circulation
RMR	Rock Mass Rating
RQD	Rock Quality Designation
RTK	Real Time Kinetic
S	South
SEDEX	Sedimentary exhalative
SFD	Size frequency distribution
SRC	Saskatchewan Research Council
SRK	SRK Consulting Services Inc.
TCR	Total core recovery
TFFE	Target for Further Exploration
UCS	Universal Compressive Strength
USD	United States dollar
UTM	Universal Transverse Mercator
VMS	Volcanic massive sulphide
W	West
WWW	WWW International Diamond Consultants

1 Executive Summary

1.1 Introduction

This report provides an updated Mineral Resource estimate for the CH-6 kimberlite (from that previously reported by Nowicki et al., 2016) and incorporates the results of a significant amount of evaluation work completed in 2017. Target for Further Exploration (TFFE) volume and tonnage range estimates are also included for CH-6. The Mineral Resource estimate for the CH-7 kimberlite is re-stated from Nowicki et al. (2016). TFFE volume and tonnage range estimates are also included for the CH-7 and CH-44 kimberlite; these results are re-stated from Farrow et al. (2015) and Nowicki et al., (2016), as no evaluation work was carried out on CH-7 or CH-44 during 2017. The CH-6, CH-7 and CH-44 kimberlites are being evaluated as part of the Chidliak project, located on the Hall Peninsula of Baffin Island, approximately 120 km northeast of the city of Iqaluit, Nunavut. The Chidliak project is 100%-owned by Peregrine.

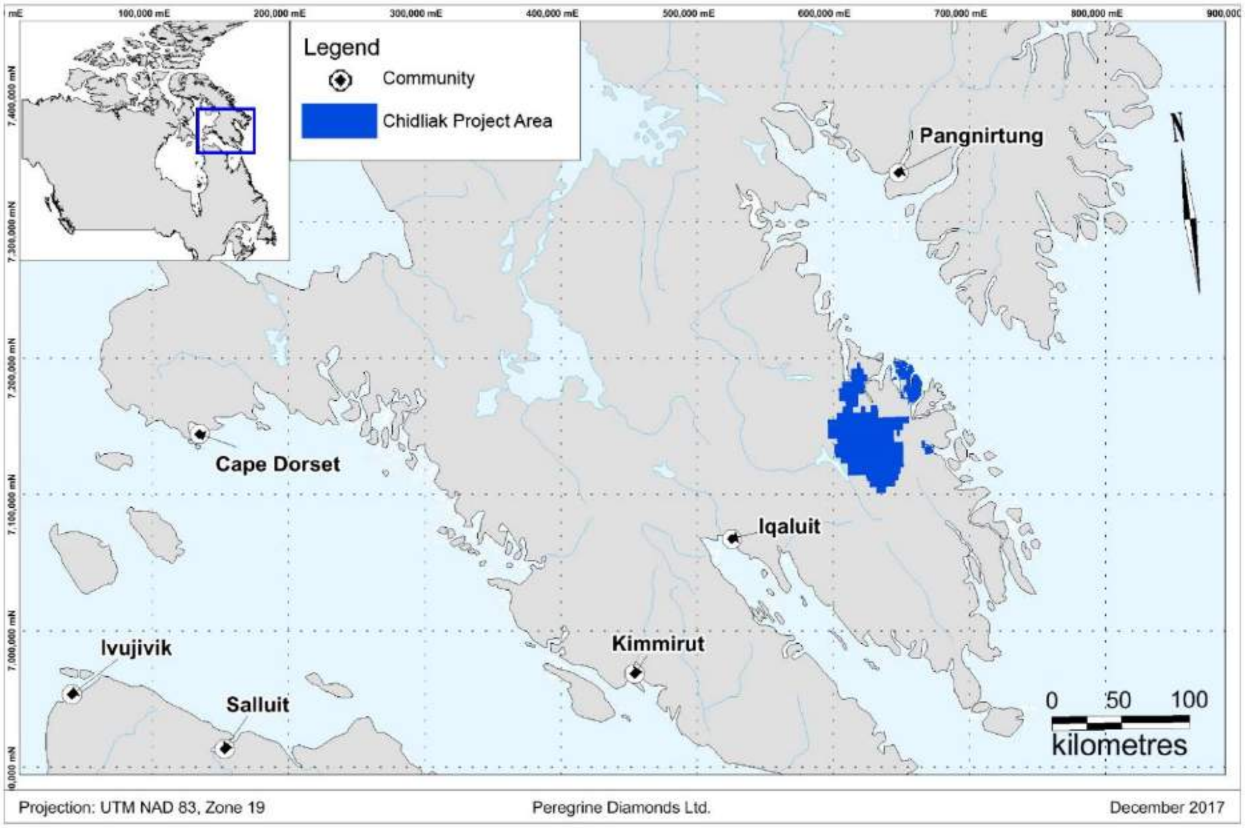
This report has been prepared by Peregrine Diamonds Ltd. (Peregrine) to document the results of work completed at the CH-6 kimberlite during 2017, and a related update of the Mineral Resource estimate for the CH-6 kimberlite. The report has been prepared in accordance with the reporting requirements stipulated by Canadian National Instrument (NI) 43-101 Standards of Disclosure for Mineral Projects guidelines.

The Mineral Resource estimates for the CH-6 and CH-7 kimberlites contained in this report are stated at a level of confidence appropriate for Inferred Mineral Resources. Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them to be categorized as Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

1.2 Property Description, Location and Environment

The Chidliak project comprises a total of 266 CH claims covering 277,997 ha (686,945 ac) and 53 AN claims covering 37,126 ha (91,740 ac) centred at 64° 28’ 26” N latitude and 66° 21’ 43” W longitude (Figure 1-1). All mineral claims are registered in the name of Peregrine Diamonds Ltd., and are in good standing. Peregrine owns 100% of all claims at Chidliak and the project is not subject to a royalty.

Figure 1-1: Location of the Chidliak project.



The Chidliak project area is accessed primarily via helicopter or fixed-wing aircraft from Iqaluit. Iqaluit is the capital of the Canadian territory of Nunavut, and hosts an international airport and a seasonal shipping port. Topography on the Hall Peninsula is rugged near the coast and climbs to a rolling upland with a maximum elevation of 760 meters above mean sea level (masl) within the project area. Baffin Island lies partially within the Arctic Circle; seasonal temperatures vary from very cold in the winter (-25 °C to -45 °C) to cool in the summer (5 °C to 10 °C). Lakes are typically frozen from October to May and permafrost exists to at least 540 m below surface. Flora in the Chidliak area is characteristic of arctic tundra and comprises discontinuous low-lying shrubs. Fauna includes insects, fish, a variety of mammals (including migratory caribou) and migratory birds. Baseline environmental and archaeological studies have been undertaken at Chidliak since 2009.

1.3 History

In 1996 and 1997, an area of Hall Peninsula, including some of the ground now covered by Chidliak, was explored by International Capri Resources Ltd. for nickel-copper-platinum group elements, lead-zinc-copper, and lode gold deposits. No diamond exploration is known to have occurred in the area of the Chidliak project prior to 2005, when a regional till sampling survey of the southern Baffin Island was undertaken by BHP Billiton (BHPB) and Peregrine, with BHPB as operator. This sampling work discovered kimberlite indicator minerals and led to the establishment of the Chidliak project and all subsequent exploration work.

1.4 Geology

Much of the Chidliak area comprises upland surfaces and stepped plain or dissected upland surfaces. Glacial tills are found throughout the area, generally as thin veneers on bedrock. Ice flow directions in the region are dominated by the Hall Ice Divide, parallel to the length of the peninsula, with the primary ice flow direction parallel to the ice divide and then emanating to the northeast and southwest away from it.

The majority of the Chidliak area is underlain by Archean and Proterozoic orthogneisses, paragneisses and metavolcanics. Paleoproterozoic metasediments occur in north-south trending, discontinuously mapped belts on the western part of the project area. Rocks of the Paleoproterozoic Cumberland Batholith occur along the far western margin of the project.

The Jurassic Chidliak kimberlites occur as pipes and rare sheet-like bodies. Two main types of pipes are present: those infilled with volcaniclastic kimberlite only, and those infilled by a combination of volcaniclastic, pyroclastic, coherent and apparent coherent kimberlite (VK, PK, CK and ACK, respectively). The VK-only pipes tend to be larger (≥ 125 m to 150 m radius) than the combined-infill pipes (50 m to 75 m radius). CH-6, CH-7 and CH-44 are three of several kimberlites at Chidliak with potential economic interest, and all three are combined-infill pipes. In addition to basement xenoliths, most of the pipes contain xenoliths of now-eroded Late Ordovician to Early Silurian carbonate and clastic rocks.

The CH-6 kimberlite is a steep-sided, slightly southwest plunging, kidney-shaped to elliptical body with a surface area of approximately 1.0 ha. It is infilled by two main geological units, KIM-L and KIM-C, which are most readily distinguished megascopically by the respective presence or paucity of Paleozoic carbonate xenoliths. KIM-L, the dominant pipe infill, is dark, competent and texturally heterogeneous ranging from PK (pyroclastic kimberlite, a variety of VK) to ACK with depth in the body. Dilution of kimberlite by crustal material is generally low (<5%) and heterogeneously distributed; mantle xenoliths and xenocrysts are common throughout. Volumetrically minor discontinuous CK units of uncertain origin occur intercalated with KIM-L. KIM-C is a comparatively homogeneous CK that occurs along the north and northeast margin below 80 m depth. The two geological domains modelled at CH-6 are KIM-L and KIM-C, which comprise 89% and 11% of the modelled pipe volume respectively.

The CH-7 kimberlite is a steep-sided, southwest-plunging body comprised of at least two coalescing lobes with a combined surface area of approximately 1.0 ha. Five main geological units have been recognized at CH-7: KIM-1 to KIM-5, each characterised by distinct physical, and in some cases geochemical, characteristics. KIM-1 is coarse-grained CK whereas KIM-2, KIM-3 and KIM-4 are PK. KIM-5 is texturally variable (PK, ACK) and variably lateritized. A variety of other minor units are present, such as a gneiss xenolith-bearing CK (KIM-6) and blocks of gneiss and carbonate. Five of the seven geological domains modelled at CH-7 consist primarily of the kimberlite unit of the same name: KIM-1 to KIM-5. Of these, KIM-3 and KIM-4 display the greatest variability in terms of presence of other different units, and in the case of KIM-4 this is poorly constrained by drilling to date. The remaining two domains, R and S, each comprise several units in roughly equal proportions; subdivision of these domains is not possible based on current drilling and geological information. KIM-2 comprises 61% of the modelled pipe volume with the smaller domains in the central and northern portion of the pipe together making up the remaining 39%.

The CH-44 kimberlite is a steep-sided, slightly elliptical body with an apparent plunge to the south-southwest and approximate surface area of 0.5 ha. ACK dominates the upper part of the pipe from surface to ~160 metres below surface (mbs). In the northern part of the body, the ACK is underlain by volcaniclastic material.

1.5 Exploration, Drilling and Sampling

Exploration work conducted on the Chidliak project to date has resulted in the discovery of 74 kimberlites. Work has included:

- Heavy mineral sampling and compositional analysis of kimberlitic indicator minerals.
- Airborne and ground geophysical surveys, comprising magnetic, electromagnetic and gravimetric methods.
- Core and RC drilling for discovery, delineation and sampling of kimberlites.
- Processing of samples of drill core for microdiamonds[1], bulk density, petrography, whole rock geochemistry and macrodiamonds[2] (mini-bulk sample).
- Bulk sampling through large-diameter RC drill (aka LDD) sampling and processing of recovered material for macrodiamonds.
- Bulk sampling through surface trenching and processing of excavated material for macrodiamonds.

[1] The term microdiamond is used in Section 1 to refer to diamonds recovered through caustic fusion of kimberlite at a typical bottom screen size of 0.105 mm square-mesh sieve (~0.00002 ct). Rare larger diamonds that may be recovered by a commercial production plant may be recovered through this process but are still referred to as microdiamonds.

[2] The term macrodiamond is used in Section 1 to refer to diamonds recovered by commercial diamond production plants, which typically recover diamonds larger than the Diamond Trading Company (DTC) sieve category 1 (~0.01 ct). The DTC+1 sieve is roughly equivalent to 0.85 mm square-mesh sieve.

Key datasets used as a basis for the Mineral Resource and TFFE estimates in CH-6, CH-7 and CH-44 include:

- Core drilling of 93 holes (19,537 m) and small-diameter RC drilling of 116 holes (1,504 m).
- Processing of 14,044 kg of drill core and surface bulk sample material for microdiamonds.
- Processing of 4,063 bulk density samples.
- Processing of 465 t of kimberlite (excavated from surface and collected from drill core) for macrodiamonds.
- Drilling of six large-diameter RC holes (1,212 m) from which 329 m^3 (809 t in-situ) of kimberlite was collected and processed for macrodiamonds.

1.6 Mineral Resource Estimate

The Mineral Resource estimate for CH-6 comprises a portion of the KIM-L and KIM-C geological domains between surface and 525 mbs (155 masl). Mineral Resources in CH-7 extend from surface to a maximum depth of 240 mbs (450 masl). These represent the portions of the pipes that are well constrained by drilling and for which sufficient evaluation data are available.

Grade estimates in CH-6 are based on an assessed effectively constant diamond size frequency distribution (SFD) throughout CH-6 and a calibration of the ratio of microdiamond abundance (stones per kilogram, st/kg) to recoverable macrodiamond grade. The calibration is anchored to microdiamond and macrodiamond data from a corresponding volume of KIM-L material (the 2013 CH-6 trench bulk sample). Drill core microdiamond results were used in conjunction with the established ratio of microdiamond abundance to recoverable grade to derive average grade estimates for the CH-6 resource domains. Grade estimates for the resource domains of CH-7 are either based on a calibrated microdiamond approach (as described above for CH-6), or based directly on recovered large-diameter drill (LDD) sample grades. Average grades have been used for all Mineral Resource estimates. Diamond values are based on valuation of parcels of 1,013.54 ct from CH-6 and 735.75 ct from CH-7. Average modelled values as stated by WWW International Diamond Consultants Ltd. (2016a and 2016b) have been adopted for the Mineral Resource estimates.

A Mineral Resource statement for the Chidliak project that includes all currently defined Mineral Resources is presented in Table 1-1. All grades are reported as those recoverable above a 1.18 mm bottom cut-off, assuming the recovery efficiency achieved in the sample process plants used to treat Chidliak kimberlite and recover diamonds from surface excavation and LDD samples. The recoverable grade estimates may be adjusted for the expected recovery efficiency of the planned production processing plant. Average diamond values were derived by applying best estimate value distribution models to models of recoverable diamond SFD, and therefore, also represent “recoverable” values that correlate with the +1.18 mm grades reported. Changing process plant efficiency (relative liberation and recovery of diamonds) may also require an adjustment to diamond values.

Table 1-1: Mineral Resource statement for the Chidliak project.

Body	Resource classification	Depth Range	Volume (Mm^3)	Density (g/cm^3)	Tonnage (Mt)	Grade (cpt)	Carats (Mct)	Value (US $/ct)
CH-6	Inferred	0 to 525 mbs	2.85	2.62	7.46	2.41	17.96	149
CH-7	Inferred	0 to 240 mbs	1.94	2.57	4.99	0.85	4.23	114
All	**Inferred**		**4.79**	**2.60**	**12.45**	**1.78**	**22.19**	**132**

Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

A previously completed Preliminary Economic Assessment (PEA; Doerksen et al., 2016) established that open-pit mining methods provided reasonable prospects of eventual economic extraction of the Inferred Mineral Resources for the CH-6 and CH-7 kimberlites stated at the time (by Nowicki et al., 2016). First-order economic and related engineering assumptions made in the PEA were re-assessed during February 2018 in view of the addition to the open pit potential of the potential underground mining methods required to extract mineral resources to depth at the CH-6 kimberlite. It was concluded that the updated CH-6 resource presented in Table 1-1 possesses reasonable prospects of economic extraction to a depth of 525 metres below surface (mbs), or 155 metres above sea level (masl).

Target for Further Exploration (TFFE) volume and tonnage range estimates have been made for CH-6, CH-7 and CH-44 and are provided in Table 1-2.

Table 1-2: Target for Further Exploration (TFFE) volume and tonnage estimates for the Chidliak project.

Kimberlite Body	TFFE Domain	Volume (Mm^3) Low	Volume (Mm^3) High	Density (g/cm^3)	Tonnage (Mt) Low	Tonnage (Mt) High
CH-6	KIM-C (300 to 360 mbs)	0.03	0.03	2.64	1.09	2.35
	KIM-L (300 to 590 mbs)	0.38	0.85	2.67		
CH-7	240 to 320 mbs	0.32	0.83	2.85	0.90	2.36
CH-44	(0 to 250 mbs)	0.44	1.11	2.87	1.27	3.19

The potential tonnages defined as TFFE are conceptual in nature as there has been insufficient exploration to define Mineral Resources on these targets and it is uncertain if future exploration will result in the tonnage estimate(s) being delineated as Mineral Resource(s).

1.7 Conclusions and Recommendations

Evaluation work carried out in 2017 has provided the basis for a significant increase in the size of the declared Mineral Resource for CH-6. Work carried out in 2017 was specifically planned to substantively increase the declarable resources at an Inferred level of confidence for CH-6. It should be noted that significant uncertainty remains in these estimates with respect to grade and diamond value. Canadian Institute of Mining Definition Standards for Mineral Resources and Mineral Reserves (2014) defines an Inferred Mineral Resource as “that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity”. Peregrine QP’s have assessed prior resource-level work in the light of updated evaluation data resulting from work performed at CH-6 in 2017 and the QP’s are satisfied that the Mineral Resource estimates now reported are constrained to a level of confidence appropriate for classification as Inferred Mineral Resources.

Since the updated CH-6 Mineral Resource extends to depths ordinarily accessible by underground mining methods, it is recommended that an updated PEA be completed for the Chidliak project. The sequencing of potential open-pittable ore at CH-6 and CH-7 and potential underground ore at CH-6 will strongly inform next-step resource development objectives and priorities for anticipated future pre-feasibility or feasibility-level studies.

2 Introduction

This report has been prepared Ms. Catherine Fitzgerald, M.Sc., P.Geo., Dr. Herman Grütter, Ph.D. P.Geo., and Dr. Jennifer Pell, Ph.D., P.Geo. of Peregrine Diamonds Ltd. (Peregrine), with Mr. Dino Pilotto, P.Eng., of JDS Mining and Energy Inc. (JDS), providing opinion on reasonable prospects for economic extraction. The report includes an updated Mineral Resource estimate for the CH-6 kimberlite, which is being evaluated as part of the Chidliak project, located on the Hall Peninsula of Baffin Island, approximately 120 km northeast of the city of Iqaluit, Nunavut. The Chidliak project is 100%-owned by Peregrine. The updated CH-6 resource estimate was published by Peregrine on February 15, 2018. This report provides updated technical information documenting all exploration and evaluation work, methods used, and results relevant to the reported Mineral Resources and fulfils reporting requirements of Canadian National Instrument (NI) 43-101 Standards of Disclosure for Mineral Projects guidelines.

Mineral Resource estimates completed in 2014, 2015 and 2016 for the CH-6 kimberlite are summarized in Section 14.2.1 and Table 14-1. A maiden Mineral Resource estimate completed in 2016 for the CH-7 kimberlite is summarized in Section 14.2.2 and Table 14-2. The 2016 Resource estimates (Nowicki et al., 2016) formed the basis of a Preliminary Economic Assessment (PEA), also completed in 2016 (Doerksen et al., 2016) and are summarized in Section 14.2.

Various portions of the CH-6, CH-7 and CH-44 kimberlites were outlined as Targets for Further Exploration (TFFE) in 2014, 2015 and 2016, in accordance with NI 43-101 standards. The TFFE volume or tonnage estimates are summarized in Section 14.3.

Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them to be categorized as Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

2.1 Sources of Information

The Mineral Resource estimate has been completed by Peregrine and is based upon:

- Geological data from drill core, small and large-diameter reverse circulation (RC) drill holes and surface mapping;
- Sampling data from drill core, small and large-diameter RC holes and surface work including density, diamond, petrological and chemistry samples;
- Three-dimensional geological and resource models using Dassault Systèmes GEOVIA GEMS™ and Seequent™ Leapfrog software packages; and

- All relevant project reports and results of evaluation work in digital format.

The Mineral Resource Estimate and TFFE for CH-7 has been re-stated directly from a previous Chidliak NI 43-101 report (Nowicki et al., 2016). The TFFE estimate for CH-44 in this report is re-stated directly from a previous Chidliak NI 43-101 report (Farrow et al., 2015); the CH-44 TFFE was verified by Mineral Services (Nowicki et al., 2016).

2.2 Qualified Persons

The updated Mineral Resource estimate for CH-6 contained in this report (documented in Section 14) was completed by Ms. Catherine Fitzgerald (M.Sc., P. Geo.) with assistance from Dr. Herman Grütter (Ph.D., P.Geo.) and Dr. Jennifer Pell (Ph.D., P.Geo.). The independent Qualified Person (QP) responsible for assessing prospects for economic extraction (Section 14.8) is Dino Pilotto (P.Eng.) of JDS Energy and Mining Inc. (JDS). QP responsibilities are summarized in Table 2-1.

Table 2-1: QP Responsibilities

Section	Title	Responsible QP
1	Executive Summary	H.S. Grütter
2	Introduction	C.E. Fitzgerald
3	Reliance on Other Experts	C.E. Fitzgerald
4	Property Description and Location	J.A. Pell
5	Accessibility, Climate, Local Resources, Infrastructure and Physiography	J.A. Pell
6	History	J.A. Pell
7	Geological Setting and Mineralization	J.A. Pell
8	Deposit Types and Mineralisation Characteristics	J.A. Pell
9	Exploration	J.A. Pell
10	Drilling	C.E. Fitzgerald
11	Sample Preparation, Analyses and Security	C.E. Fitzgerald
12	Data Verification	C.E. Fitzgerald
13	Mineral Processing and Metallurigal Testing	C.E. Fitzgerald
14	Mineral Resource Estimate*	C.E. Fitzgerald
15	Adjacent Properties	J.A. Pell
16	Other Relevant Data and Information	C.E. Fitzgerald
17	Interpretation and Conclusions	H.S. Grütter
18	Recommendations	H.S. Grütter
19	References	J.A. Pell
	* except 14.8 Reasonable prospects for economic extraction	D. Pilotto

3 Reliance on Other Experts

3.1 Mineral Tenure

Mineral tenure was verified by Mr. David Willis, Peregrines' Manager, Lands and Community, using records held by the Mining Recorders Office, Indigenous and Northern Affairs Canada, Iqaluit.

3.2 Diamond Valuation

The estimates of diamond value (Section 14.4.5 and 14.5.4) provided in this report, and used as a basis for evaluating reasonable prospects for economic extraction (Section 14.8), are derived directly from WWW International Diamond Consultants (WWW), an internationally recognized leading consultancy for valuation of rough diamonds. Through its northern Canadian sister company, Diamonds International Canada Ltd (DICAN), WWW performs the Canadian federal and provincial government diamond valuations for producing diamond mines in Canada and has been working with Canadian diamond production since 1998. WWW/DICAN value all Canadian rough diamonds prior to export based on current market prices. WWW's team of experts have also valued rough diamonds derived from development-stage bulk samples of many Canadian diamond projects (e.g. Gahcho Kué, Renard and Kennady North) and in these instances WWW are relied upon to provide independent models of diamond value for mine-scale production scenarios. The QPs for this report believe it is reasonable to rely on the diamond values provided by WWW.

4 Property Description and Location

4.1 Location and Description

The Chidliak project is located on the Hall Peninsula of southern Baffin Island in Nunavut, Canada, approximately 120 km northeast of Iqaluit, Nunavut, centred at 64˚ 28' 26" N latitude and 66° 21' 43" W longitude (Figure 4-1). The project comprises 74 kimberlite pipes (71 on CHI claims and three on AN claims) (Figure 4-2). Of these, 45 are known to be diamondiferous and two kimberlites, the CH-6 and CH-7 bodies, are sufficiently understood and sampled to support Mineral Resource estimates.

Figure 4-1: Location of the Chidliak project.

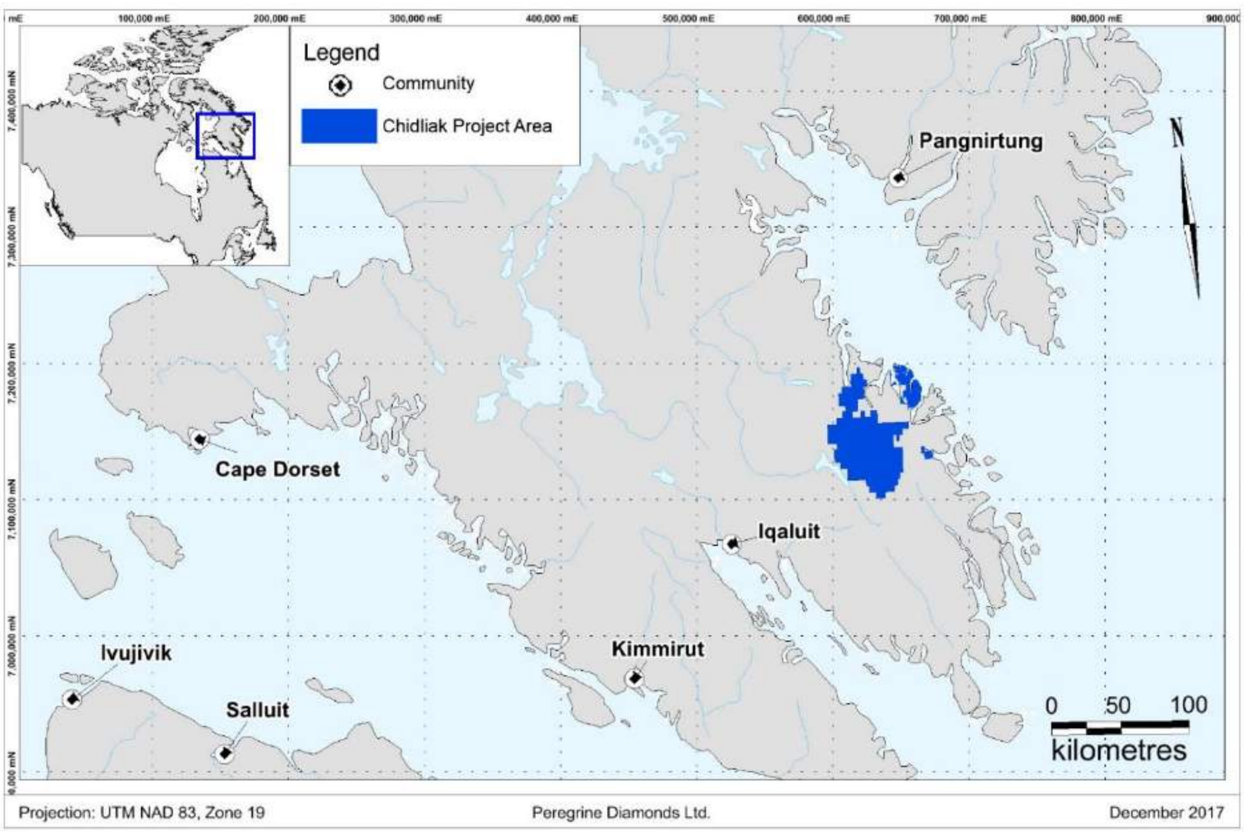
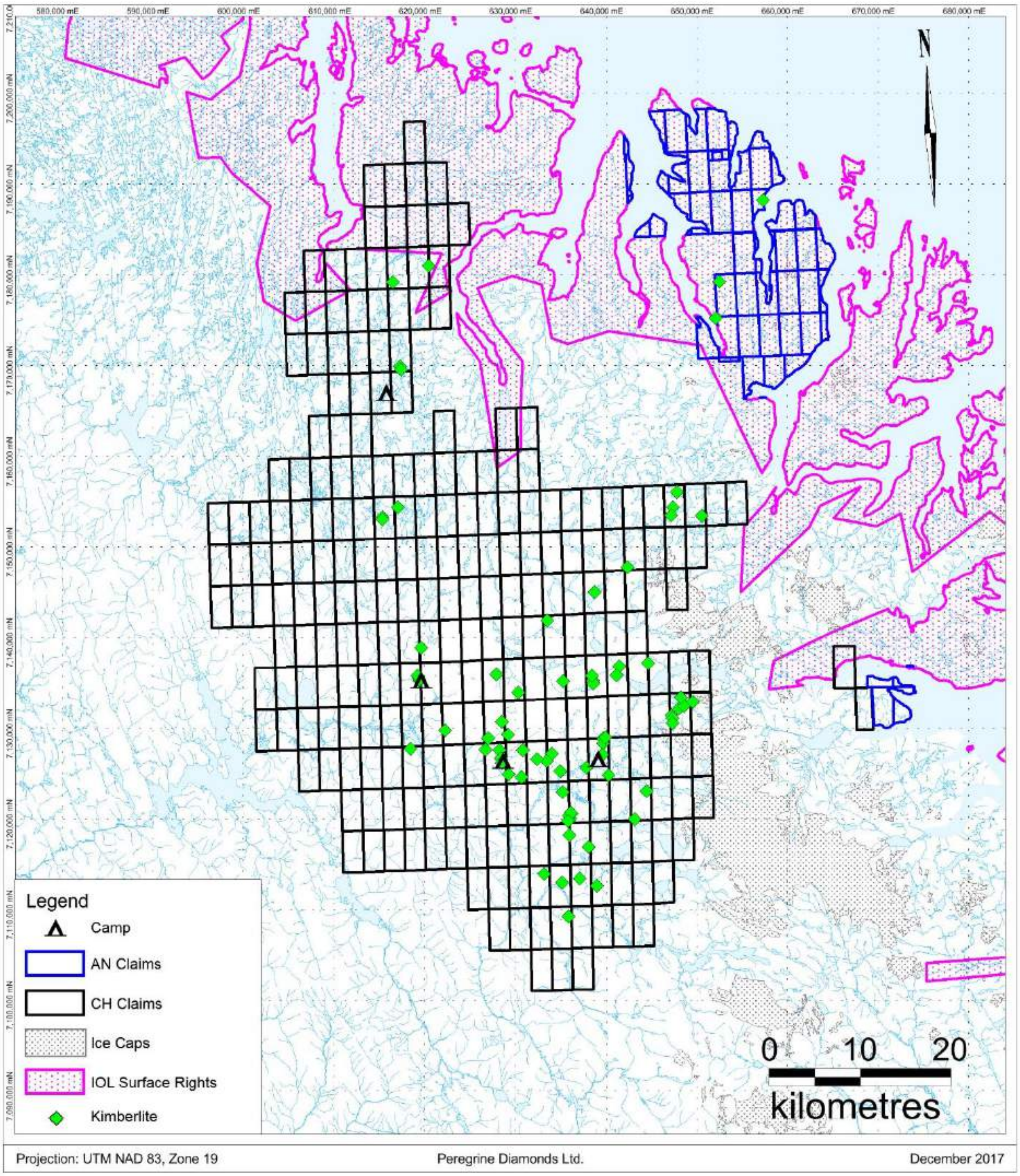


Figure 4-2: Claims map and location of kimberlites on the Chidliak project.



4.2 Mineral Tenure

Nunavut exploration activities are regulated by Indigenous and Northern Affairs Canada (INAC), which is a federal department that ensures compliance with the Nunavut Mining Regulations (NMR) across the territory. Under the Nunavut Land Claim Agreement enacted in 1993, the mineral rights for approximately 2% of the territory have been entrusted to the Inuit and fall into the classification of Inuit-Owned Lands (IOLs). All remaining lands are Crown lands, which are owned by the federal government and fall under their authority and control.

There are three main types of mineral interests under the NMR: a mineral claim, a prospecting permit and a mineral lease (also referred to as a mining lease). Approximately 83% of the CH and AN mineral claims are located on Crown lands with the remaining 17% located on IOLs. For mineral claims located on Crown lands, Peregrine holds a Class “A” land use permit from INAC that authorizes four field camps and mechanical exploration (drilling, trenching etc.). A land use licence from the Qikiqtani Inuit Association (QIA) is required to access mineral claims located on IOLs; Peregrine holds two land use licenses for this privilege, one for the CHI claims and another for the AN claims. Both QIA licenses only permit use of hand tools. Land use permits and water licenses to work on Crown lands and on QIA lands are in place.

The Chidliak project currently consists of 266 CH claims covering 277,997 ha (686,945 ac) and 53 AN claims covering 37,126 ha (91,740 ac). A complete list of all claims is provided in Appendix 1. The CH and the AN claims are collectively referred to as the Chidliak project, which comprises a combined total of 319 claims covering 315,123 ha (778,686 ac) (refer to Figure 4-2). Mineral claims are in good standing until at least August 17, 2018, with some claims in good standing until August 16, 2021. All claims are registered to Peregrine Diamonds Ltd.

4.3 Tenure History

In 2005, BHPB and Peregrine jointly explored on southern Baffin Island, with BHPB as operator. Under Peregrine's exploration agreement with BHPB, Peregrine took responsibility for the project in 2006 and the first prospecting permits were obtained by Peregrine in 2007. In 2008, BHPB elected to exercise its right to earn a 51% interest in the Chidliak project. The CH mineral claims were first staked in 2009, with 581 claims registered with the Nunavut Mining Recorder for an aggregate area of 582,476 ha (1,439,331 ac). An additional 271 claims were staked in the western, southern and eastern portions of the project in 2010, totalling 276,411 ha (683,027 ac). BHPB earned a 51% interest during September 2010 and the project was held and funded 49% by Peregrine and 51% by BHPB between November 2010 and December 2011. On December 20, 2011, Peregrine announced the purchase of BHPB's 51% interest in Chidliak, thereby increasing its' ownership of Chidliak to 100%. Under the terms of the purchase agreement, Peregrine paid BHPB $9 million over a period of three years and granted BHPB a 2% gross over-riding royalty on any future mineral production from Chidliak. The royalty agreement with BHPB was terminated on January 22, 2016.

The AN claims were first staked in 2011, with 71 mineral claims registered, totalling 51,147 ha (126,387 ac). These claims were not part of the BHPB agreement.

As work focused on certain areas of the property, some CH and AN claims were surrendered:

- 107 claims (111,094 ha, 274,520 ac) in November 2012;
- 164 claims (165,317 ha, 408,507 ac) in November 2014;
- 75 claims (69,227 ha, 171,065 ac) in November 2015;
- 112 claims (106,519 ha, 263,214 ac) in November 2016;
- 146 claims (142,613 ha, 352,403 ac) in November 2017.

4.4 Agreements

Peregrine currently has 100% ownership of all claims at Chidliak and is only subject to a Crown Royalty as prescribed in the Nunavut Mining Regulations.

4.5 Environment

Baseline environmental and archaeological studies have been completed at Chidliak since 2009 (Table 4-1), with data collected for nine consecutive years.

Table 4-1: Summary of environmental and archaeological studies at Chidliak.

Survey Type	2009	2010	2011	2012	2013	2014	2015	2016	2017
Water Quality	X	X	X	X	X	X	X		
Stream Flow	X	X	X						
Habitat Analysis	X			X					
Breeding Birds	X								
Waterfowl	X	X	X						
Raptor/Raptor Nest	X	X	X	X	X	X	X	X	
Aerial Caribou	X	X	X	X	X	X			
Aerial Carnivore	X	X	X	X	X	X			
Meterological		X	X	X	X	X			
Camp Potable Water Quality		X	X	X	X	X	X		
Fish & Fish Habitat		X				X	X	X	
Ecological Land Classification						X		X	
Archaeology	X	X	X	X		X			
Wildlife Observation Logs		X	X	X	X	X	X	X	X

The permitting process for exploration and development of any mineral project is continuous and changes as the project advances: activities take on a smaller geographic extent as work becomes more intensive.

The permitting framework is set out in both the Nunavut Lands Claim Agreement and the Nunavut Planning and Project Assessment Act. Development projects in Nunavut are subject to a multiphase review process conducted by the Nunavut Impact Review Board (NIRB) that is best summarized by six “benchmark” phases:

- Phase 1: The proponent submits a project proposal describing the mining project to the NIRB.
- Phase 2: The NIRB determines the scope of the project proposal and identifies significant elements of the proposal that require study and analysis. The NIRB issues project specific guidelines for the production of an environmental impact statement (EIS).
- Phase 3: The proponent collects baseline data according to the NIRB guidelines and assembles this data into a draft environmental impact statement (DEIS).
- Phase 4: The DEIS is submitted to the NIRB at a prehearing conference. The NIRB conducts a technical review of the DEIS and deficiencies and areas of concern are noted and summarised in a pre-hearing conference report (PCR).
- Phase 5: The proponent revises the DEIS based upon the PCR and produces a final environmental impact statement (FEIS).

- Phase 6: The FEIS is submitted to the NIRB and NIRB conducts an administrative and technical review of the FEIS. A hearing is called by the NIRB, which serves as a public forum for the discussion of the proposed project. At the completion of the hearing the NIRB issues a final hearing report with a recommendation to the federal Minister of INAC for the project to either “proceed” or “not proceed”. The Minister has authority to accept or reject the recommendation made by the NIRB.
- Acceptance to proceed is marked by issuance of a project certificate by the NIRB.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Chidliak project is located approximately 120 km northeast of the city of Iqaluit, the capital city of Nunavut (population 7,740 in 2016 Census). There is no permanent road access to the project and it is accessed primarily by air from Iqaluit via helicopter or fixed-wing aircraft. Work at Chidliak is staged from camps established on the project, the primary camp being Discovery camp, which has a 570 m long natural gravel landing strip for fixed-wing aircraft and a helicopter pad to support drilling and logistical operations. Access to Iqaluit is by aeroplane with commercial flights scheduled daily from Ottawa, thrice weekly from Montreal and thrice weekly from Edmonton via Yellowknife.

During winter months when sufficient ice and snow is present, the project can also sometimes be accessed via the Iqaluit-Chidliak winter trail, which supports the transport of equipment, supplies and samples if required.

5.2 Climate and Physiography

The climate of the area is typical of the Eastern Arctic, being cold in the winter (-25°C to -45°C) and cool to mild in the summer (5°C to 10°C). Precipitation is generally low but snow is possible during all months. Lakes typically have ice until mid-June and freeze up begins in late September. Soil is formed slowly and permafrost extends to at least 540 m depth.

Topography varies from sea level at the coast to 760 masl inland. The topography is rugged near the coast and inland is a rolling upland. The topography at Chidliak in the area where any future mining infrastructure would be located is rolling upland with elevations ranging from 600 masl to 760 masl.

5.3 Flora and Fauna

Flora in the area of Chidliak is characteristic of arctic tundra with discontinuous vegetation, and a short growing season. Sparse vegetation consists primarily of moss, lichen and low shrubs such as purple saxifrage, dryas species, dwarf birch, dwarf willow and various rushes and species of sedges.

Fauna at Chidliak includes mammals such as lemmings, arctic hares, caribou (during migratory season), arctic foxes, and wolves; migratory birds such as snow buntings, falcons, ptarmigan, waterfowl and raptors; and other animals such as fish and insects.

5.4 Infrastructure

Peregrine holds authorizations for four field camps at Chidliak: Discovery, Sunrise, Aurora and CH-6 Temporary Camp. The primary camps are Discovery and Sunrise, which are used seasonally, while the Aurora and CH-6 camps are only occasionally used. Discovery camp is the main work staging area and was selected due to the presence of a natural gravel landing strip. Sunrise camp is located on the shore of the 8 km long Sunrise Lake, upon which an ice landing strip can be cleared in winter, as was done in winter 2015 for the CH-7 bulk sample program. All camps are of temporary construction and consist mainly of wooden and/or metal framed tent structures.

Access to the project is primarily by aircraft; however, during winter months it is sometimes possible to access the field camps by winter trail from Iqaluit. In addition, an inter-camp trail network established during winter facilitates the movement of people, equipment and supplies.

Communications at site comprise a satellite phone system and internet connection.

At present, there is no electrical grid supplying power to the Chidliak project site. Power on site is currently provided by small (15 to 25 kW) diesel generators.

Potable water for current exploration operations is sourced from lakes and intermittent streams proximal to the various camps. Process water for any potential future mining operation may be obtained from one of two lakes located approximately 15 km from two potential processing facility sites. Water would be pumped from one of these lakes through a heat-traced pipe to the processing facility with fresh water augmented by recycled and treated process water.

5.5 Local Resources

Services available in Iqaluit include an international airport, a seasonal shipping port, local bulk fuel, light industry, hotels, groceries, heavy equipment rental, a hospital, hardware supplies and expediting. Additionally there are fixed-wing aircraft based in Iqaluit available for charter.

Since the inception of substantive exploration activities at the Chidliak project in 2008, Peregrine has hired local northern employees and has encouraged contractors to hire locally as well. Work on site is seasonal, primarily during the winter and summer months. The majority of local workers originate from the communities of Iqaluit and Pangnirtung, located 190 km to the northwest of the project. Local hires have an aggregate of 6,219 person days on the project.

6 History

6.1 Prior Ownership

There is no record of prior claims in the region of what is now the Chidliak project, which is currently 100%-owned by Peregrine.

6.2 Exploration Work by Other Parties

In 1996 and 1997, an area of Hall Peninsula, including some of the ground now covered by Chidliak, was explored by International Capri Resources Ltd (Larouche, 1997; Lichtblau, 1997); this constitutes the only reported mineral exploration work in the area. They prospected the area for magmatic nickel-copper-platinum group elements (Ni-Cu-PGE) (Voisey's Bay and Raglan-type), metamorphosed massive sulphide (SEDEX type) and volcanogenic massive sulphide (VMS) lead-zinc, lead-zinc-copper, and lode gold deposits.

There is no record of exploration for diamonds in the Chidliak project area, prior to 2005 when BHPB and Peregrine began working in this region.

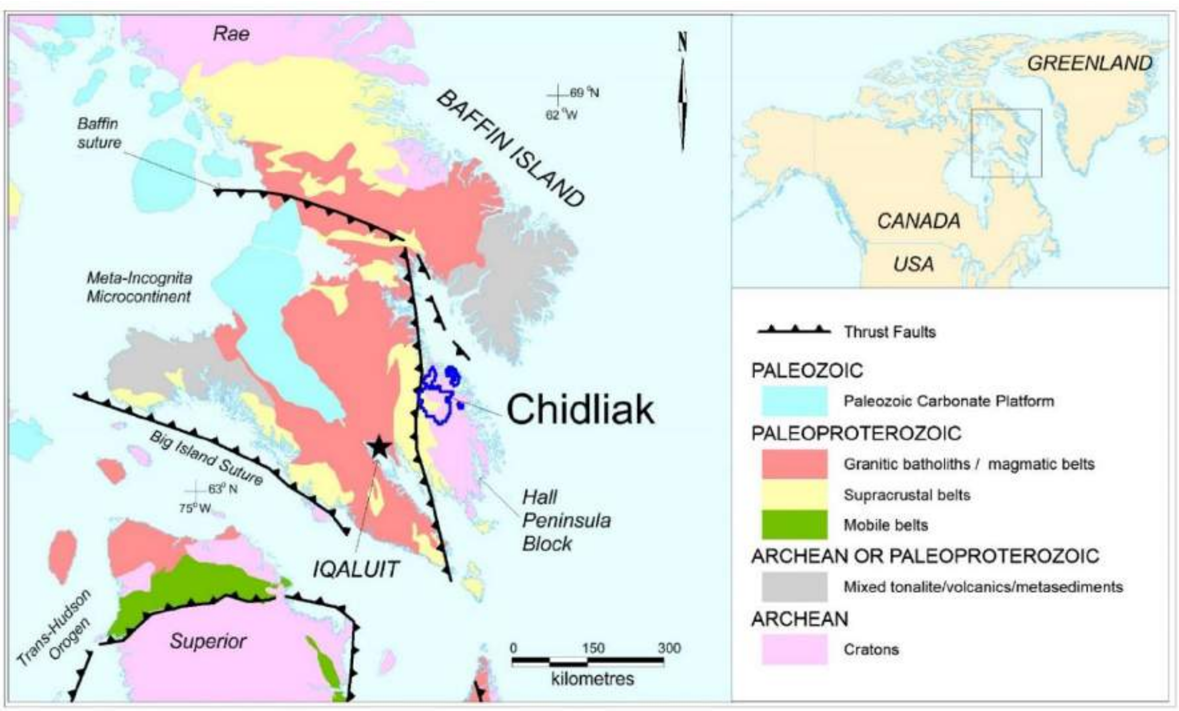
7 Geological Setting and Mineralization

7.1 Regional Geology

7.1.1 Bedrock Geology

The Hall Peninsula is divided into three major crustal entities, which, from west to east, are the Proterozoic Cumberland Batholith, a central belt of Paleoproterozoic metasediments, and an eastern Archean gneissic terrain now termed the Hall Peninsula block (Scott, 1996, 1999; St-Onge et al., 2006; Whalen et al., 2010). The Cumberland Batholith comprises mainly granitoids that are ~1.865 Ga to 1.845 Ga in age (Whalen et al., 2010). The central supracrustal belt comprises a granulite-facies metamorphosed continental margin shelf succession with maximum depositional ages of between 20.9 and 1.84 Ga (Rayner, 2015) that has been correlated with the Lake Harbour Group strata on the Meta Incognita Peninsula (St-Onge et al., 2006). The Hall Peninsula block comprises ~2.92 Ga to 2.69 Ga orthogneisses and 1.96 to 2.71 Ga supracrustal rocks (From et al., 2013; 2014; 2016; 2017; Machado et al., 2013; Rayner, 2014; 2015; Scott, 1999; Steenkamp and St-Onge, 2014). Rocks of the Hall Peninsula block (Figure 7-1) host all of the kimberlites discovered at Chidliak.

Figure 7-1: Simplified geological map of southern Baffin Island. Quaternary Geology.

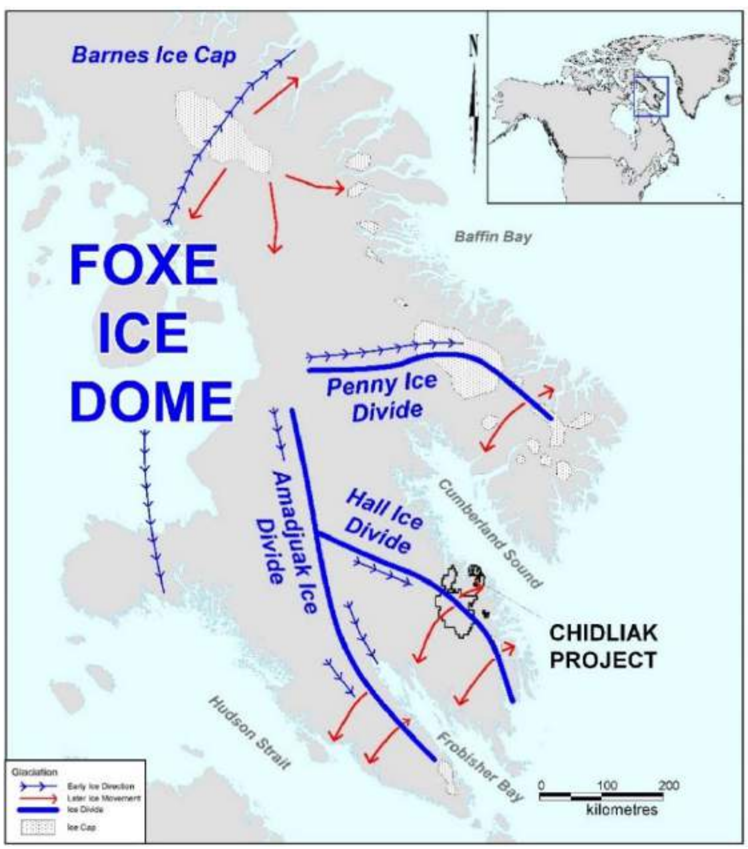


Modified from Pell et al., 2013 after St.Onge et al., 2006 and Whalen et al., 2010.

7.1.2 Quaternary Geology

The majority of the Canadian Arctic was ice covered during much of the Quaternary period by the Laurentide Ice Sheet, with the last glacial maximum (LGM) occurring from approximately 18,000 to 8,000 years ago (Dyke, 2004; Dyke et al., 2002; Dyke and Prest, 1987). In the Baffin area, the manifestation of the Laurentide Ice sheet during the last glaciation was the Foxe Dome, a continental-type ice sheet that was centred over the Foxe Basin (Kaplan et al., 1999; Marsella et al., 2000) and advanced to the northeast over central Baffin Island. The present-day equivalent of the Foxe Dome is the Barnes Ice Cap in north-central Baffin Island, which most likely contains Pleistocene age ice (Andrews, 1989). The dominant ice directions for the Foxe Glaciation (Figure 7-2) radiate out from the Foxe Basin to Baffin Bay (north-north-easterly in central Baffin), to Cumberland Sound (east-south-easterly) and to Frobisher Bay and Hudson Strait (south-easterly to south-south-easterly) in south-eastern and southern Baffin (Kaplan et al., 1999; Marsella et al., 2000). During the waning of Laurentide glaciation, these major directions were, to some extent, modified or overprinted by ice radiating from the smaller Penny, Hall and Amadjuak domes centred over Cumberland Peninsula, Hall Peninsula and southwest Baffin, respectively and by ice radiating out from the remnant Barnes Ice Cap in central Baffin Island.

Figure 7-2: Dominant ice flow directions for the Foxe glaciation.



7.2 Local Geology of Project Area

7.2.1 **Bedrock Geology**

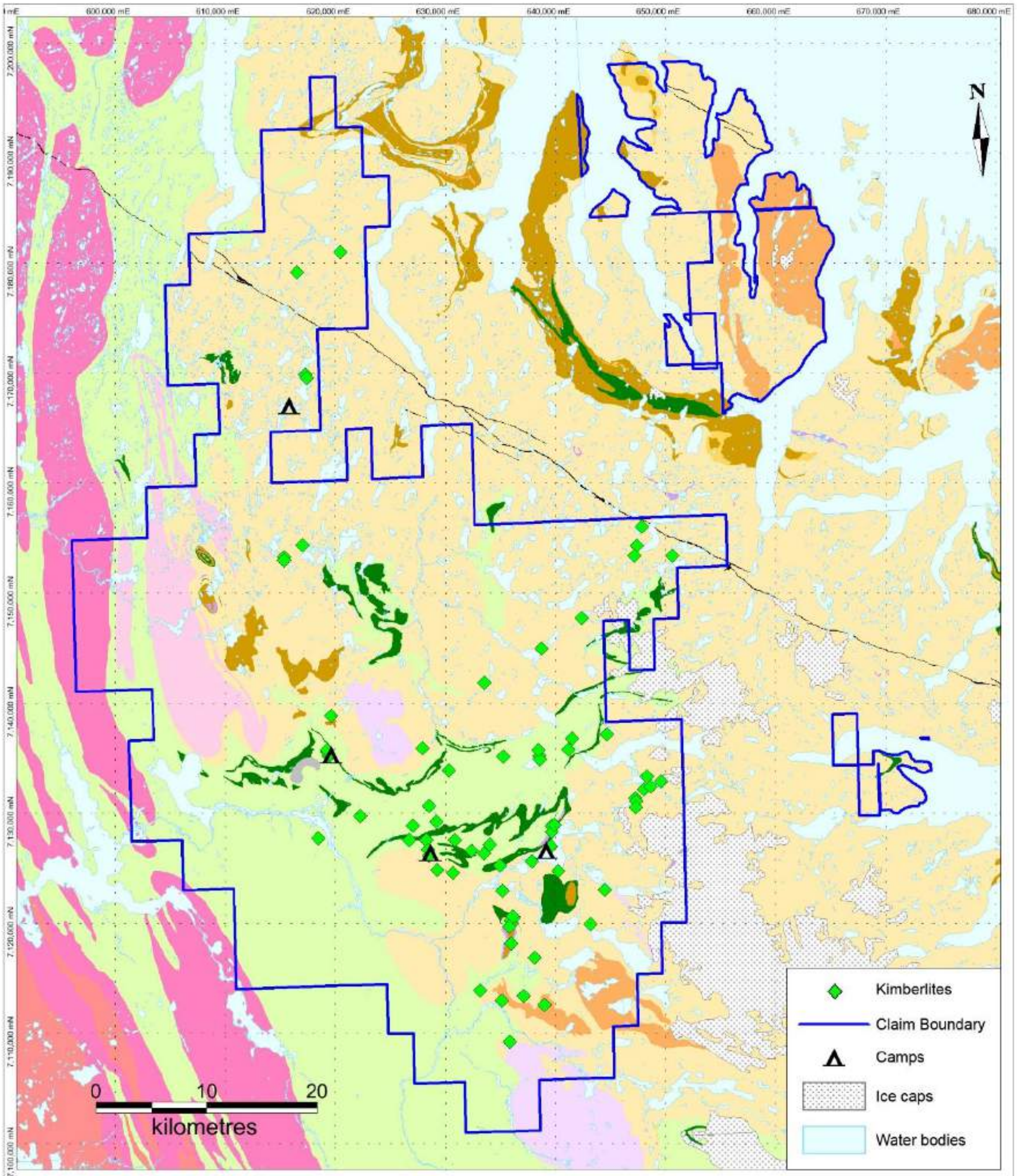
Archean orthogneissic basement and Archean to Paleoproterozoic supracrustal metasedimentary cover rocks of the Hall Peninsula block (Figure 7-3) underlie the majority of the Chidliak project area and host all kimberlites at Chidliak. The Archean basement orthogneiss complex comprises gneissic to migmatitic tonalite to monzogranite, with local enclaves and pods of amphibolites and crosscutting granite to syenogranite dikes (Machado et al., 2013; From et al., 2014). Several hydrated ultramafic intrusions crosscut the basement orthogneiss and are locally wrapped by the pervasive gneissic foliation (Steenkamp and St-Onge, 2014). The Archean orthogneiss complex is locally disconformably overlain by a variably metamorphosed supracrustal sequence (Mackay et al., 2013; MacKay and Ansdell, 2014; Steenkamp and St-Onge, 2014). Crystallization ages between 2843 Ma and 2687 Ma have been obtained from basement samples in the immediate Chidliak area (From et al., 2017; Rayner, 2014; Ansdell et al., 2015).

On the extreme western margin of the project area, pelitic to psammitic granulite-facies metasedimentary strata intercalated with garnet and biotite-bearing leucogranite sills and dykes and interleaved with orthopyroxene-bearing diorite to monzogranite crop out (Figure 7-3). Several larger, laterally continuous, tonalitic to quartz dioritic intrusions also cut into the psammitic to pelitic supracrustal strata (Steenkamp and St-Onge, 2014). Rayner (2014) interprets the crystallization age of a compositionally equivalent sample taken from a laterally contiguous panel in the southern field area at ca. 1890 Ma that is consistent with ages from the Cumberland Batholith.

7.2.2 **Quaternary Geology**

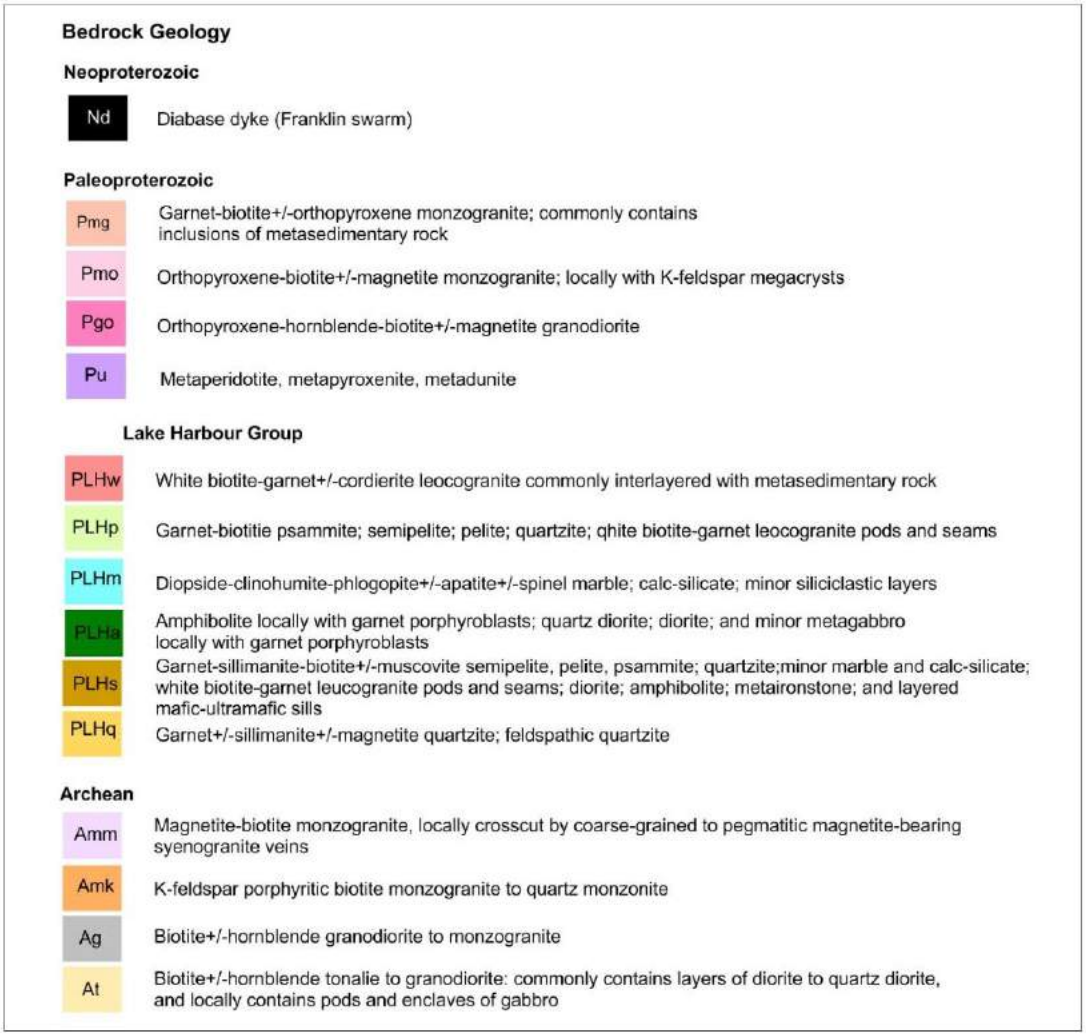
The Chidliak property is on the north side of Hall Peninsula, much of which comprises upland surfaces (Baffin Surface) and stepped plain or dissected upland surfaces (Andrews, 1989). The area was inundated by the Laurentide Ice Sheet during the LGM approximately 18,000 to 8,000 years ago (Dyke, 2004; Dyke et al., 2002), and remnants of this ice sheet persist at Chidliak to the present day, at approximately 700 m above sea level (masl). Glacial till is found throughout the Chidliak area and is generally present as a variable veneer typically 0 m to 3 m thick and locally up to 15 m thick as proven by drilling.

Figure 7-3: Local geology of the Chidliak area.



Modified from Steenkamp et al., 2016a, 2016b, 2016c, 2016d.

Figure 7-3 (continued): Local geology of Chidliak, Geology Legend



7.3 Chidliak Kimberlites

7.3.1 General Geology

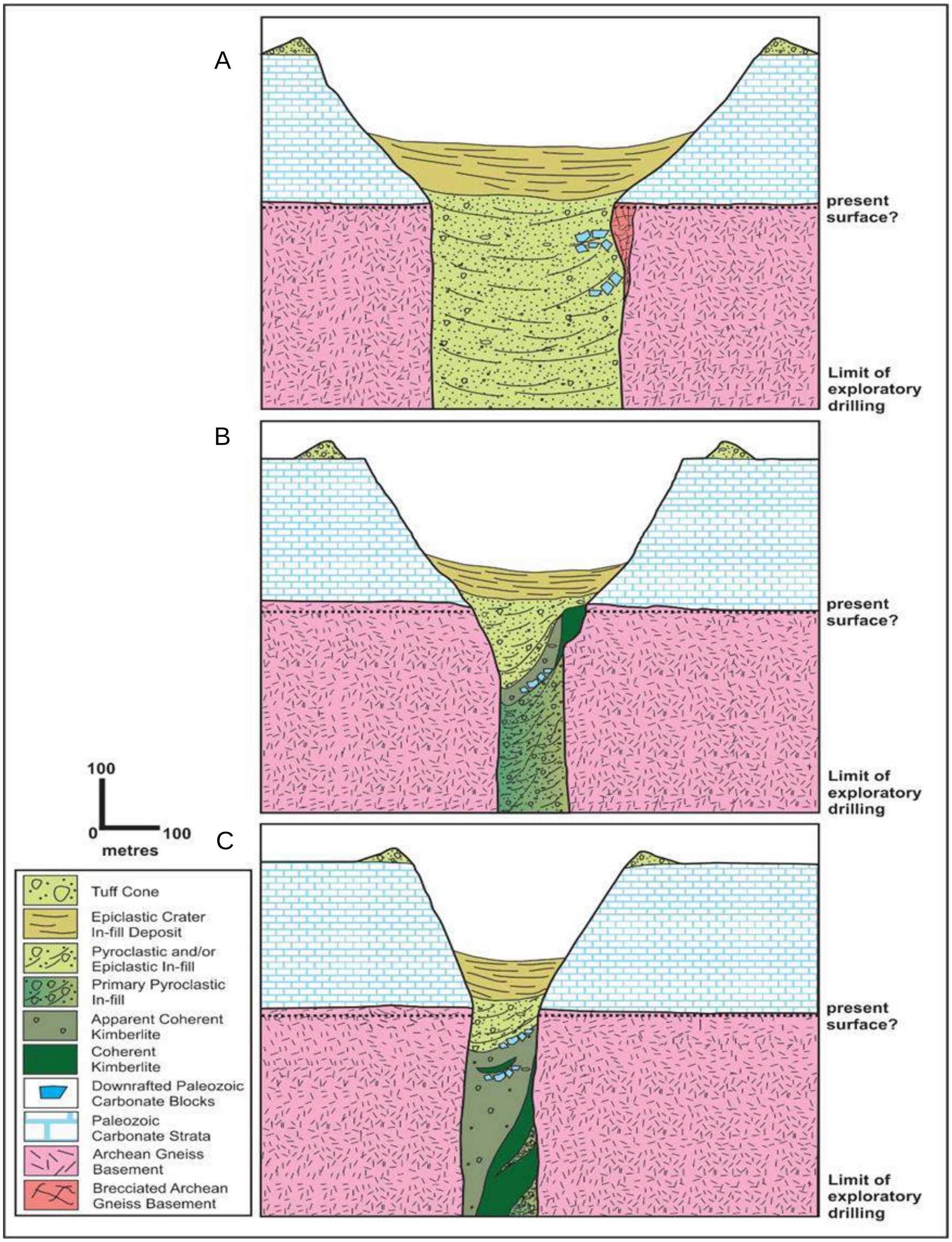
The kimberlites at Chidliak were emplaced during the Jurassic period, between 157 and 139.1 Ma (Heaman et al., 2015). Both steeply dipping sheet-like and larger pipe-like bodies have been discovered at Chidliak (Pell et al., 2013). The sheet-like bodies are mainly coherent, hypabyssal kimberlite (HK) dykes, which may contain basement xenoliths. Most of the pipe-like bodies contain, in addition to basement xenoliths, Late Ordovician to Early Silurian carbonate and clastic rock xenoliths derived from the paleosurface and incorporated into an open vent structure (Zhang and Pell, 2014). The occurrence of these Paleozoic carbonate xenoliths in the Chidliak pipes proves that this part of Hall Peninsula was overlain by Lower Paleozoic sedimentary rocks at the time of kimberlite eruption. The sedimentary succession is estimated to have been 270 to 305 m in thickness and was removed by erosion between the Early Cretaceous and the present (Zhang and Pell, 2013; 2014).

The Chidliak kimberlite pipes have a range of textural types of infill and, broadly, can be assigned to two main types: pipes containing only volcaniclastic kimberlite (VK) infill; and, pipes infilled by a combination of VK, coherent kimberlite (CK), and welded or agglutinated kimberlite deposits referred to as apparent coherent kimberlite (ACK) (Pell et al., 2013).

The VK-only pipes tend to be larger (≥ 125 to 150 m radius) than the combined-infill pipes and are dominated by pyroclastic kimberlite (PK) with lesser resedimented volcaniclastic kimberlite (RVK) (Figure 7-4a). VK-only pipes may have subtle internal variability with respect to olivine content, packing and grain size and commonly contain easily recognized melt-bearing pyroclasts (Scott Smith et al., 2013). Paleozoic carbonate, gneissic basement (also referred to as country rock) and mantle xenoliths, combined, typically comprise up to 5% by volume of the pipe, with local, inhomogeneously distributed zones comprising up to 15% by volume xenoliths. Typically, carbonates are more abundant than gneissic basement, which are, in turn, more abundant than mantle xenoliths. These pipes contain within-vent, PK and RVK deposited during the waning phases of eruption when it is possible for material to accumulate in the conduit from highly explosive gas-rich eruptions.

The combined-infill pipes are commonly 50 to 75 m in radius and can range from VK-dominated, with lesser CK and ACK (Figure 7.4b), to dominantly infilled by ACK, with minor amounts of CK and VK (Figure 7.4c). The VK deposits in the combined-infill pipes are similar to those in the VK-only pipes. The ACK deposits are dark, competent and massive and show some features of CKs (Scott Smith et al., 2013; e.g., lava, dykes or sills) such as a finely crystalline groundmass; however, they lack sharp intrusive contacts and contain well-dispersed Paleozoic carbonate xenoliths. They also exhibit other textural features, including olivine grain size variation, close packing of olivine and other components, occasional broken garnet and olivine grains and diffuse magmaclasts (Scott Smith et al., 2013) suggesting they are products of explosive volcanism (e.g., clastogenic pipe infill) rather than effusive volcanism (e.g., lava) or intrusion (e.g., hypabyssal kimberlite) (Pell et al., 2012; 2013). The VK and ACK deposits in these combined-infill pipes have a lower carbonate and gneissic xenolith content (typically <5% by volume) than the VK-only pipes. The CK rocks typically contain only gneissic basement xenoliths and lack Paleozoic carbonate xenoliths; they represent an extreme, even hotter end-member of the volcanic processes described above and either also have a pyroclastic origin or have formed from unfragmented lavas.

Figure 7-4: Schematic models of the Chidliak kimberlite types.



7.3.2 CH-6 Geology

The CH-6 kimberlite pipe is a steep-sided, slightly south-west plunging, kidney shaped to elliptical body with a surface area of approximately 1.0 ha. It was emplaced into basement paragneisses and now-eroded Paleozoic carbonate rocks. The body does not outcrop and is overlain by approximately 3 m of overburden, deepening to 25 m in the south-east. It was discovered in 2009 by core drilling the south-western edge of a magnetically reversed geophysical anomaly.

The pipe infill comprises two volumetrically significant kimberlite units: KIM-L and KIM-C. Generally, the KIM-L and KIM-C units can be distinguished megascopically by the respective presence or paucity of carbonate xenoliths. Sharp contacts between KIM-L and KIM-C have not been observed.

The KIM-L unit is the volumetrically dominant pipe infill, comprising 89% by volume of the pipe and occurring between the base of the overburden at depth of from 3 to 25 mbs and the base of drilling at 540 mbs. The upper portion of KIM-L (to approximately 40 mbs) is weathered and is referred to as wKIM-L in drill core logs. KIM-L is a dark grey to greenish black, competent, texturally variable rock with conspicuous and diagnostic Paleozoic carbonate xenoliths. These xenoliths are generally 2 to 3 cm in size, rarely up to 15 cm, with very rare blocks up to 13 m. Dilution by carbonate and country rock xenoliths is low (< 5% by volume) but locally may exceed 10% by volume. Melt-bearing pyroclasts are present in variable amounts, as are broken melt-free olivine and broken, primarily fresh garnet macrocrysts. With depth, the texture of KIM-L changes from PK to ACK, where it either lacks or contains diffuse melt-bearing pyroclasts. KIM-L is interpreted to have been emplaced by explosive volcanic processes that varied from high to low energy that resulted in pipe infill ranging from pyroclastic to apparently coherent clastogenic deposits, respectively.

The KIM-C unit occurs along the north and northeast margin of the pipe below 80 mbs (600 masl) to a drilled depth of 315 mbs (365 masl) and occupies 11% by volume of the pipe. It is a dark grey to black to greenish black, massive, homogeneous CK, distinguished macroscopically by having few or no Paleozoic carbonate xenoliths and a low gneissic basement xenolith content. No intrusive contacts are observed between KIM-L and KIM-C, and KIM-C is interpreted to be extrusive. The whole rock geochemistry and groundmass chrome spinel signature of KIM-C is identical to that of KIM-L; however, microdiamond sampling of KIM C completed in 2014 was sufficient to establish a clear difference in diamond content compared to KIM-L.

A variety of other minor units occur within CH-6, such as thin intercalated CK intervals of uncertain origin, blocks of carbonate, and rare gneissic blocks. Table 7-1 summarizes geological units encountered in drill core in CH-6.

For more detailed geology on the CH-6 kimberlite, please refer to Nowicki et al. (2016).

Table 7-1: Summary of attributes and occurrences of geological units in drill core at CH-6.

Unit	Texture	# Core Holes Rock Type Occurs In	Total Drilled* (m)	Description
KIM-L	PK to ACK	39	5,928.42	Variably textured, locally crudely layered, Paleozoic carbonate xenolith-bearing kimberlite; local diffuse to well developed melt-bearing pyroclasts & broken, melt-free olivine. Upper 40 metres is weathered and clay altered.
KIM-C	ACK	10	545.73	Massive, homogeneous with few to no Paleozoic carbonate xenoliths; HK-like olivine distribution; well-crystallized groundmass; garnets commonly kelyphitized
OTHER	CK, ACK	23	388.51	Small intervals of CK that are hypabyssal in origin (KIM-HK), and intervals that require further work to determine their origins
LSTX (+/-B)	n/a	16	104.19	Competent Paleozoic carbonate block, with or without brecciated texture, occurring as internal blocks to KIM-L
CR	n/a	37	3,400.76	Competent, fresh to little altered gneiss. Occurs marginal to pipe and as rare internal blocks. Variably broken and weathered near surface.
BCR (+/-K)	n/a	33	712.68	Broken and variably altered gneiss, with or without thin coherent kimberlite veins
CRB (+/-K)	n/a	11	36.16	Brecciated and variably altered gneiss, with or without coherent kimberlite veins present, occurring marginal to pipe
OVB (+/-K)/NR	n/a	46	585.47	Overburden, with or without minor amounts of weathered kimberlite mixed in. Primarily OVB was not recovered

**Intercepts in core. RC holes excluded*
NR denotes No Recovery

7.3.3 CH-6 Geological Domains and Three Dimensional Model

The CH-6 geological units identified in drill core define two geological domains for the purposes of 3-D geology modelling and Mineral Resource estimation purposes, with each domain dominated by the geological unit of the same name: KIM-L and KIM-C. The term "geological domain" is applied to modelled portions of kimberlite pipe that are distinct in terms of their geological characteristics and meaningful from a Mineral Resource estimation point of view.

The 3-D geology model of CH-6 has evolved in multiple stages based on the availability of drilling and sampling data over time. Drill core intervals were logged in detail in order to define the kimberlite pipe margins, to describe kimberlite units, and to define internal geological boundaries. Once logged, the kimberlite units were sampled for diamonds, density, whole rock chemistry and petrography, all information that was integrated to interpret the CH-6 pipe shape and internal geology, in order to create a geological model.

Based on completion of 15 core holes in 2017, the CH-6 geological model has been updated from that reported in 2016 (Nowicki et al., 2016) using Dassault Systèmes GEOVIA GEMS™ software version 6.8 (Figure 7-5).

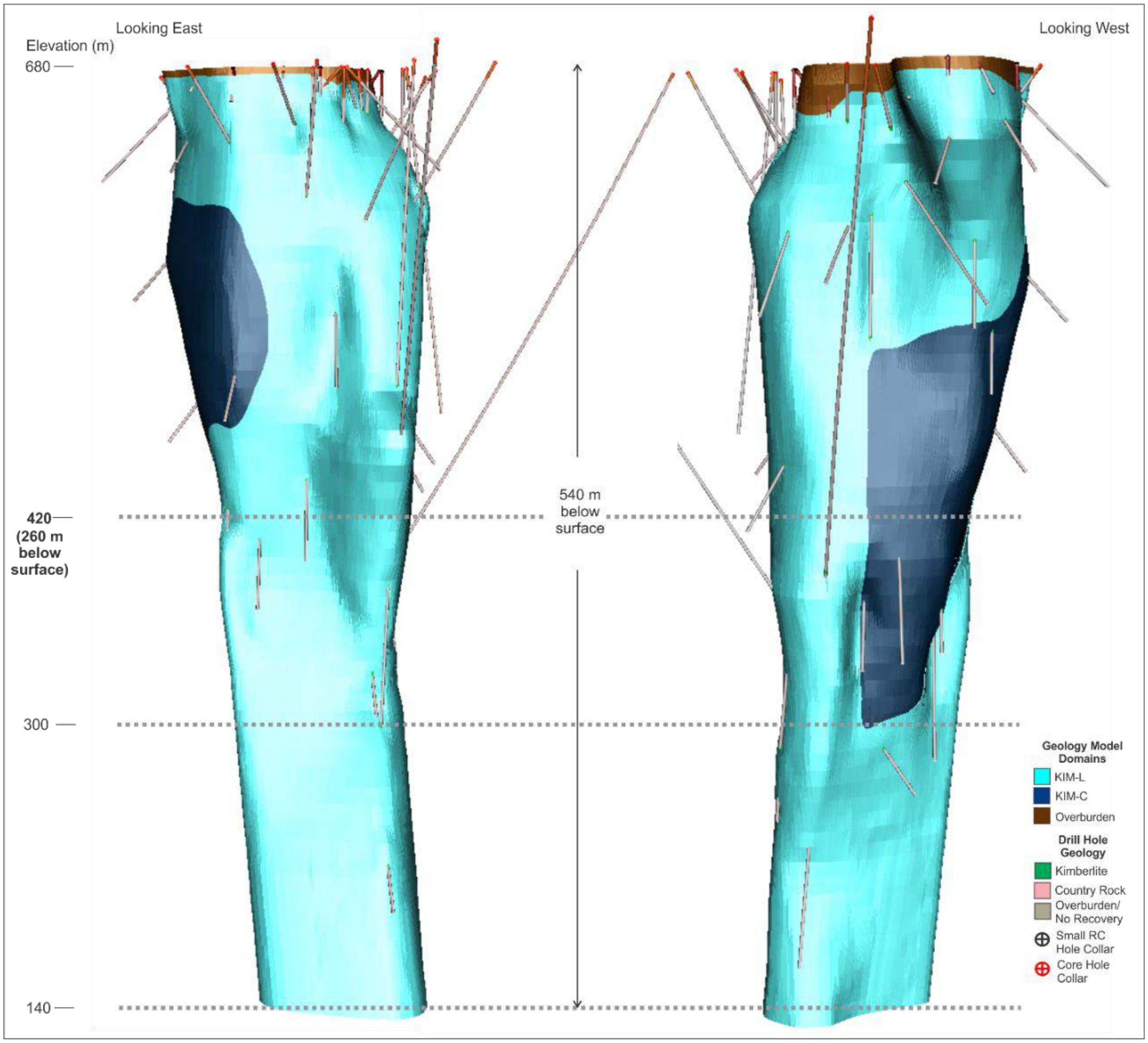
The external pipe shape was modelled utilizing all available country rock/kimberlite contacts recognized in core or small-diameter RC drill holes. Pipe contacts are typically sharp at CH-6 and are defined with ease when logging core. Weathered contacts are sometimes difficult to discern and can be poorly represented in clay-rich material or chips recovered from small-diameter RC drill holes; possibly ambiguous contact relationships were resolved by trace element geochemistry in these instances.

The topographic surface was modelled from airborne geophysical survey digital elevation data. The overburden basal surface was created using small-diameter RC drill hole intersections of the base of overburden, combined with base of overburden intersects in diamond drill holes where overburden was in contact with country rock. Drill holes where overburden was in contact with kimberlite were not used, as in all cases the weathered kimberlite in these holes was washed away during diamond core drilling and did not define the true base of overburden.

Geology domains were defined based on the distinct geological characteristics and spatial distribution in drill core of their constituent major geological units. Domains were modelled using polylines defining shapes every 10 m of elevation, defined using intersects between geological units in core drill holes, combined with guidelines between contacts at different elevations. The guidelines provide shape control in vertical sections and in 3-D view.

The updated CH-6 geological model has an ellipsoidal shape in plan view with steep-sided walls that dip slightly to the south-west at approximately 77° (Figure 7-5). The surface dimensions are 120 m by 100 m with an approximate area of 1.0 ha. The top of the pipe is covered by 3 m of glacial overburden that thickens to 25 m at the southeast of CH-6. The pipe expands with depth in north-south dimension down to approximately 280 mbs, below which it begins to contract, such that at 300 mbs it measures 70 m by 110 m and occupies an area of 0.5 ha. In areas where the external pipe shape is not well-constrained by drilling, the morphology was interpreted using projections of angles between drill hole contacts from higher and lower elevations, combined with knowledge of kimberlite pipe emplacement models and typical shapes for kimberlites of mixed VK and ACK, and the types of shapes of pipes observed at Chidliak.

Figure 7-5: 3-D geology domain model of CH-6.



7.3.4 **CH-7 Geology**

The CH-7 kimberlite is a steep-sided, southwest-plunging body comprised of at least two coalescing lobes with a combined surface area of approximately 1.0 ha. It was emplaced into basement paragneisses and now-eroded Paleozoic carbonate rocks. The north-eastern part of the body outcrops and elsewhere CH-7 is overlain by an average of 3 m of overburden. CH-7 was discovered in 2009 as outcrop/subcrop during prospecting.

Five main kimberlite units, KIM-1 to KIM-5, with distinct physical, and in some cases geochemical, characteristics, have been identified at CH-7. The KIM-2 unit predominates, and occupies 61% by volume of the CH-7 pipe model. The units were named in the order that they were identified, and the numbering does not have any implications as to the genesis or the order of emplacement of the units (summarized in Table 7-2). In addition to the five main kimberlite units, a variety of other minor units are present, such as a gneiss xenolith-bearing CK and internal blocks of both fresh and brecciated gneiss and carbonate rocks. The upper approximately 50 m to 60 m of the kimberlite pipe is weathered, friable and clay-altered.

KIM-1 is the only unit to outcrop at CH-7 and is restricted to the north/north-eastern region of the pipe, extending from surface to approximately 125 mbs in core. It occurs adjacent to KIM-5 to the west and KIM-2 to the south, and is perched above KIM-4 (Figure 7-6). It is a dark green, massive, competent, coarse-grained, olivine-rich macrocrystic CK with rare (<1%), conspicuous gneissic xenoliths that are typically highly altered and rounded. Carbonate xenoliths are very rare to absent in KIM-1, unlike in all other major units at CH-7. No melt-bearing pyroclasts have been observed. A pyroclastic variant of KIM-1 occurs along the southern margin of KIM-1. It has a restricted depth range of between 40 and 175 mbs and occurs in six of 29 core holes.

KIM-2 is the volumetrically dominant geological unit at CH-7 and occupies the central and southern part of the pipe, extending from beneath the overburden at approximately 3 mbs to the limit of drilling at 263 mbs. It is a fine-medium or medium-grained, moderately olivine-rich PK. Near surface (above 60 mbs) it is highly weathered, light green, light to dark grey/olive-grey to pale-olive in colour, texturally variable and friable in nature. Below 60 mbs, KIM-2 is comparatively fresh, greenish black to medium grey to medium-dark grey in colour, massive and often has a waxy appearance. It contains variable amounts of both gneiss and carbonate xenoliths (typically <5% by volume of each), variably altered olivine macrocrysts (generally >25%) and is characterized by common to abundant, grey and ovoid melt-bearing pyroclasts hosted in a serpentine-rich interclast matrix.

KIM-3 is an apparently rootless kimberlite unit found in the central part of the CH-7 pipe adjacent to KIM-2 and beneath varied units near surface, and above KIM-4, between 70 and 200 mbs. It is a bluish-grey to bluish-green-grey, massive to locally bedded, olivine-rich, hard, competent PK containing variable amounts of inhomogeneously distributed gneissic and carbonate xenoliths with carbonates commonly more abundant and larger than gneisses. KIM-3 is texturally variable with respect to olivine content, packing and grain size. Olivine is mostly fresh and commonly broken, and ash layers and recognizable bedding are present locally. KIM-3 is characterized by melt-bearing pyroclasts that are sub-irregular to curvilinear, predominantly uncored and variably amygdaloidal (filled by serpentine/ carbonate), and set within a microcrystalline carbonate ± serpentine interclast matrix. Gneiss blocks up to 4.9 m in core length, carbonate xenoliths up to 1.5 m in core length and intervals of CK are present locally within KIM-3, most notably in the southwestern marginal zone.

KIM-4 is found in the central and northern part of the pipe mostly at depths greater than 145 m, occurring below KIM-3 and to the north of KIM-2. It is a greenish black to dark greenish grey, massive to locally bedded, clast supported, loosely to closely packed, fine- to coarse-grained, olivine-rich, hard PK that contains variable amounts (overall <5%) of inhomogeneously distributed gneissic and carbonate rock xenoliths. Olivine is partially serpentinized and poorly to moderately sorted, melt-bearing pyroclasts are uncommon, and components are hosted in a serpentine-rich interclast matrix. KIM-4 has a relatively high mantle content, which combined with the degree of sorting in the rock and very low proportion of melt, is diagnostic of KIM-4.

KIM-5 occurs close to surface (from ~ 3 to 100 mbs) and dominates the north-western lobe of the pipe, occurring west of KIM-1 and north of KIM-2. It is a light to dark olive-grey, medium grey, medium-bluish-grey to dark greenish grey, massive to thickly bedded unit that ranges from PK to ACK in texture. It also varies from being extremely fresh and competent, even near surface, to completely altered (lateritized) to red mud. The unit has a low gneissic xenolith content (generally <1%) and carbonate rock xenoliths are inhomogeneously distributed and vary from being present in trace amounts to locally comprising nearly 15% of the rock. It is variable with respect to olivine content, degree of sorting (generally very poor), packing (often clast supported) and grain size, and locally can have a grainy appearance with an interclast matrix of serpentine and spinel. Melt-bearing pyroclasts are variably abundant, whereas mantle xenoliths and indicator minerals are notably so.

For more detailed geological descriptions of each unit within CH-7 refer Nowicki et al., 2016.

Table 7-2: Summary of attributes and occurrences of geological units at CH-7.

Unit	Texture	# Core Holes Unit Occurs In	Total Drilled* (m)	Description
KIM-1	CK	14	334.46	Coarse-grained, fresh olivine and a well-crystallized groundmass of monticellite, spinel, phlogopite and perovskite; CRX in low abundance and heavily altered. No LSTX. Locally can be heavily altered (lateritized) and is it denoted KIM-1_RM
KIM-1A	PK, ACK	6	98.75	Competent to fissile with melt-bearing pyroclasts that have the same groundmass as KIM-1. Contains LSTX & more olivine and KIM's than KIM-1; olivine is commonly medium to coarse-grained and shardy. Interpreted as a PK version of KIM-1
KIM-2	PK	18	1,588.04	Predominantly serpentinized olivine and abundant, distinct, ovoid melt-bearing pyroclasts easily recognized in core. Serpentine-rich interclast matrix; most serpentine-rich unit at CH-7. Upper ~60metres are weathered and clay-rich, denoted as wKIM-2.
KIM-3	PK	11	357.15	Bluish-grey to bluish-green-grey, locally bedded, dominantly fresh olivine and common distinct, sub-irregular to curvilinear shape, variably amygdaloidal MPBs and a carbonate-rich interclast matrix
KIM-4	PK	3	188.72	Locally bedded, moderately sorted. Variably serpentinized olivine, paucity of fine grains; melt-bearing pyroclasts not common. Inter-clast matrix is serpentine ± carbonate. Relatively high mantle content
KIM-5	PK/ACK	7	289.55	Massive to thickly bedded, extremely texturally variable, poorly sorted; variably fresh, olivine macrocryst-rich to lateritic red-mud (denoted KIM-5_RM). Distinctive cored and uncored melt-bearing pyroclasts. Some horizons contain notably more LSTX on average than other units in CH-7. Relatively high mantle content
OTHER	CK, ACK, PK	27	369.53	Includes small intervals of a CK unit (KIM-6) and various CK, ACK and PK units
LSTX (+/-B)	n/a	3	6.65	Competent Paleozoic carbonate block, with or without brecciated texture, occurring as internal blocks
CR (+/-K)	n/a	24	1,118.30	Competent, fresh to little altered gneiss. Occurs marginal to pipe and as rare internal blocks. Very rare intervals contain thin CK veins, which are denoted as CR+K
BCR (+/-K)	n/a	15	309.62	Broken and variably altered gneiss, with or without thin CK veins
CRB (+/-K)	n/a	8	60.33	Brecciated and variably altered gneiss, with or without CK veins present, occurring marginal to pipe
OVB (+/-K)/NR	n/a	28	239.12	Overburden, with or without minor amounts of weathered kimberlite mixed in. Primarily not recovered

*Intercepts in core. RC holes excluded

NR denotes No Recovery

From Nowicki et al. 2016.

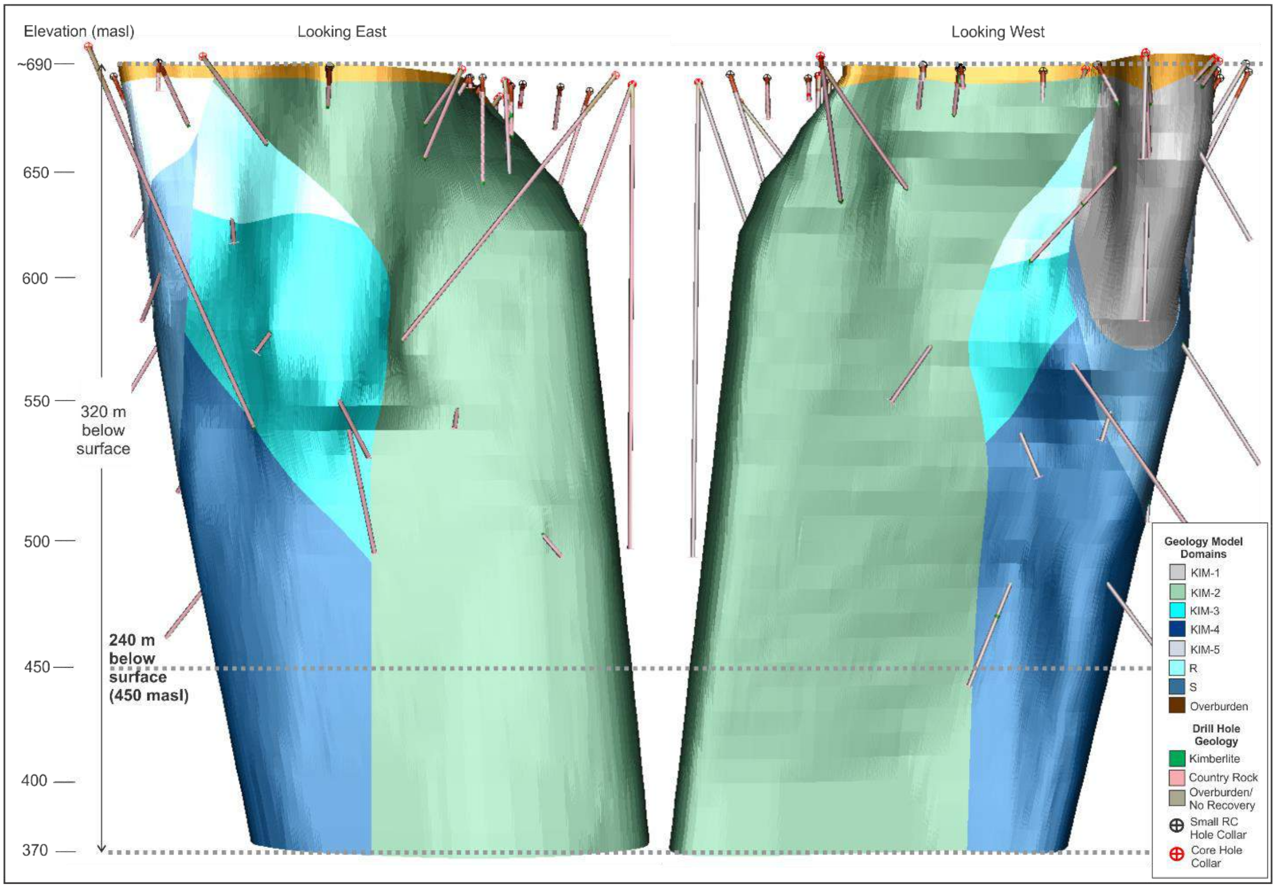
7.3.5 CH-7 Geological Domains and 3-D Model

The CH-7 geological units have been combined into seven geological domains for 3-D modelling, with five of the domains dominated by the geological unit of the same name: KIM-1 through to KIM-5. The remaining two domains, R and S, are not dominated by one particular geological unit but rather comprise several units in roughly equal proportions; the complexity in geology and/or insufficient drilling and geological information precludes subdivision of these portions of the CH-7 pipe at this stage. Domain R represents a zone of geological complexity in the pipe at the junction of the other domains (further complicated by a high degree of weathering) and is distinguished by different LDD sample grade characteristics to those of the KIM-2 and KIM-3 domains (Section 14.5.3). Domain S is a zone of poor to moderate drilling coverage comprised mainly of KIM-1 and possible KIM-5 (low confidence KIM 5).

The KIM-2 domain occupies 61% of the modelled CH-7 pipe volume, primarily in the central and southern portion of the pipe from approximately 3 mbs to the base of the model at 320 mbs (370 masl). The Northern sector of the pipe holds the remaining 39% by volume of CH-7, consisting of domains KIM-1 (3%), KIM-3 (11%), KIM-4 (14%), KIM-5 (3%), R (4%) and S (4%). Figure 7-6 shows the geological model of CH-7. It is unchanged from that reported in 2016 (Nowicki et al., 2016).

The CH-7 pipe model has an elongate and lobate shape in plan view with steep-sided walls that dip to the south-west at approximately 80°. The surface dimensions are approximately 140 m by 80 m with an area of 1.0 ha. The top of the pipe is covered by variably thick (up to 10 m locally, but an average of 3 m) glacial overburden. The pipe is elongate in a north-south direction and contracts in width with depth, such that at 240 mbs it measures approximately 165 m by 45 m and occupies an area of 0.8 ha. In areas where the external pipe shape is not well constrained by drilling, the morphology was interpreted using projections of angles between drill hole contacts from both higher and lower elevations, combined with knowledge of kimberlite pipe emplacement models and typical shapes for kimberlites dominated by mixed VK-ACK infill, and the types of shapes of pipes observed at Chidliak. Best-fit, minimum and maximum pipe shapes were created, primarily to model a range of pipe volumes to depth. The range of shapes were interpreted using the same principles as described above, but utilized different combinations of drill hole contacts that showed varying projections to depth. In areas of extensive drill coverage (i.e. generally above 110 mbs), the variance between the three pipe shapes is very limited.

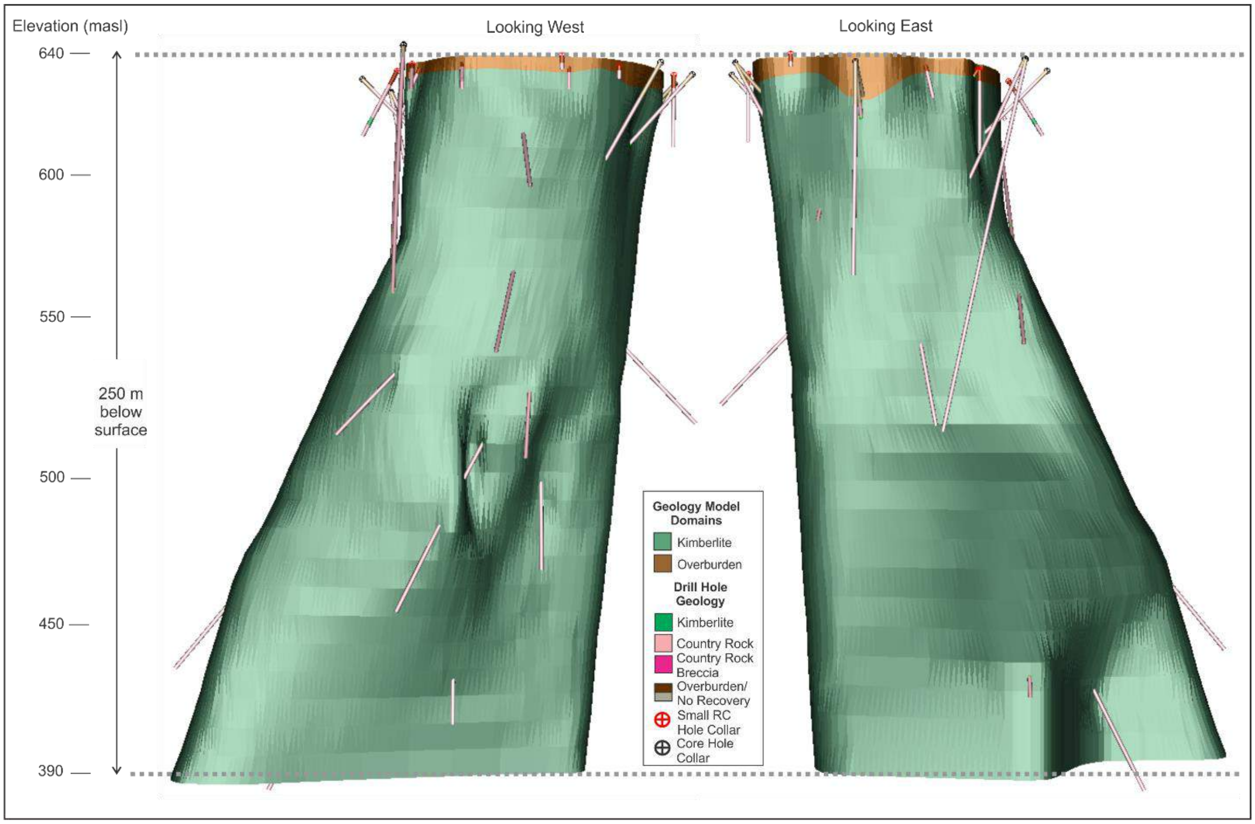
Figure 7-6: 3-D geology domain model of CH-7.



7.3.6 CH-44 Kimberlite

The CH-44 kimberlite is a steep-sided, slightly elliptical body with an apparent plunge to the south-southwest and an approximate surface area of 0.5 ha. The upper portion of the pipe, down to approximately 160 mbs, is dominated by olivine-rich ACK with a variable, but generally low (< 5% by volume), carbonate xenolith and gneiss xenolith content. In the deeper, northern regions of the pipe, VK/PK material with a higher carbonate xenolith content is present. CH-44 shows limited and variable near surface weathering to a depth of 25 mbs, and abundant mantle-derived olivine (30 to 55%), KIMs and mantle xenoliths are easily recognizable in the fresh, hard, dark grey kimberlite present throughout most of CH-44. The internal geology of the CH-44 pipe requires further work and no Mineral Resource has been defined at CH-44. The CH-44 geology model (Figure 7-7) is unchanged from that previously reported (Farrow et al., 2015; Nowicki et al., 2016).

Figure 7-7: 3-D primary geology model of CH-44.



8 Deposit Types and Mineralization Characteristics

Kimberlites and lamproites are volcanic and subvolcanic varieties of ultramafic rocks and are the main hosts for terrestrial diamonds. The vast majority of global primary diamond mines are hosted in kimberlite, and this rock type is the target at the Chidliak project. Kimberlites are mantle-derived, volatile-rich ultramafic magmas that transport diamonds from depths of 150 to 200 km to the earth's surface, together with fragments of mantle rocks from which the diamonds are directly derived (primarily peridotite and eclogite). Kimberlites occur at surface as volcanic pipes, irregular shaped intrusions, or sheet-like intrusions (dykes or sills). Due to the wide range of settings for kimberlite emplacement, as well as varying properties of the kimberlite magma itself (most notably volatile content), kimberlite volcanoes can take a wide range of forms and be infilled by a variety of deposit types, even within a single kimberlite field, like Chidliak (refer to Figure 7-4).

The Chidliak kimberlites are stratified bodies and different pipes contain different types of infill ranging from VK-only to mixed VK, ACK and CK deposits (referred to as combined-infill pipes). None of the Chidliak pipes contain massive VK-type infills like observed in many southern African kimberlites and in Canadian pipes at Gahcho Kué or Renard (Field and Scott Smith, 1999; Field et al., 2008, Fitzgerald et al., 2009; Hetman et al., 2004). The Chidliak kimberlites also differ from many other Canadian kimberlites, such as those found at Fort à la Corne and Lac de Gras. The Fort à la Corne kimberlites are large, shallow, champagne-glass-shaped pipes infilled entirely with pyroclastic kimberlite. The Lac de Gras pipes are small, steep-sided pipes characterized by an abundance of resedimented volcaniclastic kimberlite (RVK) and associated PK (Field and Scott Smith, 1999; Scott Smith, 2008).

The Chidliak kimberlites do however have similarities to those at Victor in the Attawapiskat region (van Straaten et al., 2009) with respect to their general emplacement and types of pipe infill. The timing of kimberlite magmatism at Chidliak roughly corresponds with that of some of the younger intrusions in the Attawapiskat province (Heaman et al. 2012), which were also intruded into a Paleozoic carbonate-dominated sequence. Unlike at Chidliak, some of the Paleozoic strata are preserved in the Attawapiskat region and the Chidliak bodies may be deeper analogues of Victor-type PKs (Pell et al., 2013).

The diamond content of the Chidliak pipes is controlled by the efficiency of sampling diamondiferous mantle material at depths of 150 to 200 km, and rapid transport to surface. At Chidliak, any kimberlite with significant total mantle-derived garnet content is assessed as potentially having significant diamond content, especially if eclogitic or websteritic garnets are present (Pell et al., 2013).

9 Exploration

Exploration on the Chidliak project since 2005 has consisted of heavy mineral sampling, airborne and ground geophysics, ground prospecting of anomalies, geological, structural and glacial mapping, outcrop sampling, small-diameter RC drilling, core drilling and sampling of kimberlites for bulk density, geochemical analysis, KIM content and composition and diamonds. To date, 74 kimberlites have been discovered at Chidliak by various methods, as illustrated in Table 9-1.

Table 9-1: Summary of Chidliak kimberlites and discovery methods.

Discovery Method	Kimberlites						
Surface prospecting	CH-1	CH-2	CH-3	CH-5	CH-7	CH-8	CH-9	CH-11
	CH-12	CH-19	CH-21	CH-23	CH-24	CH-25	CH-26	CH-27
	CH-28	CH-31	CH-33	CH-35	CH-36	CH-47	CH-49	CH-50
	CH-59	CH-60	CH-61	CH-62	CH-63	CH-64	CH-65	CH-66
	CH-67	CH-68	Q-1	Q-2				
Diamond drilling	CH-4	CH-6	CH-10	CH-13	CH-14	CH-15	CH-16	CH-17
	CH-18	CH-20	CH-22	CH-29	CH-30	CH-32	CH-34	CH-37
	CH-38	CH-41	CH-51	CH-53	CH-54	CH-55	CH-56	CH-58
RC drilling	CH-39	CH-40	CH-42	CH-43	CH-44	CH-45	CH-46	CH-48
	CH-52	CH-57	CH-69	CH-70	CH-71	Q-3		

Work on the project completed prior to 2017 is discussed in detail in earlier technical reports (Pell, 2008, 2009, 2010a, 2010b, 2011; Farrow et al., 2014, 2015; Nowicki et al., 2016) and briefly summarized below.

9.1 Exploration Programs Between 2005 to 2016

In 2005, BHPB and Peregrine collected heavy mineral samples as part of a regional reconnaissance exploration program on the southern part of Baffin Island, with BHPB as operator. Some of these samples, which were collected in the area that now comprises the Chidliak project, returned positive KIM results. Under Peregrine's exploration agreement with BHPB, Peregrine took responsibility for the project and completed follow-up sampling in 2006 that confirmed the initial findings; high numbers of KIMs with chemistry consistent with derivation from the diamond stability field were identified. Follow-up work, including geophysics and sampling, resulted in discovery of the first three kimberlites in 2008: CH-1, CH-2 and CH-3.

Between 2009 and 2012, a further 58 kimberlites were discovered on the CHI claims and three on the AN claims, for a total of 61 kimberlites. Project exploration and development work continued between 2005 and 2012 (primarily on CHI claims), covering various activities:

- Surficial sediment sampling predominantly of glacial till and to a lesser extent stream or esker sediments;
- Geological, structural and glacial mapping and outcrop sampling;
- Airborne geophysical surveys (DIGHEM® and RESOLVE® magnetic and electromagnetic/ resistivity)
- Ground geophysical surveys (magnetic, horizontal-loop electromagnetic and OhmMapper);
- Core drilling for exploration, delineation and sampling;
- Small-diameter RC drilling for exploration and delineation;
- Surface trench excavation for mini-bulk and bulk sampling;
- Microdiamond and commercial-size diamond sampling and analyses;
- Diamond valuation;
- Bulk density and geotechnical measurements; and
- Petrography and whole rock chemistry analyses.

In September 2012, Peregrine entered into an option and subscription agreement with De Beers Canada Exploration (De Beers), under which De Beers conducted a summer 2013 exploration program at Chidliak that involved prospecting, mapping and ground geophysical surveys (magnetic, gravity, electromagnetic [Max-Min II/Horizontal Loop Electromagnetic (HLEM)], and ground penetrating radar). Six kimberlites were discovered by prospecting on the CHI claims in 2013. On October 11, 2013, Peregrine announced that De Beers elected not to exercise its right to enter into an earn-in and joint venture agreement with Peregrine at Chidliak and subsequent to this, all data collected by De Beers during the option period was transferred to Peregrine.

In 2014, Peregrine resumed exploration and completed till sampling, ground magnetic surveys and small-diameter RC drilling for exploration, and core drilling for pipe delineation and microdiamond sampling. Four additional kimberlites were discovered in 2014, for a total of 74 currently known kimberlites at Chidliak. Exploration in 2015 was focused on core drilling and associated microdiamond sampling at CH-6 and CH-7, as well as large-diameter drilling and processing of recovered bulk sample material from CH-7. No exploration was undertaken in 2016 as efforts were focused on completing a PEA (Doerksen et al., 2016). A summary of work undertaken at Childiak is provided in Table 9-2.

This work provided the basis for the previously reported Mineral Resource estimates at CH-6 and CH-7 (Farrow et al., 2014; Farrow et al., 2015; Nowicki et al., 2016).

Table 9-2: Summary of work at Chidliak.

Year/Activity	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Till samples collected (#)	166	232	872	221	1290	541	513	413	-	146	-
Probe confirmed KIM-positive till samples (#)	5	36	294	105	138	176	350	238	-	90	-
Analyzed KIMs from till (#)	44	460	3811	1798	2678	2374	9918	4265	-	2554	-
Airborne geophysics (line-km)	-	-	-	11858	-	20442	14872	-	-	-	-
Ground geophysics (line-km)	-	-	-	157	1096	1855	2188	6428	87	2327	-
Ground gravity (# of gravity stations)	-	-	-	-	-	-	-	-	2888	-	-
Anomalies ground-checked (#)	-	-	-	12	63	114	84	52	205	20	-
Core drilling (m)	-	-	-	-	3951	7798	8869	2379	-	3697	1361
Small diameter RC Hornet drilling (m)	-	-	-	-	-	1445	1692	159	-	1544	-
Large diameter RC drilling (m)	-	-	-	-	-	-	-	-	-	-	1212
Kimberlite discoveries – prospecting (#)	-	-	-	3	6	17	1	2	6	1	-
Kimberlite discoveries – core drilling (#)	-	-	-	-	7	11	6	-	-	-	-
Kimberlite discoveries – small-diameter RC drilling (#)	-	-	-	-	-	9	2	-	-	3	-
Analyzed KIMs from kimberlites (#)	-	-	-	1659	5497	8751	17406	-	-	1272	-
Microdiamond sample processed (kg)	-	-	-	899	3404	7473	9826	251	535	3591	3397
Samples processed by coarse caustic (t)	-	-	-	2.28	0.91	1.17	-	-	-	-	-
Mini-bulk samples processed by DMS (dry t)	-	-	-	-	49.6	61.2	32.7	-	-	-	-
Bulk samples processed by DMS (dry t)	-	-	-	-	-	-	-	-	404.3	-	809.5

9.2 Surface Samples for Commercial-size Diamond Testing

Due to the limited amount of glacial overburden overlying several kimberlites of interest at Chidliak, it is possible to collect large samples of kimberlite by trenching. Surface trench samples have been collected from the CH-1, CH-28, CH-6 and CH-7 kimberlites for commercial-size diamond testing. Sample collection, transport and results of the 2010 CH-7 trench mini-bulk sample and the 2013 CH-6 surface bulk sample are detailed here, whereas surface sampling of the CH-1 and CH-28 kimberlites are documented in Pell (2010a) and Pell (2011).

9.2.1 **CH-7 Mini-Bulk Sample – 2010**

In 2010, a 47.2 t (dry) mini-bulk sample was collected from a surface trench in the KIM-1 unit in the northeast of the CH-7 kimberlite, as a test for commercial-size diamonds. Between June 21st and July 16th an estimated 50 t (wet) of in-situ kimberlite was collected. Snow and glacial overburden were stripped from surface using a CAT® multi-terrain loader and once kimberlite was exposed, several controlled blasts were used to fragment the kimberlite. Kimberlite was sampled from between 0.35 m and 2.0 m depth by hand digging and collected in 76 double-layered 1 t capacity ore bags. Laser-inscribed diamond tracers were added to some filled ore bags, the inner bag was closed with a uniquely numbered security seal and outer bags were closed and labelled with a unique sample number. Bags were transported directly from the trench site to a secure hangar at the Iqaluit airport with a Bell 212S helicopter, two bags at a time. The bags were palletized and shrink-wrapped in Iqaluit, and shipped via chartered 767 aircraft to the Edmonton airport and onwards to the Saskatchewan Research Council (SRC) in Saskatoon using transport trucks (Holmes, 2010).

The mini-bulk sample was divided into four processing units, though processed at the SRC by DMS as one batch, and returned 356, +1.18 mm sieve size diamonds that weighed 47.29 cts, for a diamond content of 1.00 cpt (Table 9-3).

Table 9-3**:** Results of the 2010 CH-7 mini-bulk sample.

Unit		KIM-1
Sample Weight (dry tonnes)		47.20
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.850 mm	146
	+1.180 mm	172
	+1.700 mm	111
	+2.360 mm	55
	+3.350 mm	16
	+4.750 mm	2
Total Number of Diamonds		502
Carats >0.850 mm		49.07
Carats >1.180 mm		47.29
Carats / tonne >1.180 mm		1.00

9.2.2 **CH-6 Bulk Sample - 2013**

In spring 2013, a 404.3 t (dry) bulk sample was collected from a surface trench in the weathered portion of KIM-L in CH-6, as a test for commercial-size diamonds. Between February and May 2013, 507 t (wet) of in-situ kimberlite were collected in 516, 1.5 t capacity ore bags. The trench site, near the northern margin of the CH-6 pipe, was chosen due to the limited overburden depth in the area. The trench was prepared for excavation by placing 203 small drill holes (located by a professional surveyor) loaded with stick dynamite, that were detonated in three controlled blasts, in order to excavate a 6 x 6 x 4 m trench (Pell and O'Connor, 2013).

Overburden depth in the trench varied from 2.8 m to 4 m, and the contact between overburden and kimberlite was sharp. Once overburden was removed, the trench floor was broken up and an excavator was used to place the kimberlite in a stockpile adjacent to the trench. Kimberlite was collected from the stockpile via a small loader and placed into double-layer ore bags labelled with a unique sample number. Laser-inscribed diamond tracers were added to some filled ore bags, the inner bag was closed with a uniquely numbered security seal and outer bags were closed. Once all sampling was complete, the excavated trench and overburden stockpile were surveyed and the trench was reclaimed by backfilling with overburden (Pell and O'Connor, 2013).

Of the 516 bags collected, 406 were shipped overland over a one-month period from site to Iqaluit via the Iqaluit-Chidliak trail using Challengers with sleds; 102 were transported using a DC-3T aircraft and eight remaining bags were transported via Twin Otter during the subsequent summer exploration program. All sample bags were stored in Iqaluit in a secure area at the airport until they were shipped south and transported to the processing labs. Ten bags were flown to Winnipeg in late June and transferred to trucks for transport to the SRC; the remainder were shipped to

Montreal via sealift in late summer 2013. Once arriving in Montreal, bags were transferred to transport trucks, with security-sealed trailers, for shipping to the De Beers plant in Sudbury, Ontario (Pell and O'Connor, 2013). Moisture content was calculated from samples of head feed taken at the processing plants; in total 43 moisture measurements were made. The moisture content of the samples ranged from 9.99 to 17.40%.

The 404.3 t sample returned a grade of 2.58 cpt at a +1.18 mm bottom cut-off (Table 9-4). The sample included 90 diamonds weighing over 1.0 ct and 270 diamonds weighing over 0.50 cts, with the largest diamond being an 8.87 ct white/colourless octahedron.

Table 9-4**:** Results of 2013 CH-6 surface bulk sample.

Sample		13-1	13-2	13-3	TOTAL 2013 Bulk Sample
Description		Batch B (Test)	Batch A	Batch C	
Sample Weight (dry tonnes)		8.41	213.8	182.1	404.31
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.850 mm	222	2,967	2,899	6,088
	+1.180 mm	135	3,233	2,825	6,193
	+1.700 mm	60	1,436	1,184	2,680
	+2.360 mm	26	595	474	1,095
	+3.350 mm	3	139	125	267
	+4.750 mm	1	32	24	57
	+6.700 mm	0	2	4	6
Total Number of Diamonds		447	8,404	7,535	16,386
Carats >0.850 mm		21.74	578.75	523.46	1,123.95
Carats >1.180 mm		18.85	538.66	484.54	1,042.05
Carats / tonne >1.180 mm		2.26	2.52	2.66	2.58

9.2.3 Microdiamond Sampling Associated with Surface Bulk Samples

In 2010, Peregrine collected microdiamond samples of the CH-7 kimberlite during the trench mini-bulk sampling program, in order to test the reliability of the DMS results and to determine moisture content. One microdiamond sample of approximately 30 kg was collected for every two ore bags filled, such that a 967.9 kg representative sample in 38 buckets was available for further processing (Holmes, 2010). One moisture determination was made from a subsample from each of the 38 buckets. The moisture content of the samples ranged from 1.67% to 11.59%, averaging 5.84%. Approximately half of the representative microdiamond sample (467.25 kg) was processed at the SRC by caustic fusion to recover +0.425 mm diamonds, and 0.68 cts of +1.18 mm diamonds were recovered (Table 9-5). The remaining 500.65 kg portion of the representative sample was introduced to the DMS sample and is included in the head feed weight of the 2010 mini-bulk sample.

Concurrent with collection of the CH-6 2013 surface bulk sample, Peregrine completed microdiamond sampling of the kimberlite material excavated in order to monitor DMS processing efficiency. A 750 kg microdiamond sample of KIM-L was collected from representative locations throughout the trench. A 400 kg "split" portion was retained for potential future work and the remaining 350 kg "split" was sent for caustic fusion assay to the SRC (Pell and O'Connor, 2013). In total, 907 stones +0.106 mm in size were recovered from this sample, including 10 diamonds larger than 1.18 mm weighing 0.39 cts (Table 9-6).

Table 9-5: Caustic fusion results, representative of CH-7 KIM-1 geological unit in 2010 mini-bulk sample.

Unit		KIM-1
Sample Weight (kg)		467.3
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.425 mm	40
	+0.600 mm	19
	+0.850 mm	8
	+1.180 mm	2
	+1.700 mm	1
	+2.360 mm	0
	+3.350 mm	1
	+4.750 mm	0
Total Number of Diamonds		71
Total Carats		0.90
Carats >0.850 mm		0.78
Carats >1.180 mm		0.68

Table 9-6: Caustic fusion results, representative of CH-6 KIM-L geological unit in 2013 bulk sample.

Unit		KIM-L
Sample Weight (kg)		350.0
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.106 mm	317
	+0.150 mm	228
	+0.212 mm	150
	+0.300 mm	99
	+0.425 mm	60
	+0.600 mm	32
	+0.850 mm	11
	+1.180 mm	9
	+1.700 mm	1
Total Number of Diamonds		907
Total Carats		0.79
Carats >0.850 mm		0.52
Carats >1.180 mm		0.39

10 Drilling

10.1 Core Drilling

10.1.1 Previous Core Drilling

Approximately 28,054 m of core drilling was completed at Chidliak between 2009 and 2015 (Table 10-1). Of all core drilling, 24 holes were discovery holes, 119 were for kimberlite delineation and sampling, 17 were for exploration and either did not intersect kimberlite or were lost in overburden, and eight were completed at CH-6 for the purpose of mini-bulk sampling for commercial-size diamonds. Core diameter ranged from NQ (47.6 mm) to HQ (63.5 mm) based on the goals of the drill program. Various drill companies and various types of diamond drills were used over the years; further information regarding these drill programs is documented in previous technical reports (Pell, 2009, 2010a, 2011; Pell and Farrow, 2012; Farrow et al., 2014, 2015; Nowicki et al., 2016). No core drilling occurred in 2016.

10.1.2 2017 Core Drilling and Results

In 2017, Peregrine contracted Orbit Garant Drilling Services, of Val d'Or, Quebec and Vital Drilling Services of Val Caron, Ontario to complete diamond drilling at CH-6 utilizing two LDS-1000 drill rigs and an Atlas Copco CS100 drill rig, respectively (Table 10-2). The program was designed to further delineate the kimberlite, with the objective of expanding the high grade CH-6 resource to a depth of 500 mbs, and to gather geotechnical information to allow completion of further open-pit design and optimization studies. A total of 5,288 m was drilled in 15 holes at CH-6 and 1936.45 kg of kimberlite sampled from core at ~ 10 m intervals was submitted to the SRC for caustic fusion analysis. A total of 213 commercial sized diamonds (+0.85 mm), weighing 9.32 carats were recovered from these samples (Table 10-3).

Table 10-1: Summary of core drilling at Chidliak from 2009 to 2015.

	2009		2010		2011		2012		2013		2014		2015	
Body	**#**	**Metres**	**#**	**Metres**	**#**	**Metres**	**#**	**Metres**	**#**	**Metres**	**#**	**Metres**	**#**	**Metres**
CH-1	3	469.00	-	-	-	-	3	637.00	-	-	-	-	-	-
CH-4	2	365.00	-	-	-	-	-	-	-	-	-	-	-	-
CH-6	5	843.00	8	2081.69	11	1774.83	-	-	-	-	5	1183.00	2	520.40
CH-7	-	-	6	812.22	8	1197.00	4	983.00	-	-	7	1127.50	4	840.50
CH-10	2	292.00	-	-	-	-	-	-	-	-	-	-	-	-
CH-12	-	-	2	312.00	-	-	-	-	-	-	-	-	-	-
CH-13	1	182.00	-	-	-	-	-	-	-	-	-	-	-	-
CH-14	1	143.00	-	-	-	-	-	-	-	-	-	-	-	-
CH-15	2	222.00	-	-	-	-	-	-	-	-	-	-	-	-
CH-16	3	448.00	-	-	-	-	-	-	-	-	-	-	-	-
CH-17	-	-	1	47.30	1	195.00	-	-	-	-	-	-	-	-
CH-18	-	-	1	270.00	-	-	-	-	-	-	-	-	-	-
CH-20	1	128.00	1	139.00	-	-	-	-	-	-	-	-	-	-
CH-22	-	-	2	363.25	-	-	-	-	-	-	-	-	-	-
CH-28	-	-	-	-	1	212.68	-	-	-	-	-	-	-	-
CH-29	-	-	2	357.00	-	-	-	-	-	-	-	-	-	-
CH-30	-	-	2	229.00	-	-	-	-	-	-	-	-	-	-
CH-31	-	-	3	543.20	8	1153.12	-	-	-	-	-	-	-	-
CH-32	-	-	2	446.00	-	-	-	-	-	-	-	-	-	-
CH-33	-	-	-	-	3	722.00	-	-	-	-	-	-	-	-
CH-34	-	-	2	313.60	-	-	-	-	-	-	-	-	-	-
CH-37	-	-	3	402.00	-	-	-	-	-	-	-	-	-	-
CH-38	-	-	2	300.00	-	-	-	-	-	-	-	-	-	-
CH-41	-	-	2	349.00	-	-	-	-	-	-	-	-	-	-
CH-44	-	-	-	-	8	1123.00	4	758.50	-	-	6	993.50	-	-
CH-45	-	-	-	-	4	311.03	-	-	-	-	-	-	-	-
CH-46	-	-	-	-	-	-	-	-	-	-	3	393.00	-	-
CH-51	-	-	-	-	1	188.00	-	-	-	-	-	-	-	-
CH-52	-	-	-	-	2	468.00	-	-	-	-	-	-	-	-
CH-53	-	-	-	-	1	215.00	-	-	-	-	-	-	-	-
CH-54	-	-	-	-	1	195.00	-	-	-	-	-	-	-	-
CH-55	-	-	-	-	2	431.00	-	-	-	-	-	-	-	-
CH-56	-	-	-	-	1	236.00	-	-	-	-	-	-	-	-
CH-58	-	-	-	-	2	369.00	-	-	-	-	-	-	-	-
Other*	7	859.16	9	832.43	1	78.00	-	-	-	-	-	-	-	-
Subtotal	27	3,951.16	48	7,797.69	55	8,868.66	11	2,378.50	0	0.00	21	3,697.00	6	1,360.90
Total													**168**	**28,053.91**

*Non-kimberlite anomalies and holes abandoned in overburden

Table 10-2**:** Core drilling in 2017.

Hole #	Orientation			Diameter (mm)	Contaractor	Comment
	AZ	Dip	Length (m)			
CHI-050-17-DD32	80	-67	120	47.6	Orbit	Hole lost prior to reaching target depth.
CHI-050-17-DD33	90	-57	433	63.5	Orbit	
CHI-050-17-DD34	81	-69	228	47.6	Orbit	Hole lost prior to reaching target depth.
CHI-050-17-DD35	82	-68	15	47.6	Orbit	Hole abandoned/repositioned as CH-050-17-DD37
CHI-050-17-DD36	0	-90	378	63.5	Orbit	
CHI-050-17-DD37	82	-74	317	47.6	Orbit	Hole lost prior to reaching target depth.
CHI-050-17-DD38	258	-58	560	47.6	Vital	
CHI-050-17-DD39	198	-83	536	47.6	Orbit	
CHI-050-17-DD40	195	-83	197	47.6	Orbit	
CHI-050-17-DD41	82	-68	357	47.6	Vital	Hole lost prior to reaching target depth.
CHI-050-17-DD42	338	-60	474	63.5/47.6	Orbit	
CHI-050-17-DD43	268	-55	212	47.6	Orbit	
CHI-050-17-DD44	178	-83	503	47.6	Vital	
CHI-050-17-DD45	188	-84	416	47.6	Orbit	
CHI-050-17-DD46	55	-86	542	47.6	Vital	
Total			5288			

Table 10-3: Results of 2017 caustic fusion analysis for drill core from CH-6.

Unit		KIM-L.HG	KIM-L.NG	KIM-C	Totals
Sample Weight (kg)		867.45	996.25	72.75	1936.45
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.106 mm	1401	887	54	2342
	+0.150 mm	907	569	40	1516
	+0.212 mm	577	334	25	936
	+0.300 mm	359	211	14	584
	+0.425 mm	283	126	6	415
	+0.600 mm	165	71	1	237
	+0.850 mm	71	33	2	106
	+1.180 mm	50	19	1	70
	+1.700 mm	19	8	1	28
	+2.360 mm	4	1	0	5
	+3.350 mm	2	2	0	4
Total Number of Diamonds		3838	2261	144	6243
Carats >0.850 mm		5.892	3.283	0.145	9.320
Carats >1.180 mm		5.115	2.893	0.120	8.128

10.1.3 **Drill Hole Surveys**

10.1.3.1 *Collar Surveys*

The majority of drill collar positions at Chidliak have been obtained post-drilling utilizing a Differential Global Positioning System (DGPS), primarily with a Trimble 5800 RTK DGPS or a Trimble R10 GNSS Receiver with base station, operated by Peregrine staff. From 2013 onwards, most drill collar locations at CH-6, CH-7 and CH-44 were surveyed by a professional surveyor post-drilling with either Topcon Hiper GA or Leica Viva GPS/GNSS receivers that utilize RTK GPS. In 2013 and again in 2014, permanent horizontal and vertical control points were established at six sites at Chidliak for future surveying use.

10.1.3.2 *Downhole Orientation Surveys*

Drill holes completed in 2009 and 2011 were surveyed downhole with a single-shot magnetic tool every 50 m. In many cases, a measurement was taken at the end of the hole as well. Drill holes completed in 2010, 2012 and 2014, in addition to being surveyed with the single-shot tool, were also surveyed with a Reflex Gyro multi-shot, non-magnetic downhole gyroscopic survey tool that recorded measurements every 5 m, with few exceptions. In 2015, drill holes were surveyed downhole every 5 m using only the Reflex Gyroscope. In 2017, drill holes were surveyed downhole once drilling was completed using an Axis Mining Technology Inc. Champ Navigator tool, a non-magnetic, north-seeking gyroscope. Holes were surveyed in either single-shot or continuous mode, depending on drilling conditions. No small-diameter RC holes were surveyed downhole and for all un-surveyed holes, whether core or RC, proposed orientations were utilized in the drill database and for 3-D modelling.

10.1.4 **Drill Logging**

10.1.4.1 *Core Logging Procedure – Geological*

As core is drilled, a field technician ensures that core boxes are labelled correctly, checks metre markers placed by drillers, ensures all core pieces are present and when a box is full, places the core box in a safe area near the drill and maintains a core box inventory. The field geologist photographs the core in boxes at the drill, completes a quick field log that highlights intervals of kimberlite and country rock, takes magnetic susceptibility readings every metre downhole throughout the entire hole, does geotechnical logging (discussed in Section 10.1.4.2) and ensures security of the core until it is transferred to the secure logging facility.

All detailed core logging since inception of the project was completed or supervised by, Peregrine's Chief Geoscientist, Dr. Jennifer Pell in secure facilities. Prior to 2011, only intervals of kimberlite in core and two or three boxes of country rock immediately adjacent to the contacts were transferred to the logging facility for detailed logging. In 2011, protocol was updated so that all recovered kimberlite and country rock core was cycled through the logging facility for detailed logging. In 2009 and 2010 all core was logged at a secure warehouse facility in Iqaluit, in 2011 core was logged at a secure logging facility at the SRC in Saskatoon, Saskatchewan, in 2012 it was done at a secure facility in Delta, British Columbia, and since 2014 it was logged on site at Discovery camp in a secure Quonset shed.

Detailed logging is completed using adequate lighting and core is examined in a space large enough for multiple drill holes to be laid out (Figure 10-1). All core boxes are photographed at various scales prior to core examination or sampling. Drill core is examined both macroscopically and microscopically in order to record major kimberlite textures, fabrics, structures, alteration, characteristics and sizes of gneiss and carbonate xenoliths, nature of geological contacts, and detailed observations about types, sizes, and abundances of melt-bearing pyroclasts, mantle xenoliths, autoliths, olivine, and KIMs. In addition, since 2011, gneiss and carbonate xenoliths larger than 10 cm are measured and tallied in order to track country rock dilution. Density measurements and geotechnical data are acquired prior to sampling of the core. Sampling procedures are described in Section 10.1.5.1.

For all drill logs, the geological units and detailed textural zones are identified and a unit code is assigned to each geological unit. Codes served to highlight an interval as a particular geological unit and therefore can be used to link similar geology between drill holes. Units are assessed in terms of their 3-D spatial distribution and then grouped into relevant and volumetrically significant geological domains for the purpose of geological modelling and Mineral Resource estimation.

A review and partial re-logging of all most available kimberlite core from CH-1, CH-4, CH-6, CH-7, CH-10, CH-13, CH-14, CH-15, CH-16, CH-17, CH-18, CH-20, CH-22, CH-30, CH-31, CH-32, CH-33, CH-34, CH-36, CH-44, CH-45, CH-51, CH-53, CH-55, CH-56 and CH-58 was completed at a secure logging facility in Delta, B.C between October 2012 and February, 2013. The review produced an upgraded photographic inventory, core logs and a collection of reference samples for petrographic, geochemical and related investigations. This valuable exercise materially improved understanding of pipe-scale variability and correlation of geological attributes considered typical of Chidliak kimberlites.

10.1.4.2 *Core Logging – Geotechnical*

Rudimentary geotechnical logging began at Chidliak in 2009 when Total Core Recovery (TCR) was recorded for core drilled during discovery-stage exploration.-Collection of geotechnical data improved in 2010 and 2011, resulting from consultant-level assistance and training provided by SRK Consulting Services Inc. (SRK). In 2017, SRK again provided on-site guidance and off-site review to improve geotechnical logging protocols and data collection to align with drilling of oriented core and project development goals. Current practice at Peregrine for geotechnical logging involves:

- Collection of basic geotechnical information including:
    - Total Core Recovery (TCR)

    - Rock Quality Designation (RQD)
    - Intact Rock Strength (IRS)
- Collection and assessment of detailed geotechnical information including:
    - Fracture Frequency per metre (FF/m)
    - Fracture or fabric orientation
    - Mechanical breaks
    - Joint condition
    - Rock Mass Rating (RMR) and rock mass quality
    - Oriented core using the DeviCo AS DeviCore BBT tool
- Geotechnical testing including:
    - Density measurements
    - Point load strength testing
    - Unconfined compression strength (UCS) testing
    - Magnetic susceptibility measurements

Figure 10-1: Core layout in secure facility at Discovery Camp, Chidliak.

10.1.5 **Sample Collection**

10.1.5.1 *Density Samples from Drill Core*

Density has been measured on drill core samples of both country rock and kimberlite since initial drilling in 2009. Distribution of density measurements within drill holes has varied as drill programs progressed. In 2009 (on exploration level holes), measurements downhole were variable but was generally on the order of every 10 m within kimberlite and every 20 m within country rock. Between 2010 and 2015, measurement spacing varied between 3 m to 5 m downhole. In 2017, down hole distance between measurements was standardized to every 5 m downhole.

Geological logging by Peregrine has since 2009 routinely included determination of bulk rock densities for air-dried, non-porous 12-15 cm samples of drill core using a standard water-immersion method (described in Section 11.1). Approximately 7% of the density determinations made during logging are verified by submitting the same piece of non-porous core for bulk density determination at an accredited testing laboratory. Appropriate additional samples of porous core - typically weathered kimberlite - are included for wax-coated density determinations at the testing laboratory.

10.1.5.2 *Whole Rock Chemistry Samples*

Selected, representative samples have been submitted for whole rock geochemistry analysis as a method of assessing geological continuity within various kimberlites. Samples were collected primarily from core holes, although a few samples were also collected from small-diameter RC holes. Samples were collected in a manner that ensured the material analyzed reflected the features of the kimberlite interval from which it was derived. Each sample was placed in a sample bag labelled with drill hole number or sample location and depths downhole, and packaged in locked-lid plastic pails. The pails were shipped to Bureau Veritas in Vancouver, British Columbia, for analysis of major and trace elements by ICP-MS.

10.1.5.3 *Representative and Petrographic Samples*

Collection of samples representative of the geological units logged at Chidliak has been a routine procedure while core logging since 2009. Samples were widely spaced during discovery-stage exploration drilling in 2009 and 2010, but were spaced every 5 m downhole from 2011 onwards. Samples are stored for later reference and act as a record such that the drill hole geology can be reconstructed on a telescoped basis. Samples are approximately 20 cm in length and in some cases a small portion was used for petrographic or whole rock chemical analysis, if required. Competent core samples are collected and labelled with the drill hole number, up-direction arrow and downhole depth and are then placed in a sample bag and stored in pails. Friable/altered samples are shrink wrapped and taped before being labelled and placed in sample bags. In addition to the representative samples, special-interest samples with unusual or notable features were also collected.

10.1.5.4 *Microdiamond Samples*

The goal of discovery-stage caustic fusion sampling of a kimberlite is to collect sufficient, spatially representative material from major phases of kimberlite recognized during core logging to constrain the diamond size-frequency distribution (SFD) of that kimberlite phase. Discovery-stage exploration drilling at Chidliak accordingly aspired to deliver a 200 kg microdiamond sample per major phase, with a 140 kg minimum weight threshold. During 2009 and 2010, microdiamond samples were collected from core over the entire downhole interval of a given geological domain. Spatially representative lengths of core were aggregated from across the entire interval to be sampled, such that a total sample weight of approximately 200 kg was reached. For example, every second or third row of core throughout the interval may have been sampled, depending on the length of the entire interval, and all material within the row chosen was sampled, including gneissic country rock xenoliths and mantle xenoliths, if present. The downhole depths of sampled lengths were not recorded, only the downhole extent of the entire sampled interval. Samples were placed in polyurethane sample bags inside of 20 L plastic pails with tamper-proof lids and sealed with plastic cable ties and a security tag. A single sample number was assigned to the entire sample, typically weighing 200 kg.

In 2011 and subsequent years, microdiamond sampling proceeded on the same spatially representative basis for a given geological domain, but individual 8 kg aliquots were retrieved from core, individually numbered, and their exact downhole intervals recorded on a per-aliquot basis. An ideal 200 kg weight was made up of 25 spatially representative 8 kg aliquots, each with their own sample number. Gneissic or other xenoliths that fell within the interval sampled were typically included in the microdiamond samples. Rare intersections of avoidable country rock were excluded from the sampled interval as appropriate, and the proportionate weight of the excluded material was recorded so that it would be added to the total sample weight. Each 8 kg aliquot was placed into doubled polyurethane bags and both the inner and outer bags were sealed with plastic cable ties. The outer bag was then sealed with a uniquely numbered metal security tag and a unique sample number written on the outer bag. Bagged aliquots are placed in plastic pails with a tamper-proof lids or in a bulk bag that is closed and sealed with a uniquely numbered metal security tag prior to shipping.

10.1.5.5 *Commercial-size Diamond Samples from Drill Core*

During July 2010, a 14 t mini-bulk sample of the CH-6 kimberlite was established by aggregation of 63.5 mm diameter (HQ) and some 47.6 mm diameter (NQ) drill core. The mini-bulk sample provided a convenient and permissive means to test for commercial-size diamonds across a significant portion of the CH-6 pipe, and to depths of 325 mbs. Additional details of this program are given in Section 11.6.4.

After drilling of HQ-diameter holes at CH-6 completed in June 2010, the core was transferred from Discovery camp via Twin Otter aircraft to a secure logging facility in Iqaluit. The drill core was logged and sampled as per standard Peregrine protocol and remaining kimberlite core was broken into smaller pieces and collected into 16 double-layered 1 t ore bags. Both inner and outer bags were labelled with unique numbers prior to filling, and once filled both bags were closed and the external bag was sealed with a tamper-proof security seal. Bags were combined into five processing units based on geology and depth in the pipe (Pell, 2010c). The sample was transported to the SRC in Saskatoon via First Air 767 Charter aircraft to be processed by DMS at the SRC. Concurrent with sampling the core for commercial-size diamonds, microdiamond samples were also collected, the purpose of which was to assess DMS processing efficiency and to measure moisture content.

10.1.5.6 *Miscellaneous Samples*

Small samples weighing from a few tens of grams to a few tens of kilograms have been collected from drill cores for a variety of other scientific and geotechnical studies as required, including:

- Acid-Base Accounting (e.g. Acid-Rock Drainage) (ARD)
- Heavy Mineral (KIM) Studies
- Geochronology
- Mantle Xenoliths Studies
- Conodont Studies on Palaeozoic Xenoliths

10.1.6 **Drilling Quality Assurance & Quality Control**

Core hole data was verified by Peregrine in the following manner:

- Downhole survey data was checked against original data printouts and/or digital files from downhole survey tools and inconsistent/poor quality survey points were removed from single-shot data;
- Variation in downhole survey data was assessed. For holes that were surveyed with two methods (magnetic and gyroscope) the results were compared and the variation in the location of the end of the hole was never more than 5 m. The amount of variation observed does not materially affect the modelled kimberlite pipe shape.
- End of hole depths were cross-checked using detailed core logs, core photos and driller time sheets;
- Collar locations were confirmed against original data printouts from the DGPS survey tools and with original data and reports from the professional surveyor; survey tools were calibrated at the time of the survey in the field.
- Meterages downhole were cross-checked with photos and detailed core logs and no inconsistencies were noted; and
- Contacts defined in core logs were cross-checked with core photos.

10.2 Small-diameter RC Drilling

Approximately 4,840 m of small-diameter RC drilling using a lightweight helicopter-portable Hornet rig from Northspan Explorations Ltd. has been carried out over several campaigns between 2009 and 2015 at Chidliak (Table 10-4). The RC holes discovered kimberlites (15 holes), verified anomalies (61 holes in non-kimberlite or abandoned), delineated kimberlite (77 holes) and defined depth of overburden at CH-6 (30 holes), CH-7 (15 holes), CH 44 (16 holes) and CH-31 (three holes).

Table 10-4: Summary of small-diameter RC drilling at Chidliak from 2009 to 2014.

	2009		2010		2011		2012		2013		2014	
Body	**#**	**Metres**	**#**	**Metres**	**#**	**Metres**	**#**	**Metres**	**#**	**Metres**	**#**	**Metres**
CH-1	-	-	3	106.96	-	-	-	-	-	-	-	-
CH-6	-	-	-	-	-	-	20	127.07	-	-	24	352.25
CH-7	-	-	2	77.11	-	-	3	13.86	-	-	36	584.77
CH-9	-	-	2	35.36	-	-	-	-	-	-	-	-
CH-12	-	-	4	118.87	-	-	-	-	-	-	-	-
CH-16	-	-	1	35.05	-	-	-	-	-	-	-	-
CH-31	-	-	-	-	-	-	3	17.68	-	-	-	-
CH-39	-	-	2	81.07	-	-	-	-	-	-	-	-
CH-40	-	-	1	33.83	-	-	-	-	-	-	-	-
CH-42	-	-	2	67.06	-	-	-	-	-	-	-	-
CH-43	-	-	2	41.15	-	-	-	-	-	-	-	-
CH-44	-	-	1	35.05	-	-	-	-	-	-	30	313.16
CH-45	-	-	1	18.29	-	-	-	-	-	-	-	-
CH-46	-	-	1	35.05	-	-	-	-	-	-	-	-
CH-48	-	-	1	47.24	-	-	-	-	-	-	-	-
CH-52	-	-	-	-	1	64.62	-	-	-	-	-	-
CH-57	-	-	-	-	1	44.20	-	-	-	-	-	-
CH-59	-	-	-	-	4	142.60	-	-	-	-	-	-
CH-62	-	-	-	-	-	-	-	-	-	-	1	14.17
CH-69	-	-	-	-	-	-	-	-	-	-	3	87.17
CH-70	-	-	-	-	-	-	-	-	-	-	1	20.27
CH-71	-	-	1	82.60	-	-	-	-	-	-	-	-
Q-1	-	-	-	-	1	19.20	-	-	-	-	-	-
Q-3	-	-	-	-	4	143.86	-	-	-	-	-	-
Other*	-	-	26	630.64	29	1,277.25	-	-	-	-	6	172.36
Subtotal	0	0.00	50	1,445.33	40	1,691.73	26	158.61	0	0.00	101	1,544.15
Total											**217**	**4,839.82**

*Non-kimberlite anomalies and holes abandoned in overburden

10.2.1 **RC Drill Hole Surveys**

10.2.1.1 *Collar Surveys*

The majority of small-diameter RC collar positions at Chidliak were located prior to drilling using a handheld GPS. Some positions were located post-drilling utilizing a DGPS, primarily with a Trimble 5800 RTK DGPS operated by Peregrine staff.

10.2.2 RC Chip Logging

For small-diameter RC drilling, a small sample of material (~500 g) is collected from each drill run (i.e. every 5 ft) comprised of material intersected at the beginning, middle and end of the run, placed in a sample bag and labelled. These samples are taken back to camp, where they are washed and sieved and large chips then selected to be photographed and observed using a binocular microscope. Geological information is recorded and the chips are placed in chip trays. The remaining material is retained in sample bags and archived.

10.2.3 Microdiamond Sample Collection from RC Chips

Samples collected from RC chips were initially targeted to have an ideal total weight of approximately 200 kg, thought sample weights to as low as 40 kg were later proven to be sufficient to establish whether the sampled kimberlite required follow-up work/additional sampling with a core drill. Duplicate samples collected by core drilling at CH-1 and CH-7 showed that the RC drill could cause diamond breakage and, therefore affect the diamond SFD. For this reason, microdiamond samples collected by RC drilling are not used for purposes of resource estimation.

Samples were placed in polyurethane sample bags inside of 20 L plastic pails with tamper-proof lids and sealed with plastic cable ties and a security tag. A single sample number was assigned to the entire sample

10.2.4 RC Drilling Quality Assurance & Quality Control

Small-diameter RC hole data was verified by Peregrine in the following manner:

- Visually logged intervals downhole were cross-checked against photos of chips
- End of hole depths were cross-checked between driller time sheets and core logs
- Collar locations were verified against original data printouts from the DGPS survey tools where available; survey tools were calibrated at the time of the survey in the field.

10.3 LDD RC Drilling

In winter 2015, Peregrine completed a LDD RC bulk sample program at CH-7, which comprised six, 22 in diameter drill holes totalling 1,212.13 m drilled between March 21 and May 8, 2015. The purpose of the program was to collect representative, sufficiently sized parcels of diamonds from five of the seven geological domains in order to assess diamond grade and value for the CH-7 kimberlite. In total, 558.8 t (wet) of kimberlite screened at 1.13 mm square mesh was collected in 653, 1 t ore bags. The six holes were drilled using a Cooper-14 large-diameter RC drill rig contracted through Cooper Drilling LLC of Monte Vista, Colorado. This rig was designed specifically for bulk sampling in Arctic conditions and had the capacity to operate using either air-assisted RC or reverse flood methods with a maximum drill hole diameter of 28 in. It was comprised of four components: the drill (including pipe-handling system), a boiler/Genset, compressors and a "mud" system to supply water and remove drill cuttings from recycled water. The drill portion of the rig was a hydraulically powered CT 550 drill model manufactured by Foremost and modified by Cooper Drilling for deployment at Chidliak. To install casing, a ProDem brand PRB® hammer system was used, which consisted of a hammer assembly attached to dual wall 6.1 m long drill rods. The system is air driven with air supplied by two high-pressure compressors. The hammer assembly included a bit, an 18 in N180 shank hammer, interchange, and water injector. Casing shoes were welded to the bottom joint of the casing to prepare casing for hammering into permafrost. Production drilling primarily utilized the reverse flood technique using a conventional drill stem (7 in outer diameter, 5.91 in inner diameter) with 6.1 m rod length. Additionally, 5,000 lb collars were included in the drill string immediately above the bit to add weight, which assisted with improved bit performance. Additional information on this program is presented in Nowicki et al., 2016.

10.3.1 LD Drill Hole Surveys

10.3.1.1 *Collar Surveys*

LDD hole locations were inspected in the field by Peregrine geologists in order to assess site suitability for the rig. Once sites were deemed accessible, drill pad requirements were assessed and the position the collar was to be located was surveyed using a Trimble ProXRT DGPS, operating with RTK satellite communication. Once drilling was complete, collar positions were surveyed with the same DGPS.

10.3.1.2 *Downhole Caliper Measurements for Volume Calculations on LDD Holes*

Downhole caliper surveys on the 2015 LDD holes were performed immediately after completion of each LDD hole by DGI Geosciences Inc. (DGI) in order to determine hole diameter. Caliper measurements are provided in 5 cm depth increments for each LDD hole. These measurements were used to calculate the volume of kimberlite sampled (in cubic metres) along the length of the hole. The theoretical volume (V) of each sample is calculated as V = pi (r^2) x h, where r is the radius of the drill bit and h is the height interval. The actual volume sampled is based on hole diameters measured by caliper, which accounts for irregular LDD hole dimensions. Sampled volumes for individual process units and an entire LDD hole are determined by summing calipered volumes over the appropriate 5 cm depth increments.

Once the volume was determined, it was combined with detailed density data in order to calculate the weight of kimberlite sampled, which is required to complete the grade estimate. The weight removed from the hole must be calculated by this method because undersize kimberlite material finer than the 1.13 mm shaker screen is not collected in the sample bags. Fine particles may also be lost through fractures in the hole wall and sloughing may also occur during drilling.

The caliper surveys were completed using a three-arm caliper tool manufactured by Mount Sopris (model 2CAA-1000) and modified in a proprietary manner by DGI. The system works with a winch and cable and each arm of the tool can extend to a maximum distance of 114 cm (DGI, 2015). In order to conduct the survey, the caliper was lowered to the bottom of the hole, the arms extended until they reached the hole wall and then the instrument is raised at a constant rate with the diameter of the hole recorded every 5 cm. Each hole was surveyed at least two times in order to assess the repeatability of measurements. The casing and casing shoe were used to confirm the accuracy of the tool since the internal dimensions for each were known and could be readily cross-referenced with the downhole data. The data is recorded at site digitally and later processed by DGI before being transferred to Peregrine.

10.3.2 **RC Chip Logging**

For LDD holes, representative chips samples were collected from the shaker table at one metre intervals. To do this, a small kitchen strainer was used to collect material as it fell into the chute. The chips were generally large, since they provided the best geological information. All chips were washed to be clean and free of any coatings prior to being archived in the chip trays. The exterior of the chip trays were labeled with the drill hole number and the total interval sampled (metres). On the inside of the chip tray, on the lid opposite each compartment, the From/To metreages were labeled. The chips were observed using a binocular microscope and geological information from the chips was recorded.

10.3.3 **Sample Collection**

10.3.3.1 *Granulometry Samples from LDD drilling*

Granulometry of the coarse LDD drill cuttings was measured at least once every 20 m downhole by a geological technician. Additional tests were performed when changes were made to drilling techniques, drill bits were changed or when rock types appeared to change. Granulometry samples comprised 3 kg to 4 kg of representative material collected from the discharge chute at the end of the shaker table. The material was sieved into seven size ranges for review: +1.18-2.0 mm; +2.0-4.0 mm; +4.0-6.3 mm; +6.3-8.0 mm; +8.0-12.5 mm; and +12.5 mm and characteristics of the chips recorded. Each fraction was weighed and converted to a percentage of total sample weight. In addition, a separate fines test was conducted where material that passed through the 1.13 mm screen was collected and data recorded. Granulometry sample material was returned to the shaker table after data was recorded (Skelton and O'Connor, 2015).

10.3.3.2 *Commercial-sized Diamond Samples by Large-diameter RC Drilling*

One kimberlite, CH-7, has been sampled for commercial-sized diamonds by large-diameter drilling. The procedures are discussed here and details of the results given in Section 10.4.4.4. Drill cuttings were dewatered and separated into coarse and fine fractions by being passed over a shaker table with vibrating deck holding +1.13 mm square mesh screens. Material that was finer than 1.13 mm was collected in sample bags suspended inside a large plastic bin, positioned under a de-sanding/de-silting cone array. Once full, the bin was removed from the drill using a loader, the bag was removed from the bin and transferred to a dedicated storage area at the periphery of the site, to be disposed of later on. As material passed over the shaker table, the geologist observed the characteristics of the chips and maintained a digital log of observations. All material that passed over the screens was gravity-fed from the shaker table and was collected in double-bagged woven polypropylene bags with a capacity of 1,850 kg located beneath a chute at the end of the shaker. Both inner and outer bags were labelled with unique numbers prior to being filled. Diamond tracers were inserted randomly into some bags. Once a bag was full, it was labelled and securely tied and sealed with a pre-numbered security cinch strap seal at the drill rig. Bags were then moved away from the drill rig and kept on site adjacent to the rig until it was time to be shipped off site.

A 1 kg representative sample was collected from each bulk bag in cloth bags for archival purposes. Additionally, small samples of drill chips were collected in plastic chip trays every metre during drilling and labelled with the drill hole number and depth interval. These chips were reviewed and photographed in camp using a microscope and the geological observations were recorded in a digital spreadsheet.

In each LDD RC holes, drill cuttings were composited into processing units over 20 m depth intervals while observing previously assigned sampling breaks at geological boundaries. As a result, a total of 653 bags of cuttings were collected and were composited into 59 processing units, with weights averaging 13 t each, but ranging from 3 t to 26 t. This configuration was selected in order to dampen the "nugget" effect on grade of sporadic single, large diamonds, while still providing spatial resolution to depth within geological units at the CH-7 kimberlite.

In order to determine processing unit weights, the caliper logs and volume data were first scrutinized in order to assure the data was reliable. Then, measurements of hole diameter were used to calculate the actual in situ volume of material collected for each LDD sample. Sample volumes were converted to sample weight (in dry tonnes) via estimates of dry bulk density. Full details are provided in Nowicki et al., 2016.

10.3.4 Drilling Quality Assurance & Quality Control

LDD RC data was verified by Peregrine during drilling in the following manner:

- QA/QC of accuracy for sample interval depths and of geological boundaries;
- Recording of changes in drilling conditions or equipment changes;
- Lithological observations;
- Noting sampling consistency and timing;
- Controlling bag movement; and
- Granulometry measurements in order to monitor chip quality.

LDD RC data was verified by Peregrine once drilling was complete in the following manner:

- Collar locations were confirmed against original data printouts from the DGPS survey tool and with original data and reports from the professional surveyor; survey tools were calibrated at the time of the survey in the field;
- End of hole depths were verified against Pason data and field recordings;
- RC chip logs were cross-checked against core pilot hole geology;
- Caliper data was checked and verified for accuracy by ensuring that hole widths measured were not smaller than the bit diameter and that the known diameter at the bottom of casing was measured accurately. The casing and casing shoe were used to confirm the accuracy of the tool since the internal diameter for each were known and could be readily cross referenced with the downhole caliper data; and
- Depths of sampling intervals were checked for errors and inconsistencies against paper documentation from the field; very few inconsistencies were found.

10.4 Summary of Drilling at Key Kimberlites

10.4.1 Drilling at CH-6

A total of 11,701.92 m of core drilling (46 holes) and 479.32 m of small-diameter RC drilling (44 holes) has been completed at CH-6 (Table 10-5 and Table 10-6), all of which were used to create the 3-D geological model of the pipe, as discussed in Section 7.3.3. Of the core drilling at CH-6, 9,620.23 m (38 holes) were completed for the purpose of discovery, delineation and obtaining geotechnical information for open-pit design and optimization studies and 2,081.69 m (eight holes) were for commercial-size diamond testing. All small-diameter RC drilling was completed in order to define depth of overburden or near-surface kimberlite margins. Refer to Figure 10-2 for

CH-6 core collar locations in plan view, Figure 10-3 for small-diameter RC collar locations in plan view and Figure 10-4 for a 3-D view of drilling.

Table 10-5: Summary of core drilling at CH-6.

Kimberlite	Purpose	Year	# Holes	Length (m)	Diameter (mm)
CH-6	Delineation	2009	5	843.00	NQ
	Mini-bulk sample	2010	8	2081.69	HQ
	Delineation	2011	11	1774.83	HQ+NQ
	Delineation	2014	5	1183.00	NQ
	Delineation	2015	2	520.40	NQ
	Delineation + Geotechnical	2017	15	5299.00	HQ+NQ
				11701.92	

Table 10-6: Summary of small-diameter RC drilling at CH-6.

Kimberlite	Purpose	Year	# Holes	Length (m)
CH-6	Delineation	2012	20	127.07
	Delineation	2014	24	352.25
				479.32

Figure 10-2: Plan view of core drilling to date at CH-6.

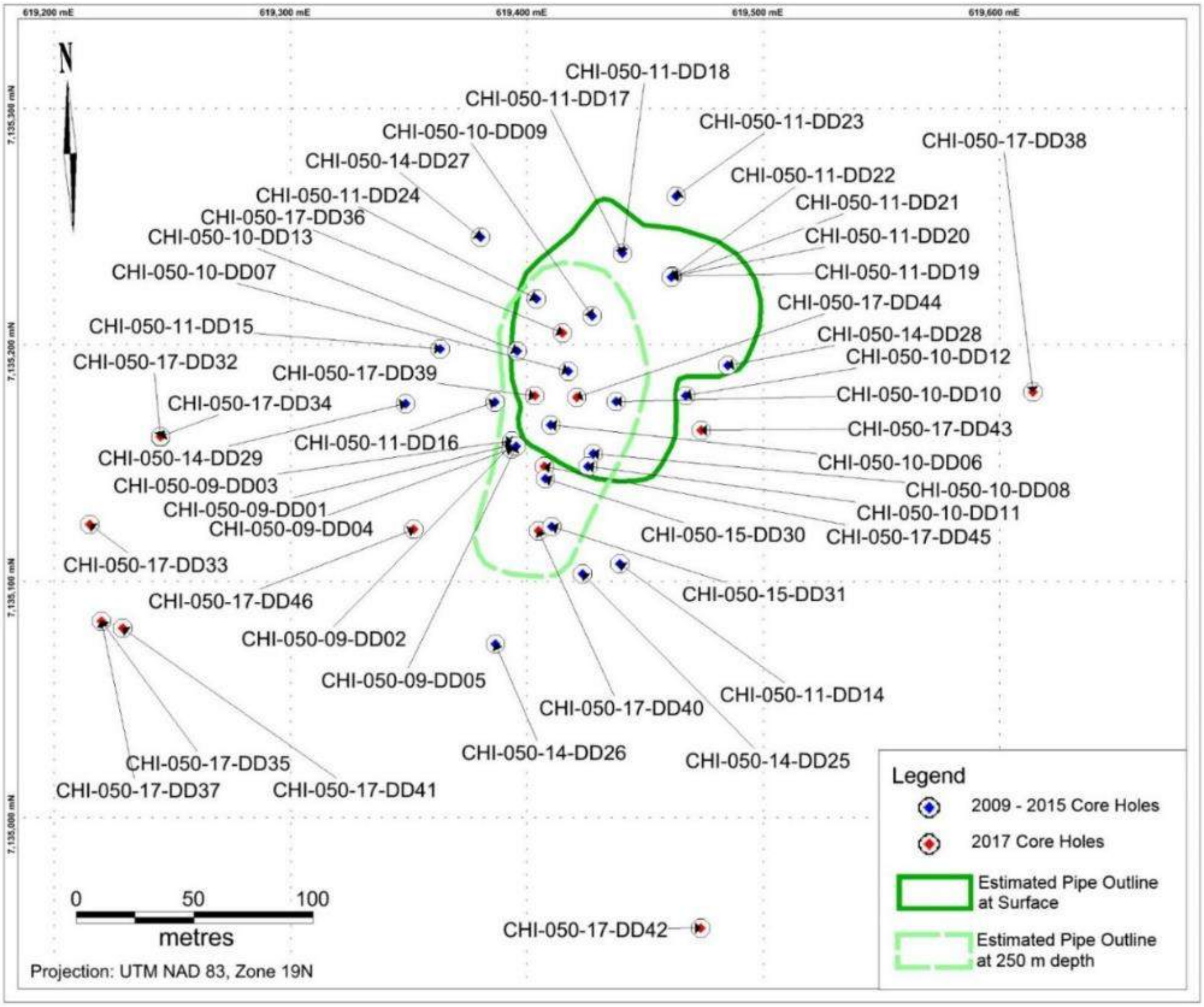


Figure 10-3: Plan view of small-diameter RC drilling to date at CH-6.

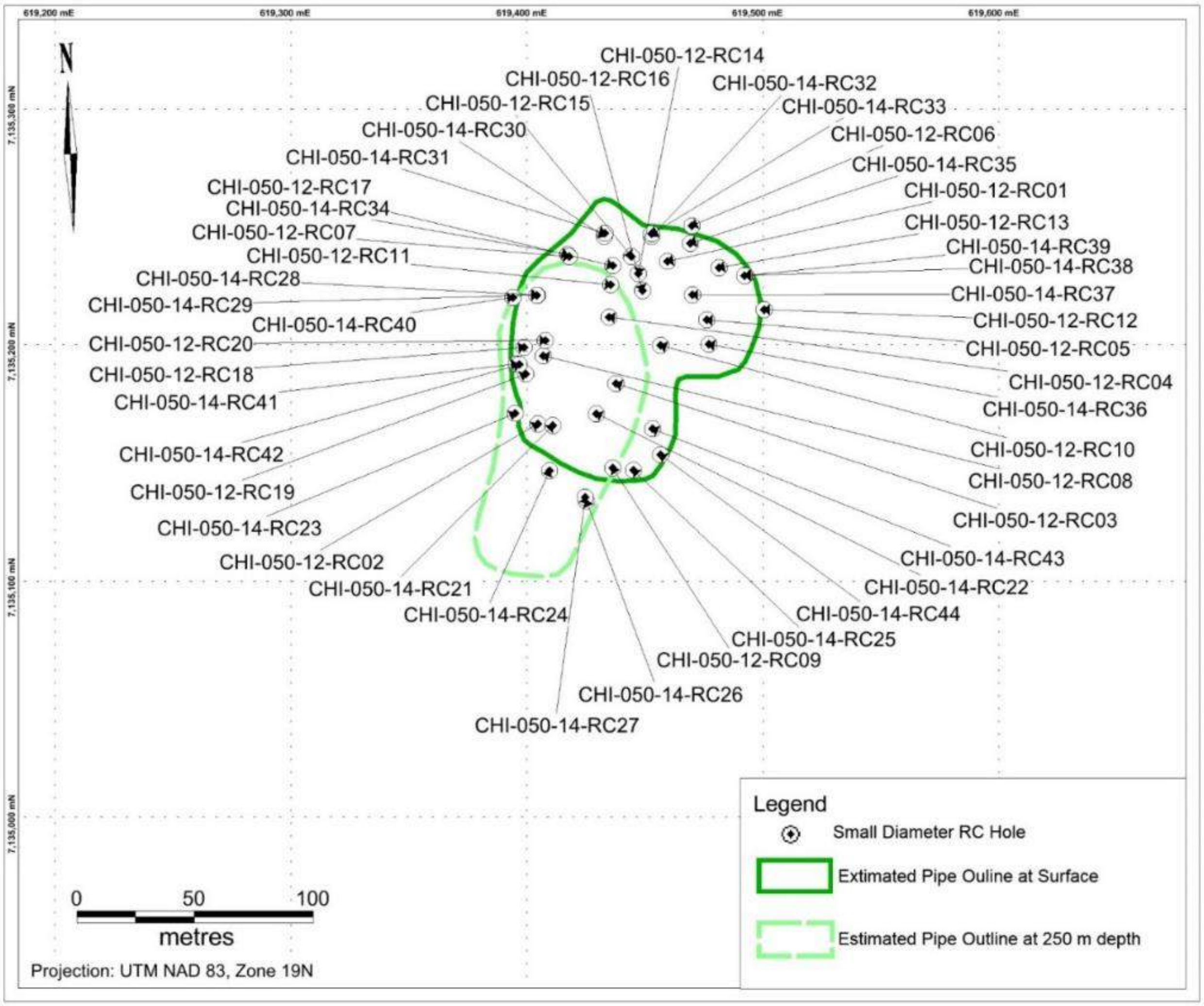
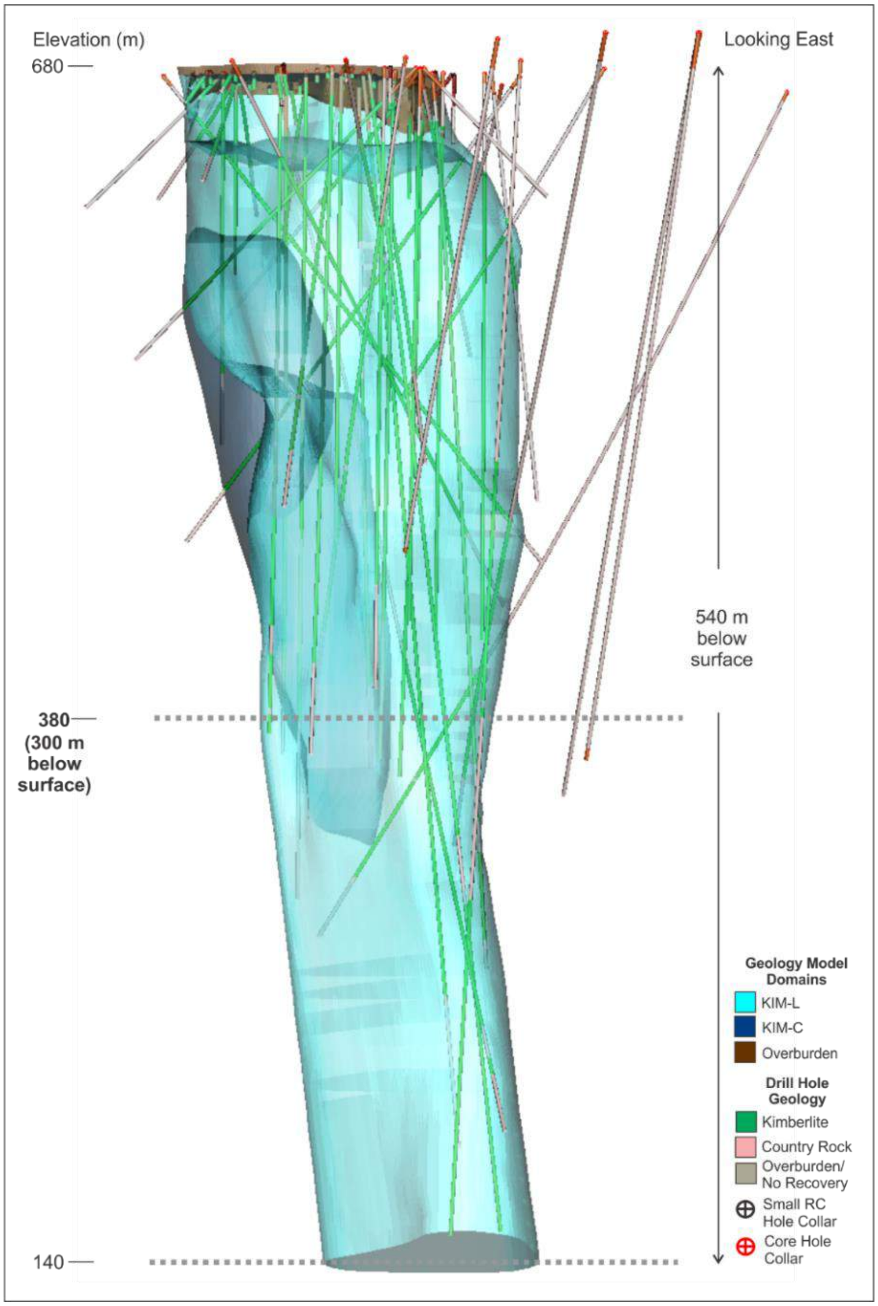


Figure 10-4: 3-D view of core drilling to date at CH-6 with geology model.



10.4.2 **Sampling of Drill Core at CH-6**

To date, CH-6 drill core has been sampled for commercial-size diamonds (13.84 t), caustic fusion diamond analysis (6,651.38 kg), whole rock chemical analysis (322 samples), bulk density analysis (2,396 samples), representative archival purposes (1,419 samples), petrography (246 samples) and limited early-stage geotechnical analysis (201 samples).

10.4.2.1 *Bulk Density Samples from Drill Core*

Density has been measured on drill core samples of both country rock and kimberlite at CH-6, since the initial drilling in 2009. A total of 2,396 useable dry bulk density measurements have been made at CH-6, the majority of which were made in the field by Peregrine. A summary of the number of useable bulk density samples by methodology is provided in Table 10-7.

Table 10-7: Summary of dry bulk density measurements at CH-6.

Kimberlite	Analysis Method	No. Samples
CH-6	Air Dried - Displacement	2364
	Oven Dried - Displacement	7
	Oven Dried - Waxed - Displacement	25

10.4.2.2 *Whole Rock Chemistry Samples*

The Peregrine whole rock chemistry dataset for CH-6 comprises 286 samples of kimberlite from 35 core holes and one small-diameter RC hole (Table 10-8). The database also includes analyses of mantle xenoliths and various country-rock types that occur in the project area.

Table 10-8: Summary of whole rock chemistry samples.

Kimberlite	Sample Type				
	Kimberlite	Mantle Xenoliths	Paleozoic Clasts	Country Rock	Other (Till, Mixed)
CH-6	286	21	3	12	2*

* One sample collected from RC drilling

10.4.2.3 *Microdiamond Samples*

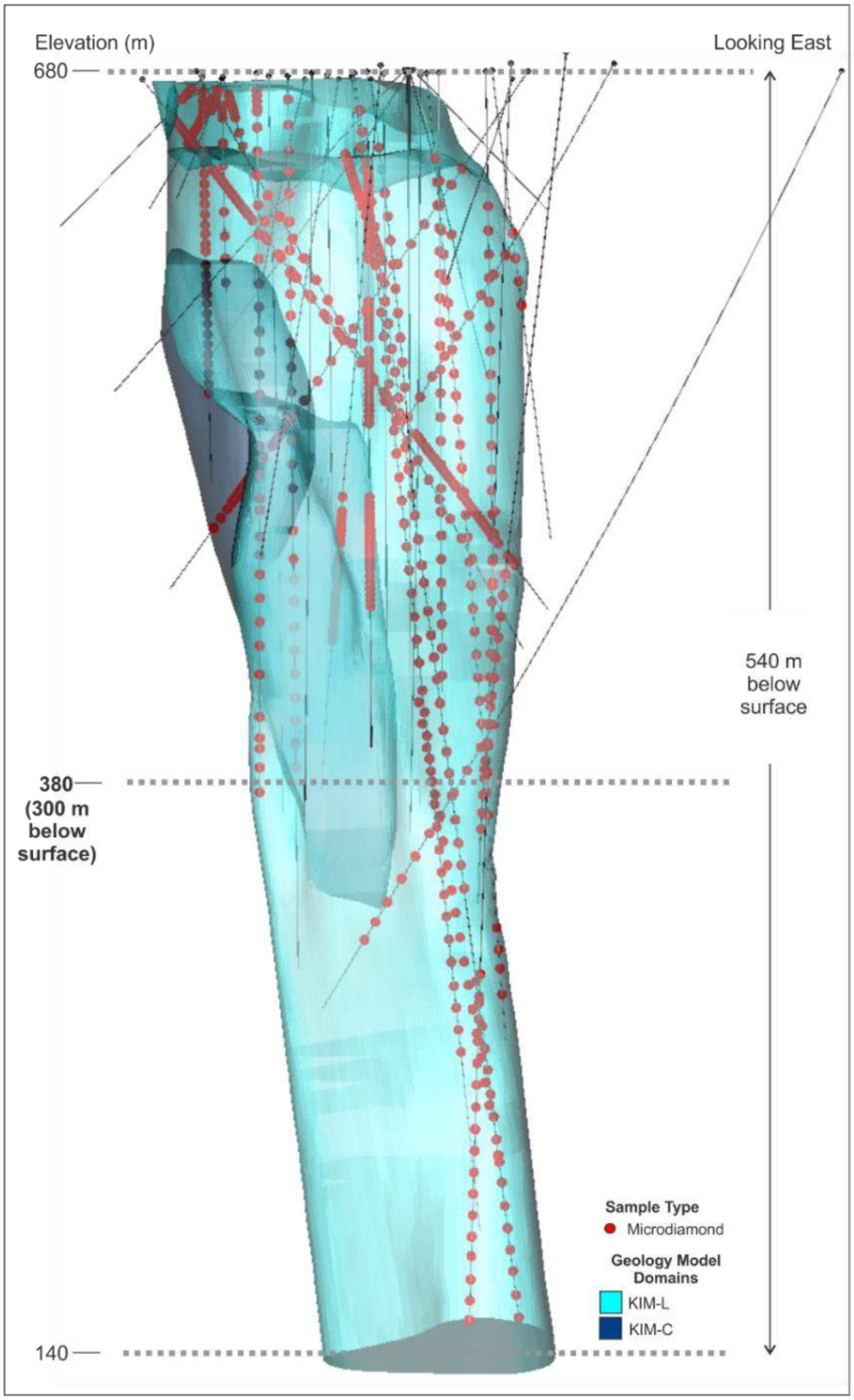
Results from samples collected from drill core and processed by caustic fusion for diamonds at a +0.106 mm bottom cut off are presented in Table 10-9. The nature of these results and implications for resource estimation are discussed in Section 1. The distribution of samples with microdiamond results from CH-6 is illustrated in Figure 10-5.

Table 10-9: Summary of microdiamond results from core samples from CH-6.

Kimberlite & Domain		CH-6 KIM-L	CH-6 KIM-C
Sample Weight (kg)		5,543.28	349.49
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.106 mm	6,742	267
	+0.150 mm	4,242	185
	+0.212 mm	2,692	108
	+0.300 mm	1,745	60
	+0.425 mm	1,112	23
	+0.600 mm	685	17
	+0.850 mm	332	12
	+1.180 mm	192	2
	+1.700 mm	63	2
	+2.360 mm	20	1
	+3.350 mm	10	0
Total Number of Diamonds		17,835	677
Carats >0.850 mm		25.31	0.58
Carats >1.180 mm		21.59	0.44

These results are for drill core only and do not include the microdiamond results that accompany the 2013 bulk sample.

Figure 10-5: Distribution of microdiamond sample results for CH-6.



10.4.2.4 *Commercial-size Diamond Samples from Drill Core*

During July 2010, a 14 t (dry) mini-bulk sample was established by aggregating CH-6 drill core, to test for commercial-size diamonds. The goal of the program was to sample the kimberlite in a representative fashion both geologically and spatially across the southern two-thirds of the pipe. The mini-bulk sample was aggregated in five processing units from eight HQ-sized core holes drilled in summer 2010 (1,576 m, representing 85% of the sample weight), and augmented by NQ-sized drill core remaining from seven holes drilled in 2009 (representing 15% of the sample). The 2010 holes were all vertical holes drilled 25 to 35 m apart to a maximum depth of 325 mbs, whereas the 2009 holes were primarily inclined near-surface delineation holes. A total of 14.1 t (wet) of kimberlite was sampled from both the KIM-C and KIM-L units, with the majority of material being from KIM-L, the dominant infill of the CH-6 pipe. The locations of drill core intercepts contributing to the overall sample are shown in Figure 10-6. Results show 37.97 cts of diamonds larger than 1.18 mm were recovered from 14.0 t (dry) (Table 10-10).

Table 10-10: Results of the 2010 CH-6 Mini-Bulk sample.

Sample		10B-1	10B-2*	10B-3	10B-4	10B-5	10B-Cleanup	TOTAL 2010 Mini-Bulk Sample
Description		KIM-C	KIM-L	KIM-L	wKIM-L	KIM-L	Plant Clean Up	
Sample Weight (dry tonnes)		4.06	1.95	3.46	1.02	3.35		13.84
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.850 mm	12	22	36	16	37	14	137
	+1.180 mm	21	36	49	27	70	13	216
	+1.700 mm	17	20	27	10	32	2	108
	+2.360 mm	7	8	17	5	14	0	51
	+3.350 mm	1	3	3	3	0	0	10
	+4.750 mm	0	0	0	1	0	0	1
Total Number of Diamonds		58	89	132	62	153	29	523
Carats >0.85 mm		4.70	7.44	10.62	7.03	9.53	0.72	40.04
Carats >1.180 mm		4.52	7.14	10.07	6.80	8.95	0.49	37.97
Carats / tonne >1.180 mm		1.12	3.68	2.92	6.71	2.69	-	2.74

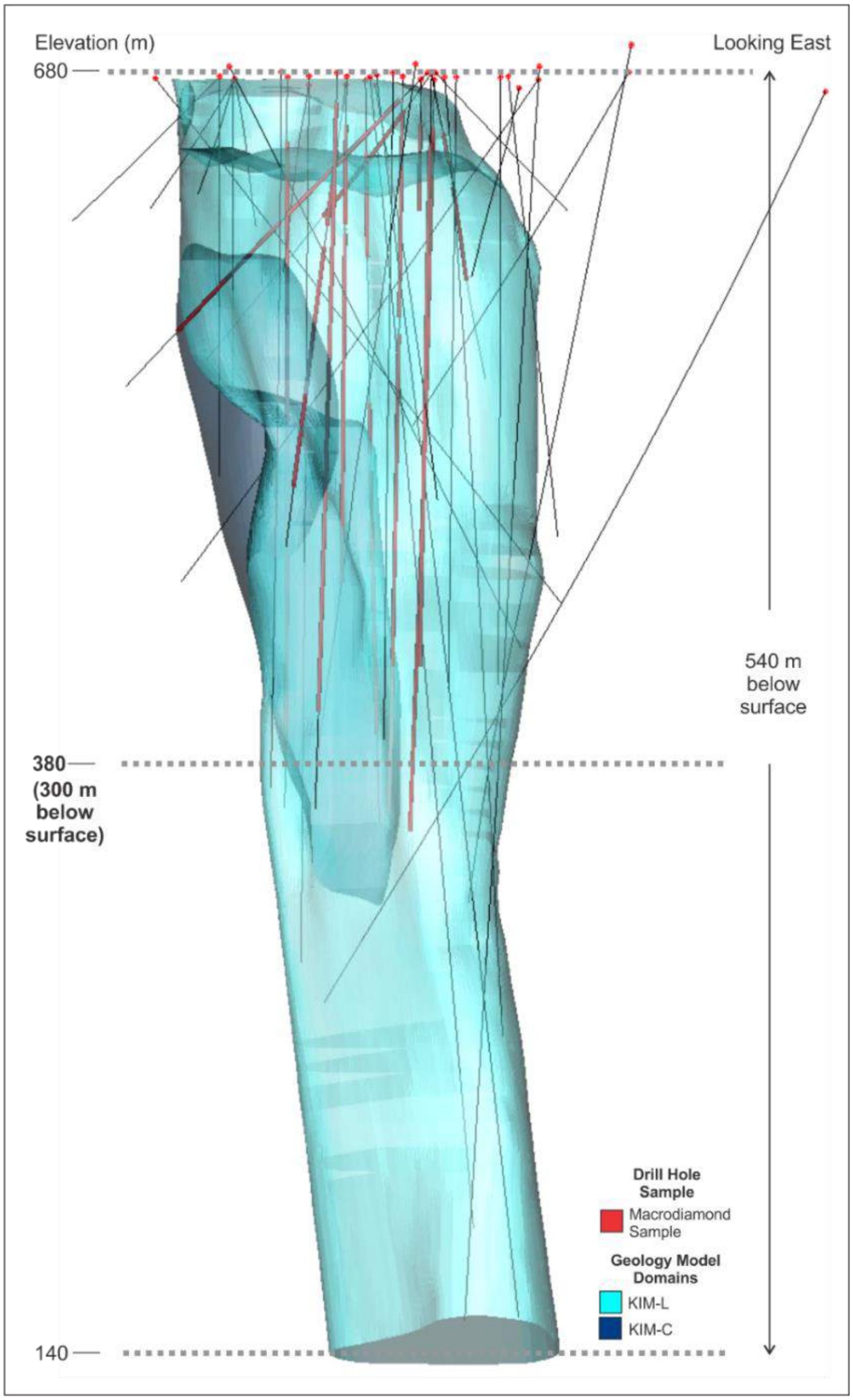
Note: Weights here may differ from pre-2016 disclosure, to reflect audited dry tonnage calculations.
In Sample 10B-2, a 157.8 kg sample of limestone breccia was processed by coarse caustic, and should be added to the total weight

Concurrent with aggregation of the 2010 mini-bulk sample, 465.30 kg of microdiamond samples were also collected from within each of the five processing units, the purpose of which was to assess DMS processing efficiency and to measure moisture content. One moisture determination was made for each processing unit and the moisture contents of the samples were very low, ranging from 0.88 to 1.87%. Of the total sampled, 124 kg was of KIM-C and 341.3 kg was of KIM-L. This sample was processed for diamonds larger than +0.425 mm sieve size at the SRC by caustic fusion in five batches. Results show 1.98 cts of diamond larger than 1.18 mm were recovered from the 465.3 kg processed (Table 10-11).

Table 10-11: Results of caustic fusion assays, 2010 CH-6 mini-bulk sample.

Sample		10B-1	10B-2	10B-3	10B-4	10B-5	Total
Description		KIM-C	KIM-L	KIM-L	wKIM-L	KIM-L	
Sample Weight (kg)		124.00	60.95	113.65	44.50	122.20	465.30
% Moisture		0.88	1.77	1.09	1.87	1.53	-
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.425 mm	9	4	10	7	19	49
	+0.600 mm	5	4	7	7	19	42
	+0.850 mm	1	2	6	3	9	21
	+1.180 mm	1	1	5	3	5	15
	+1.700 mm	1	0	0	1	2	4
	+2.360 mm	0	0	0	0	1	1
	+3.350 mm	0	1	0	0	0	1
	+4.750 mm	0	0	0	0	0	0
Total Number of Diamonds		17	12	28	21	55	133
Carats >1.180 mm		0.08	1.04	0.19	0.18	0.49	1.98

Figure 10-6: Distribution of samples collected and processed for commercial-size diamonds (+0.85mm) from core in CH-6.



10.4.3 Drilling at CH-7

A total of 4,960.22 m of core drilling (29 holes) (Table 10-12), 675.74 m of small-diameter RC drilling (41 holes) (Table 10-13) and 1,212.13 m (six holes) of large-diameter RC drilling (Table 10-14) has been completed at CH-7. Data from all of these holes, with the exception of the LDD holes, were used to create the 3-D geological model of CH-7, as discussed in Section 7.3.5. Refer to Figure 10-7 and Figure 10-8 for CH-7 collar locations in plan view and Figure 10-9 for a 3-D view of drilling.

Table 10-12: Summary of core drilling at CH-7.

Kimberlite	Purpose	Year	# Holes	Length (m)	Diameter (mm)
CH-7	Delineation	2010	6	812.22	NQ
	Delineation	2011	8	1197.00	HQ
	Delineation	2012	4	983.00	HQ+NQ
	Delineation	2014	7	1127.50	NQ
	Geology	2015	4	840.50	NQ
				4960.22	

Table 10-13: Summary of small-diameter RC drilling at CH-7.

Kimberlite	Purpose	Year	# Holes	Length (m)
CH-7	Discovery	2010	2	77.11
	Overburden Depth Determination	2012	3	13.86
	Overburden Depth Determination & Delineation	2014	36	584.77
				675.74

Table 10-14: Summary of large-diameter RC drilling at CH-7.

Hole #	Orientation			Start Hole Diameter (in)	End Hole Diameter (in)	Unit	Bulk Bags Filled
	AZ	Dip	Length (m)				
CHI-251-15-LD01	0	-90	219.10	28	22	KIM-2	127
CHI-251-15-LD02	0	-90	222.00	24	22	KIM-2	122
CHI-251-15-LD03	0	-90	240.00	24	22	KIM-2, 3 & 4	134
CHI-251-15-LD04	0	-90	237.30	24	22	KIM-2, 3 & 4	127
CHI-251-15-LD05	0	-90	74.63	24	22	KIM-5	26
CHI-251-15-LD06	0	-90	219.10	24	22	KIM-2	117
			1212.13				653

Of the core drilling at CH-7, 3,614.22 m (23 holes) were completed for the purpose of delineation and 1,346 m (six holes) acted as geological pilot holes for LDD RC sampling. Of the 41 small-diameter RC drill holes completed, 518.17 m (26 holes) were for delineation and 157.57 m (15 holes) were for defining the depth of overburden.

In 2015, six LDD RC holes were completed to establish a diamond grade profile for geological units at CH-7 and to collect a parcel of commercial-size diamonds for valuation. The LDD hole locations were chosen to maximize the amount of kimberlite collected that was representative of each geological domain and to be volumetrically representative of major geological units within the CH-7 kimberlite. A pilot core hole was associated with each LDD hole. A total of 809.5 t (dry) of kimberlite was sampled, the details of which are documented in Section 10.3.

Figure 10-7: Plan view of core and LDD drilling to date at CH-7.

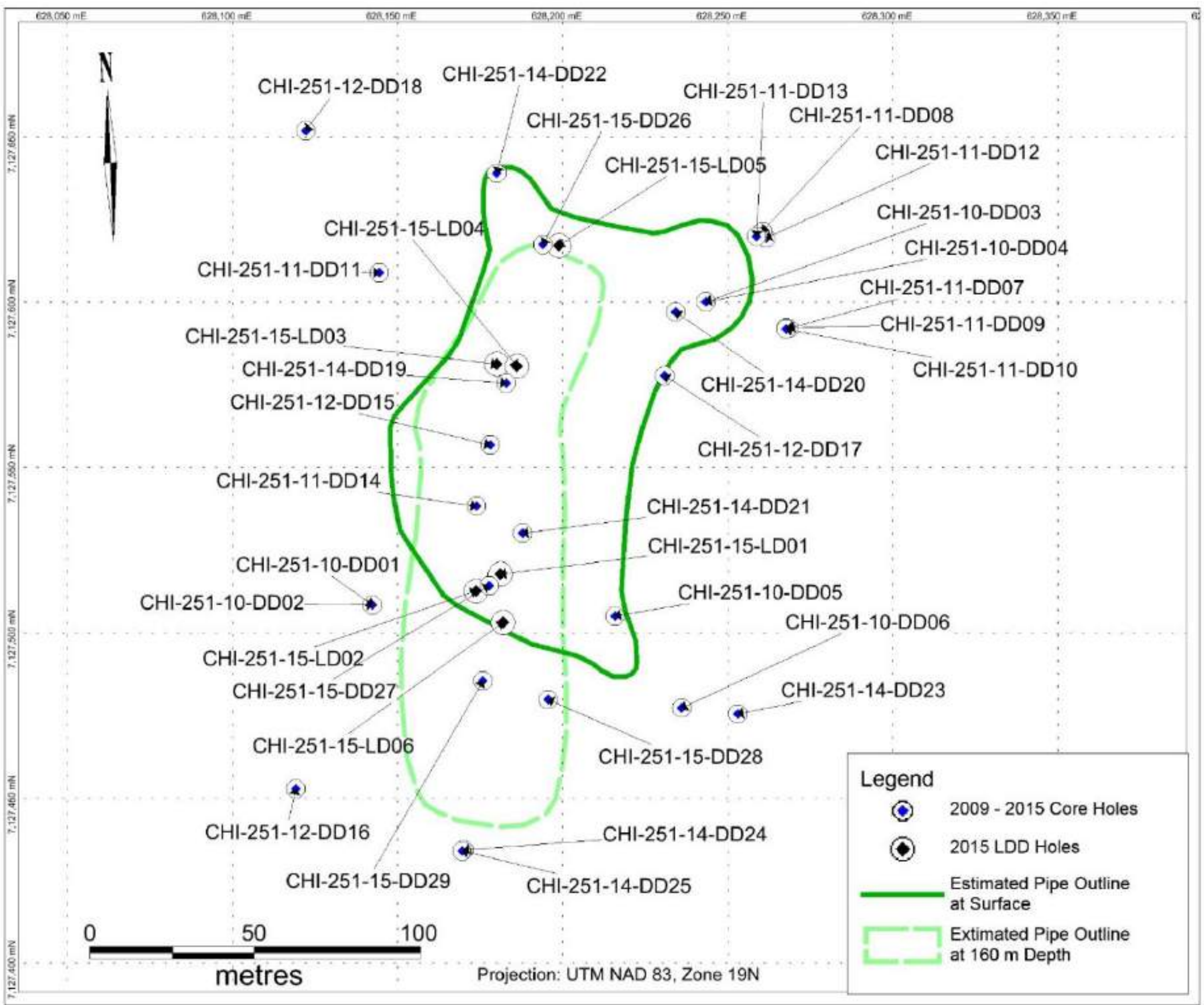


Figure 10-8**:** Plan view of small diameter RC drilling to date at CH-7.

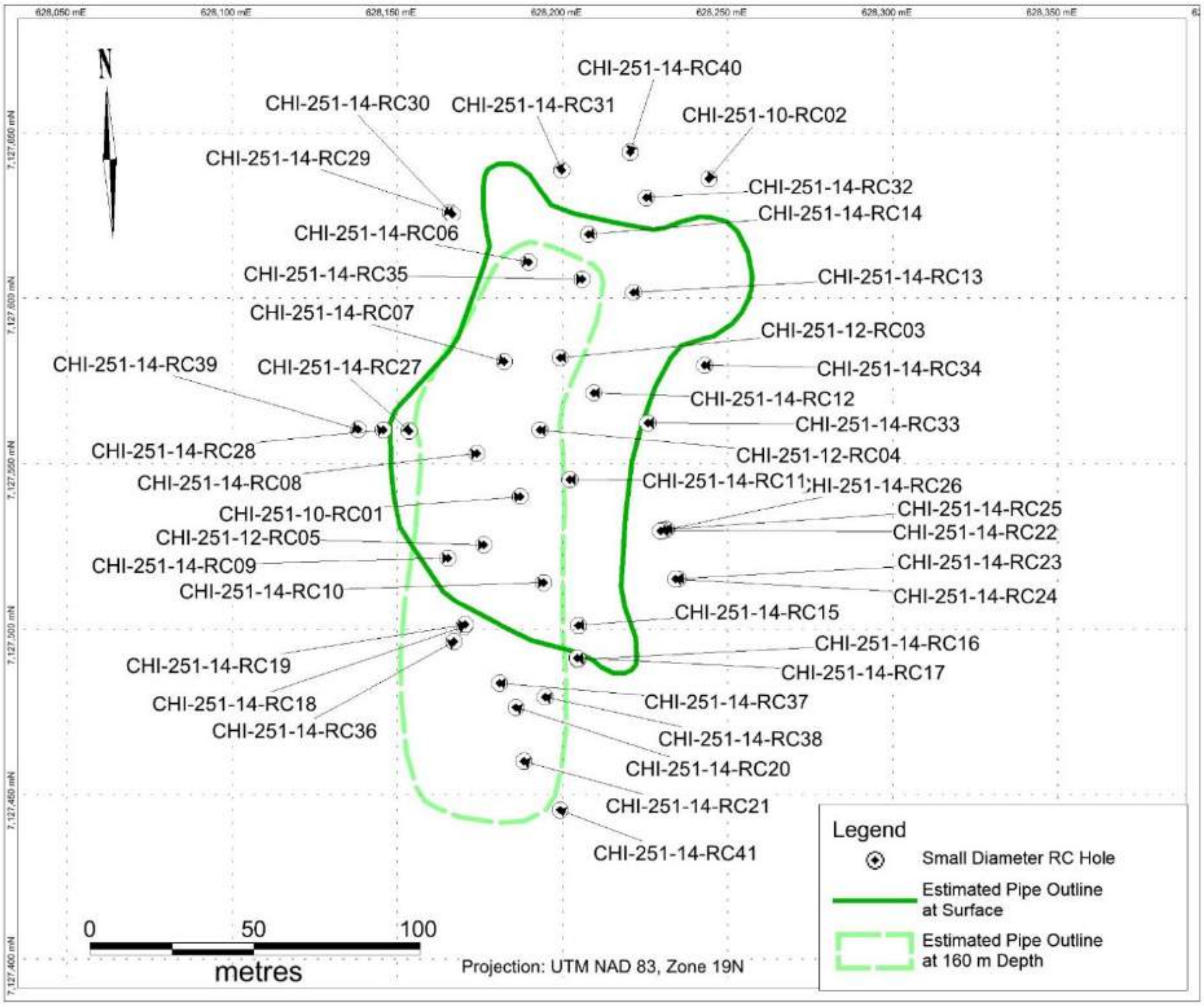
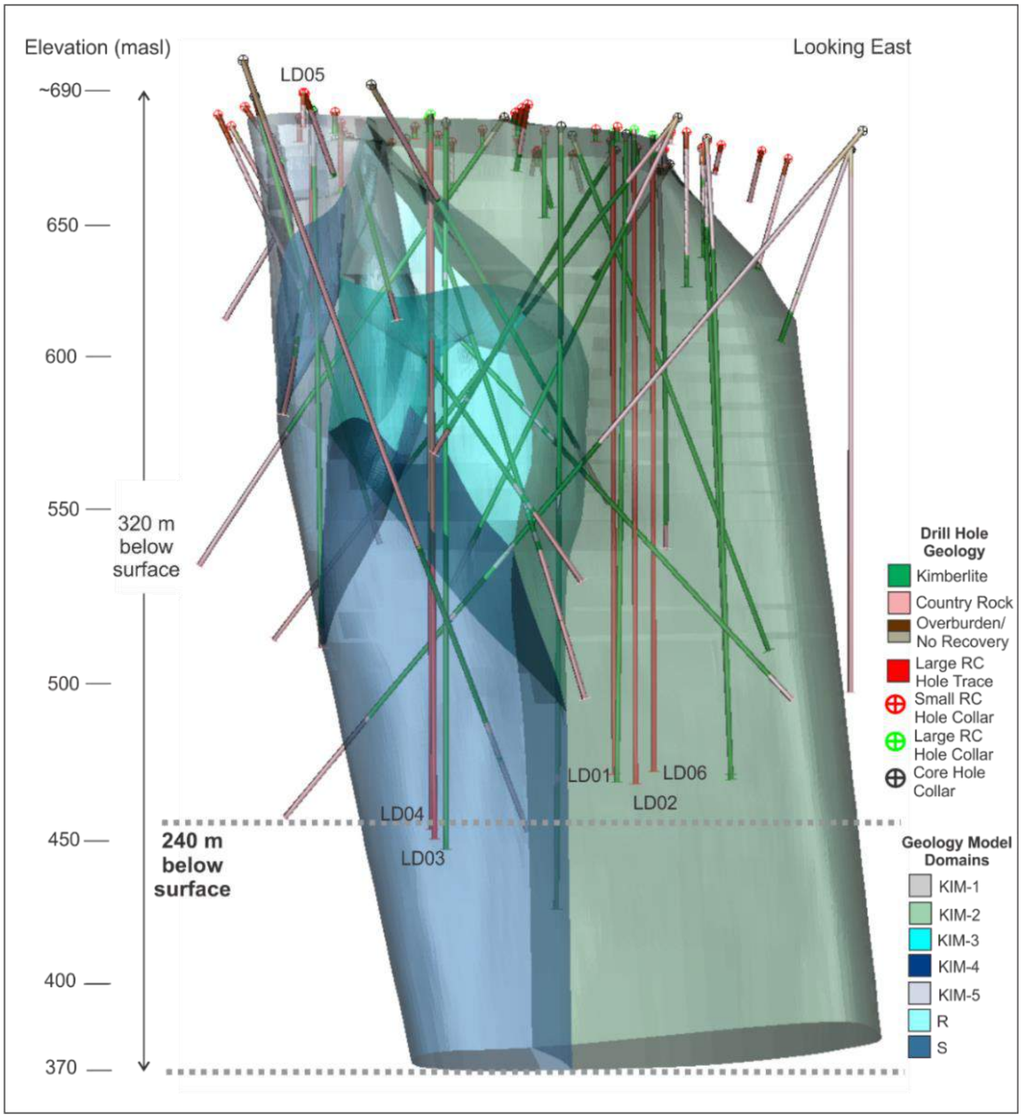


Figure 10-9: 3-D view of drilling to date at CH-7 with geology model.



10.4.4 **Sampling of Drill Core at CH-7**

To date, CH-7 drill core has been sampled for microdiamonds (4,908.13 kg), whole rock chemical analysis (477 samples), bulk density analysis (988 samples), representative archival purposes (1,300 samples), petrography (283 samples) and limited early-stage geotechnical analysis (29 samples).

10.4.4.1 *Bulk Density Samples from Drill Core*

Density has been measured on drill core samples of both country rock and kimberlite at CH-7 since the initial drilling in 2010. A total of 990 useable dry bulk density measurements have been collected at CH-7, the majority of which were made in the field by Peregrine. A summary of the number of useable bulk density samples by methodology is provided in Table 10-15.

Table 10-15: Summary of dry bulk density measurements at CH-7.

Kimberlite	Analysis Method	No. Samples
CH-7	Air Dried - Displacement	948
	Oven Dried - Displacement	10
	Oven Dried - Waxed - Displacement	32

10.4.4.2 *Whole rock chemistry samples*

The Peregrine whole rock chemistry dataset for CH-7 comprises 442 samples of kimberlite from 25 core holes, eight small-diameter RC holes and surface (Table 10-16). The database also includes analyses of mantle xenoliths and various country-rock types that occur in the project area.

Table 10-16: Summary of whole rock chemistry samples.

Kimberlite	Sample Type				
	Kimberlite	Mantle Xenoliths	Paleozoic Clasts	Country Rock	Other (Till, Mixed)
CH-7	442	13	1	19	2

10.4.4.3 *Microdiamond Samples*

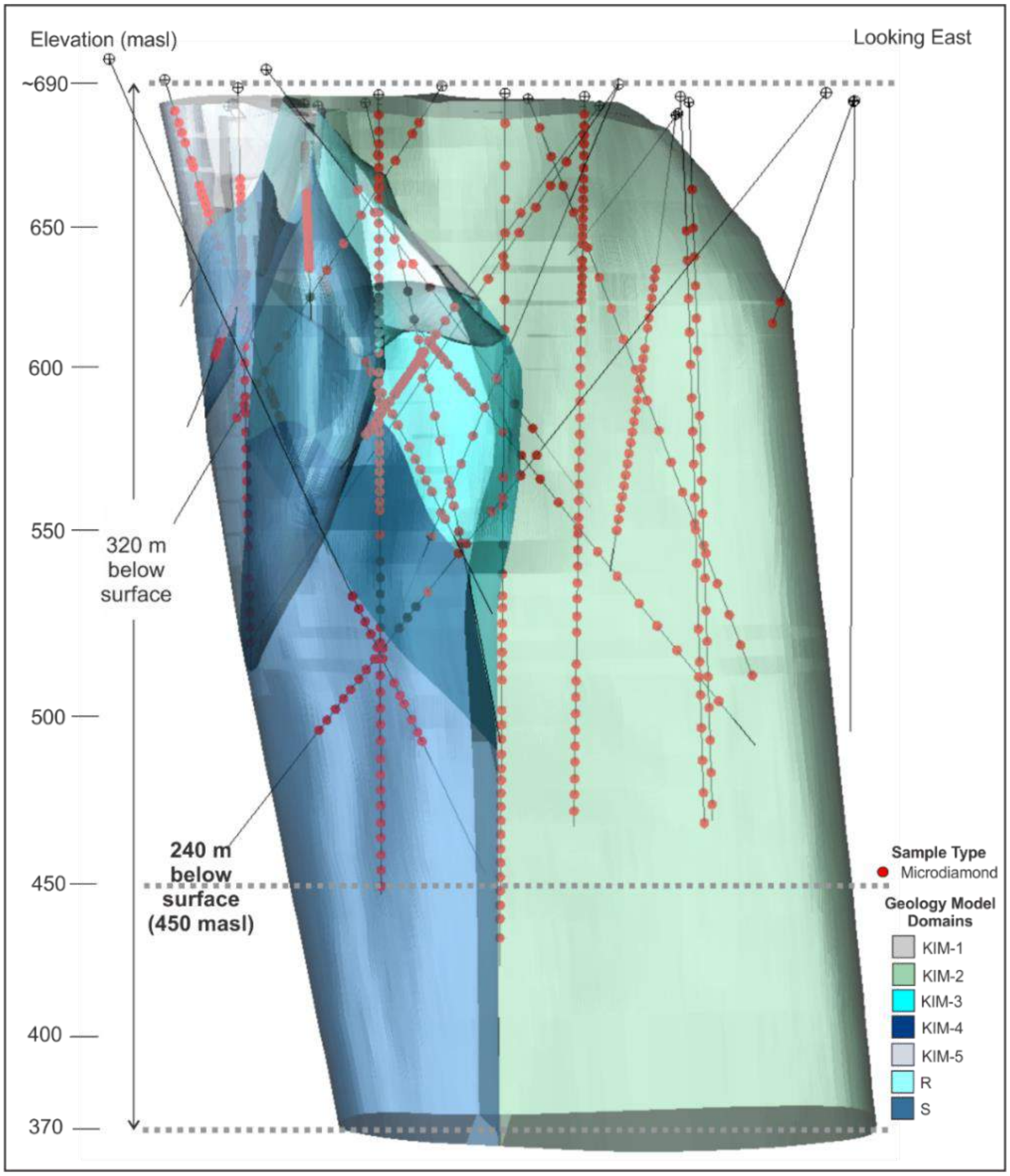
Results for samples collected from drill core and processed by caustic fusion for diamonds at a +0.106 mm bottom cut off are presented in Table 10-17. The nature of these results and implications for resource estimation are discussed in Section 1. The distribution of samples with microdiamond results from CH-7 is illustrated in Figure 10-10.

Table 10-17: Summary of microdiamond results from core samples from CH-7.

Kimberlite & Domain		CH-7 KIM-1	CH-7 KIM-2	CH-7 KIM-3	CH-7 KIM-4	CH-7 KIM-5	CH-7 R	CH-7 S	CH-7 OTHER*
Sample Weight (kg)		254.50	1,832.88	786.04	375.91	539.17	455.75	525.44	199.35
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.106 mm	132	787	550	173	827	291	352	226
	+0.150 mm	104	566	359	138	557	202	292	166
	+0.212 mm	72	389	173	84	349	123	185	123
	+0.300 mm	28	241	130	48	257	79	101	60
	+0.425 mm	22	133	54	38	119	34	49	11
	+0.600 mm	15	73	35	16	56	24	38	19
	+0.850 mm	7	26	17	6	39	5	23	18
	+1.180 mm	2	11	3	3	19	5	11	2
	+1.700 mm	1	3	1	1	4	0	2	0
	+2.360 mm	1	5	3	0	2	0	3	0
	+3.350 mm	0	0	0	0	1	1	0	0
Total Number of Diamonds		384	2234	1,325	507	2,230	764	1,056	625
Carats >0.850 mm		0.30	2.42	1.10	0.30	2.17	1.07	1.32	0.26
Carats >1.180 mm		0.21	2.13	0.90	0.24	1.74	1.02	1.04	0.09

*Includes microdiamond samples comprised of mixed geologic domains

Figure 10-10: Distribution of microdiamond sample results for CH-7.



10.4.4.4 *Commercial-sized Diamond Samples by Large-diameter RC Drilling*

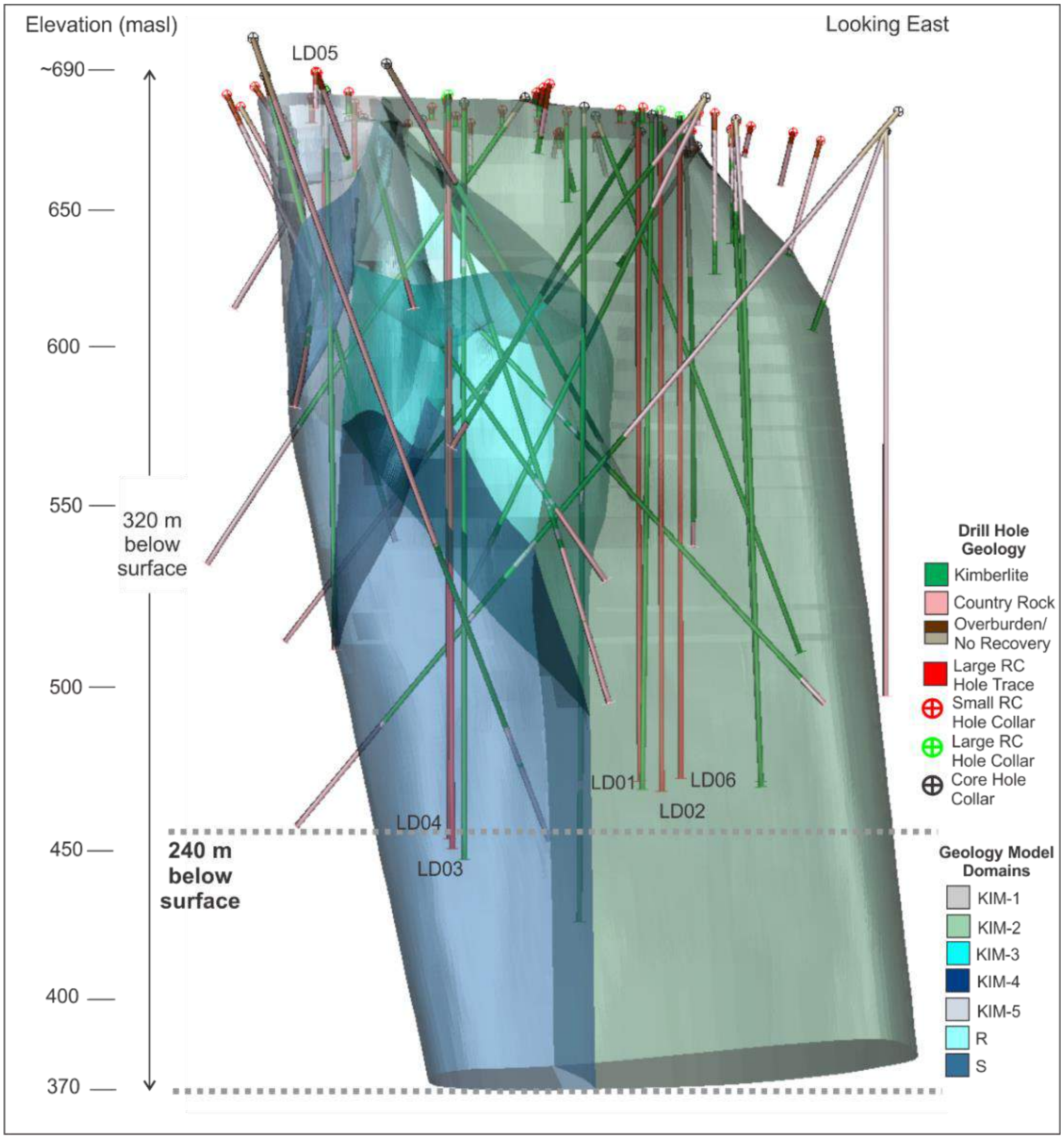
A total of 809.50 t (dry) of kimberlite was sampled in six LDD holes from CH-7 during the 2015 bulk sample program, with 717.65 cts of commercial-size (+1.18 mm) diamonds recovered, for an average sample grade of 0.89 cpt (Table 10-18). The sample tonnage has been revised to 809.5 t (dry) from the 814 t (dry) reported in the Peregrine news release of January 12th, 2016, as a result of density models constrained by Mineral Services for various geological domains at CH-

7 (see Tables 14-15 and 14-16 of Nowicki et al., 2016). Refer to Figure 10-11 for a depiction of the LDD hole locations in CH-7.

Table 10-18: Results of the 2015 CH-7 Bulk sample.

Domain		KIM-2	KIM-3	KIM-4	KIM-5	R	**TOTAL**
Sample Weight (dry tonnes)		476.50	83.10	144.30	45.70	59.90	809.50
Number of Diamonds per Sieve Size (mm square mesh sieve)	+1.180 mm	2200	455	1098	389	286	4428
	+1.700 mm	953	211	473	165	137	1939
	+2.360 mm	393	71	166	62	59	751
	+3.350 mm	118	14	31	12	31	206
	+4.750 mm	13	5	6	5	3	32
	+6.700 mm	3	0	2	0	1	6
Total Number of Diamonds		3680	756	1776	633	517	7362
Carats >1.180 mm		363.66	68.14	157.93	60.08	67.84	717.65
Carats / tonne >1.180 mm		0.76	0.82	1.09	1.31	1.13	0.89

Figure 10-11: Large-diameter drill holes in CH-7 for 2015 bulk sample program



10.4.5 **Drilling at CH-44**

A total of 2,875 m (18 holes) of core drilling and 348.21 m (31 holes) of small-diameter RC drilling has been completed in the CH-44 kimberlite (Figure 10-12), all of which were used to create the 3-D model (Figure 10-13) which supports the volume and tonnage range TFFE estimates provided for CH-44, as discussed in Section 14.6. All core drilling was completed for the purpose of delineation and sampling (Table 10-19). Of the small-diameter RC drill holes completed, one hole (35.05 m) was a discovery hole and the other 30 holes (313.16 m) were completed for the purpose of defining the depth of overburden (Table 10-20).

Table 10-19: Summary of core drilling at CH-44.

Kimberlite	Purpose	Year	# Holes	Length (m)	Diameter (mm)
CH-44	Delineation	2011	8	1123.00	NQ
	Delineation	2012	4	758.50	NQ
	Delineation	2014	6	993.50	NQ
				2875.00	

Table 10-20: Summary of small-diameter RC drilling at CH-44.

Purpose	Year	# Holes	Length (m)
Discovery	2010	1	35.05
Overburden Depth Determination	2014	30	313.16
			348.21

Figure 10-12: Plan view of drilling to date at CH-44.

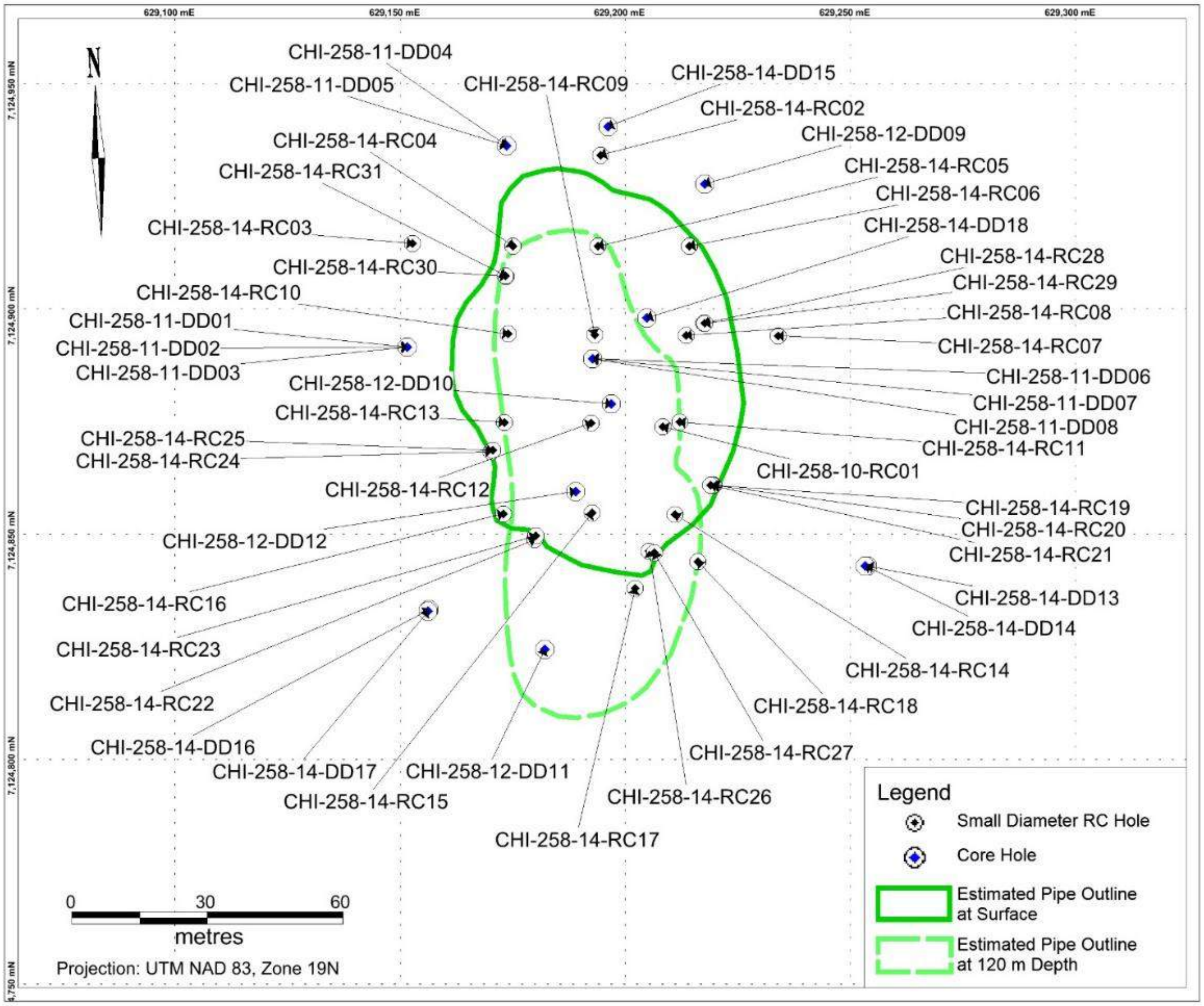
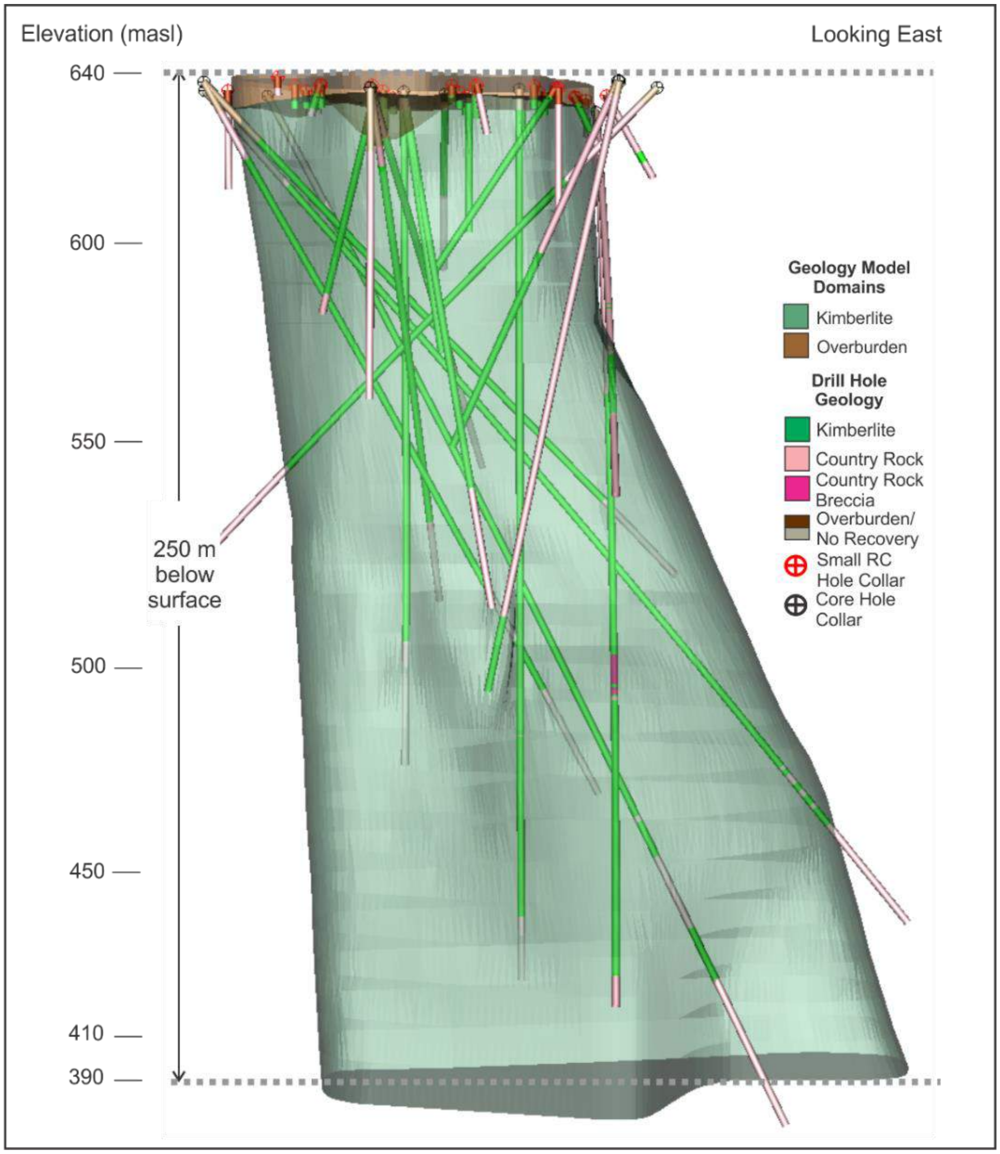


Figure 10-13: 3-D view of drilling to date at CH-44 with geology model.



10.4.6 **Summary of Sampling at CH-44**

To date, CH-44 drill core has been sampled for microdiamonds (1,446.63 kg), whole rock chemical analysis (88 samples), bulk density analysis (667 samples), representative archival purposes (267 samples), and petrography (38 samples).

10.4.6.1 *Bulk Density Samples from Drill Core*

Density has been measured on drill core samples of both country rock and kimberlite at CH-44 since the initial drilling in 2011. A total of 667 useable dry bulk density measurements have been collected at CH-44, the majority of which were made in the field by Peregrine. Sample information is summarized in Table 10-21.

Table 10-21: Summary of dry bulk density measurements at CH-44.

Kimberlite	Analysis Method	No. Samples
CH-44	Air Dried - Displacement	665
	Oven Dried - Displacement	2
	Oven Dried - Waxed - Displacement	0

10.4.6.2 *Whole rock chemistry samples*

The Peregrine whole rock chemistry dataset for CH-44 comprises 61 kimberlite samples from 18 core holes (Table 10-22). The database also includes analyses of mantle xenoliths and various country-rock types that occur in the project area.

Table 10-22: Summary of whole rock chemistry samples.

Kimberlite	Sample Type				
	Kimberlite	Mantle Xenoliths	Paleozoic Clasts	Country Rock	Other (Till, Mixed)
CH-44	61	11	0	15	1

10.4.6.3 *Microdiamond Samples*

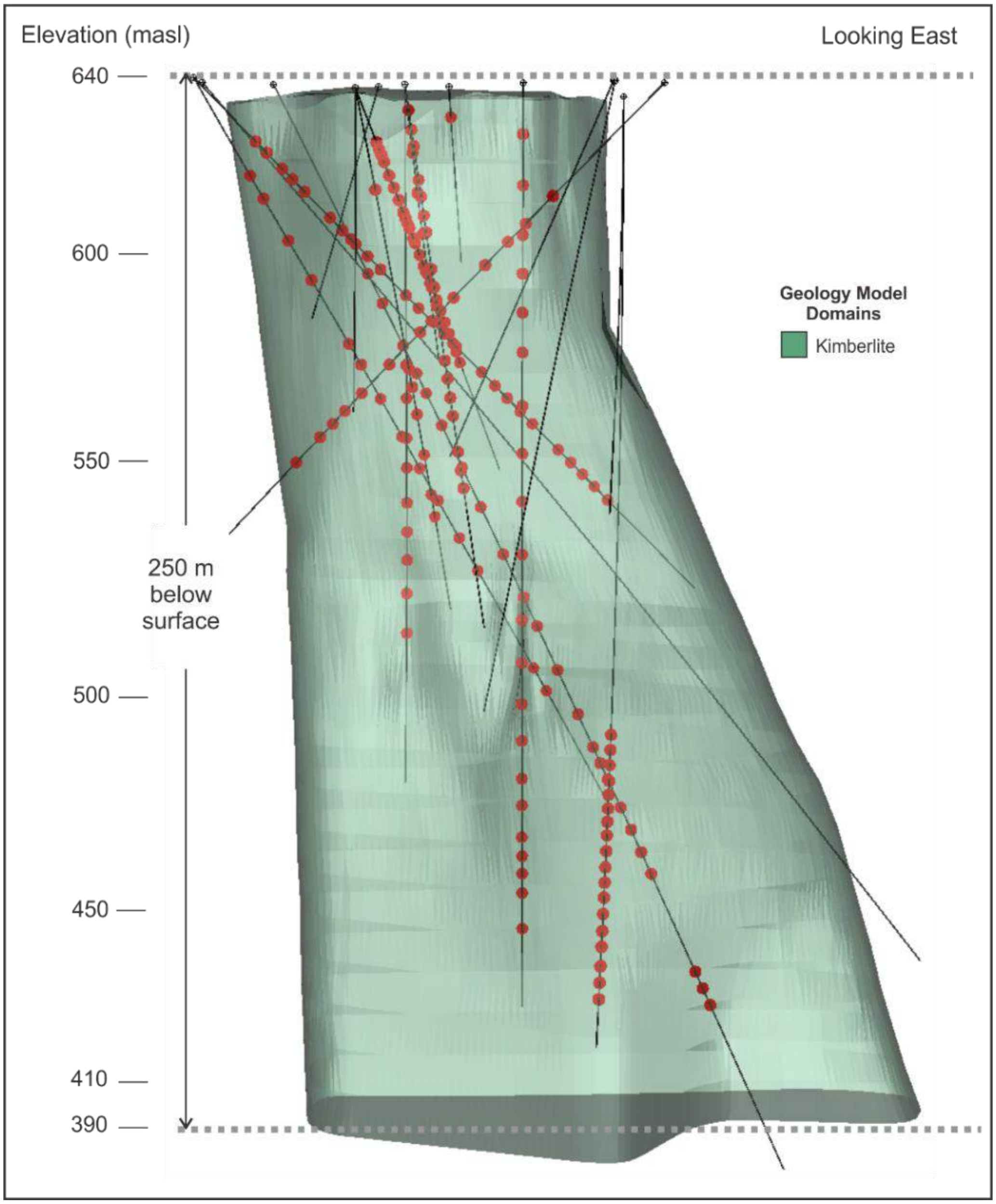
Results from samples collected from drill core and processed by caustic fusion for diamonds at a +0.106 mm bottom cut off are presented in Table 10-23. The nature of these results and implications for resource estimation are discussed in Section 1. The distribution of samples with microdiamond results from CH-44 are illustrated in Figure 10-14.

Table 10-23: Summary of microdiamond results from core samples from CH-44.

Kimberlite & Domain		CH-44 KIM-1	CH-44 KIM-2	CH-44 OTHER**
Sample Weight (kg)		1,233.15	130.42	90.54
Number of Diamonds per Sieve Size (mm square mesh sieve)	+0.106 mm	882	58	121
	+0.150 mm	522	36	70
	+0.212 mm	392	26	46
	+0.300 mm	226	13	20
	+0.425 mm	129	11	11
	+0.600 mm	58	4	7
	+0.850 mm	24	3	3
	+1.180 mm	9	0	2
	+1.700 mm	2	0	1
	+2.360 mm	0	0	0
	+3.350 mm	0	0	0
Total Number of Diamonds		2,244	151	281
Carats >0.850 mm		0.68	0.03	0.18
Carats >1.180 mm		0.46	0.00	0.15

**Includes microdiamond samples comprised of undefined geologic domains

Figure 10-14: Distribution of microdiamond sample results for CH-44.



11 Sample Preparation, Analyses and Security

11.1 Bulk Density Samples

The majority of density measurements made on Chidliak core were made by Peregrine in the field following the analysis methods of Lipton (2001). Competent, non-porous 10-15 cm pieces of geologically representative core were selected, their location downhole measured, the density determined and the piece returned to the core box (unless it was sent to a laboratory for testing due to reduced core competency or duplicate core analysis for QA/QC purposes). Density was measured by weighing the sample in air and weighing it again while suspended in water. Bulk density is calculated as:

$$\text{Bulk (wet) density} = [m_{air}/(m_{air}-m_{in\ H2O})]$$

where m_{air} is the sample mass measured on the scale and $m_{in\ H2O}$ is the sample mass measured in water (Lipton, 2001). Chidliak drill core can typically be considered “air-dried” by the time density measurements are recorded within the logging facility, and the data collected are accordingly assumed representative of dry bulk densities. This assumption was confirmed as valid based on results for samples sent for duplicate density assay, and by minimal moisture-content results obtained independently during assay of microdiamond samples.

Density measurements were primarily carried out under the supervision of Chief Geoscientist, Dr. Jennifer Pell.

Core samples that are porous/altered and samples selected for duplicate density analysis (approximately 7% of Peregrine samples) are labelled, packaged and sent to a laboratory. In 2011, these were sent to the SRC, an ISO 9001:2008 certified laboratory for quality assurance. From 2012 onwards, samples were sent to Bureau Veritas of Vancouver, B.C, an ISO 9001:2015 certified laboratory. Specific gravity is measured for these samples using a similar immersion method, except samples are first oven dried at 105 °C to remove all moisture and then allowed to cool. Porous/less-competent samples are wax-coated prior to measurement in order to maintain sample porosity and competency during suspension in water. Samples are weighed in air and then submerged in a container of water, the masses recorded and then specific gravity is calculated taking into consideration the temperature of the water at the time of measurement in order to determine density. The detection limit is 0.01 g/cm^3. Both specific gravity and density were reported by Bureau Veritas.

Due to the nature of the core (non-porous) and the excellent correlation with laboratory measurements, Peregrine densities are utilized as bulk dry densities. All material remaining after analysis was returned to Peregrine and is currently stored in a secure storage facility.

11.2 Whole Rock Chemistry Samples

Whole rock chemistry sample preparation prior to shipping consisted of bagging the rock and labelling the bag with a unique number. Samples were packaged in 25 litre pails for shipment to Bureau Veritas in Vancouver, British Columbia.

Sample preparation at Bureau Veritas involved drying and pulverizing the rock to a homogeneous powder from which a 250 g sub-sample is split, which is representative of the original sample. The prepared sample was mixed with a $LiBO_2/Li_2B_4O_7$ flux and fused in a furnace with the cooled bead then dissolved in nitric acid. An induction flux was also added to the prepared sample in order to analyse for total carbon and sulphur via an induction furnace.

Samples were analyzed by inductively-coupled plasma-mass spectrometer (ICP-MS) for major elements, select trace elements and rare earth elements. An additional 14 elements (Au and volatiles) were analyzed using an aqua regia digestion, in which the prepared sample was digested with a modified aqua regia solution of equal parts concentrated HCl, HNO_3 and distilled and deionized H_2O for one hour in a heating block or hot water bath. HCl was added to attain the required sample volume and sample splits of 0.5 g were analyzed.

Blanks (analytical and method), duplicates and standard reference materials were inserted into sample sequences by Bureau Veritas during analyses to provide a measure of background noise, accuracy and precision as part of their internal QA/QC protocols.

All material remaining after analysis was returned to Peregrine and is stored in a secure storage facility.

11.3 Petrographic Samples

Petrography sample processing was carried out at Vancouver Petrographics Ltd. and were processed using a “dry” kimberlite petrographic sample preparation method, which produces a polished petrographic slab preserved with epoxy and two thin sections (standard and wedged) for each sample for examination under binocular and petrographic microscopes.

Remaining core and prepared slab samples were returned to Peregrine and are stored in a secure storage facility. Thin sections are stored in the Peregrine office.

In excess of 400 petrographic samples have been collected and analyzed from CH-6 and CH-7, and are spatially well distributed and representative of all geological domains (refer to Section 7.3).

11.4 Large-diameter Drilling Samples

Doubled-up ore bulk bags filled during the 2015 LDD RC campaign were sealed with uniquely numbered, tamper-proof security seals under closed-captioned television coverage in the sample collection area at the LDD rig. Relevant records captured in a spreadsheet at the rig by the drill geologist include the drill hole, bag number, weight, depth interval, drilling method, bit type, tracer information, security tag number, date, time and shift geologist identity.

All 653 bags were transported overland on camp winter trails from the CH-7 site to either the airstrip at Discovery camp or the ice airstrip at Sunrise Lake, in order to be transported to Iqaluit. Bag transport from the field was completed primarily via 767 or DC-3T, with a few bags also transported by helicopter. Once received in Iqaluit, bags were immediately loaded into uniquely numbered sea containers at the Iqaluit airport, locked, sealed with a uniquely numbered security tag and then transported to the beach in order to await the summer sealift. Sea containers were placed end-to-end in order to limit access while on the beach. A total of 62 sea containers were filled and shipped to Montreal via two sealifts in August 2015. A Peregrine representative received the containers in Montreal, verified seals and checked the condition of bags before loading them onto 16 trailers for shipping to the SRC in Saskatoon. Once the trailers were full, they were sealed with uniquely numbered security seals.

Throughout the bulk sample program QA/QC protocols were implemented to ensure the integrity of the sample. Procedures at site during sample collection and shipment included:

- Screen inspections and fines tests once per shift;
- Insertion of natural diamonds tracers during sampling in order to monitor DMS processing (discussed further in Section 11.6.7);
- Closed circuit television recorded all activities while the drill was operational;
- Access restrictions to the sampling area of the rig;
- Sealing of full sample bags with uniquely numbered locking cable ties;
- Data verification on site; and
- Chain of custody documentation maintained as sample bags were transferred off site.

The granulometry and production rates observed using the tungsten carbide insert bits was considered excellent. Granulometry was tracked in order to maintain the production of acceptable drilling product. The data for the coarse drill cuttings showed a relatively coarse sample with little evidence of grinding to fines and good proportions of kimberlite fragments greater than 6 mm to 12 mm.

As part of the QA/QC protocol employed by DGI Geosciences for caliper measurements, DGI has established a baseline for all probes and parameters at the Geological Survey of Canada Ottawa Calibration facility, and have developed a calibration data set to create field calibration procedures that supplement manufacturer recommendations. Additionally, they have developed their own calibration drill hole to expand on the quality and breadth of calibration procedures. Each probe has unique measures in place that include:

- On site calibrations to correct for regional variance and/or borehole size
- Bench tests conducted in the field to ensure probes meet baseline values
- Calibration checks, recorded before and after each survey if applicable

11.5 Microdiamond Recovery by Caustic Fusion

11.5.1 Sample preparation and analyses

All microdiamond samples have been processed at the SRC Diamond Recovery Laboratory. The SRC laboratory management system operates in accordance with ISO/IEC 17025:2005 (CAN-P-4E), General Requirements for the Competence of Mineral Testing and Calibration laboratories, and is accredited for microdiamond recovery by the Standards Council of Canada under ISO/IEC 17025:2005.

The standard method for processing samples to recover diamonds +0.106 mm by caustic fusion involves:

- Drying and weighing samples, followed by crushing with a 0.50 in gap;
- Adding tracers and fusing the 8 kg aliquots in kilns with NaOH by heating the kilns to 550 °C for 40 hours;
- Screening the hot, liquid NaOH-sample mixture over a +0.075 mm or +0.106 mm square-mesh screen under mild negative-pressure conditions
- Soaking the screened product in water to remove any remaining caustic and trapped material;
- Water is again poured through the +0.106 mm screen and retained residue is rinsed and treated with acid to dissolve soluble materials;
- Additional tracers (+0.106 mm size) are added;
- The sample is transferred to a zirconium crucible and fused again with NaOH to remove any remaining minerals other than diamond from the sample;
- Remaining residue is wet-screened into microdiamond size classes and sized material stored in plastic vials containing methanol;
- Trained observers use microscopes to recover and document the natural diamonds and tracers from each size class. From 2010 onwards, Peregrine has chosen not to have the -0.106 mm fraction observed.

For the 2010 CH-6 mini-bulk sample, caustic fusion analysis used the same procedures; however, the processing used a bottom cut-off screen size of 0.425 mm. A flow chart of the SRC microdiamond process is depicted in Appendix 2, Figure 1.

11.5.2 Sample Security and Chain of Custody

The sample processing facility at the SRC is a locked facility under 24 hour video surveillance operated and managed by in-house security personnel. In addition, the Diamond Observation Laboratory is also monitored, in part by an outside security agency.

All sample transport was carried out with containers that were locked and secured with uniquely numbered seals. Chain of custody documentation is maintained from the time of sample collection to receipt by the laboratory. Additional chain of custody documentation is employed for receipt of diamonds and residues by Peregrine from the SRC.

11.5.3 Quality Assurance / Quality Control

The SRC monitors the quality of the caustic fusion method by assessing the recoveries of synthetic diamonds added to the sample during the caustic fusion and chemical treatment processes. The method allows for 95% confidence of recoveries of 80% or better. Samples are spiked with up to two sets of synthetic diamonds and results show 22,795 of the 23,005 spikes placed in CH-6, CH-7 and CH-44 samples between 2009 and 2017 were recovered, for a recovery rate of 99.1%.

The method for observing and picking diamonds is based on Canadian Institute of Mining and Metallurgy (CIM) guidelines for reporting diamond results and on documented in-house procedures that ensure that all diamonds have been recovered. The weighing of stones is performed using Ultra Micro Analytical balances, which have scheduled external ISO/IEC 1725:2005 calibrations and daily calibration checks to assure reproducibility to within 0.2 x 10^{-6} gram.

Once diamond recovery is complete, diamonds and remaining residues are returned to Peregrine using a secure transportation provider and all material is stored securely.

11.6 Commercial-size Diamond Processing and Recovery

Commercial-size diamond processing has been completed primarily at the SRC, with the exception of the majority of the 2013 CH-6 bulk sample that was processed at the De Beers DMS facility in Sudbury, Ontario. This facility is a privately owned and operated DMS processing plant and operates under strict internal safety and QA/QC protocols in order to achieve reliable results.

11.6.1 CH-7 LDD Bulk Sample

The CH-7 bulk sample was processed at the SRC using their 5 tph DMS plant in late summer 2015. At the time, the SRC was ISO 17025:2005 accredited for caustic fusion processing but was not accredited for DMS processing and recovery for commercial-size diamonds. However, the

SRC and Peregrine both employed QA/QC protocols for diamond processing and recovery and the entire process was under the supervision of QP Howard Coopersmith. The only sample preparation that occurred prior to processing was the screening of the RC chips during sampling in the field to +1.13 mm prior to collection in sample bags and the addition of natural diamond tracers to the sample which is detailed in Section 11.6.7.

Upon arrival at the SRC sample bags were off-loaded, inspected, weighed, reconciled with the extant chain of custody documents and stored in a secure yard. All bags received were in good condition and not in need of repair and all inner bag seals were intact, showed no signs of tampering and matched the shipping manifesto provided by Peregrine (McCubbing and Coopersmith, 2016). Bags were composited together in a pre-determined fashion (refer to Section 10.3.3.2) to produce separate processing units reflecting geologically relevant intervals.

The bulk sample was processed continuously over two-week periods, one process unit at a time with plant flush cleaning (“soft cleans”) completed between processing units and thorough, invasive plant cleans (“hard cleans”) between geological units. Bags were transferred to the DMS plant building from the secure storage yard using a 6 t forklift and remained sealed until just prior to processing. Bags were weighed, seals recorded and removed, and the bag material was then either loaded into the hopper (if dry) or washed and fed into the scrubber (if wet) to go directly into the plant. The scrubber was 3 m long with a diameter of 1.2 m and rotated constantly at 15 rpm. The material was split on a 12.5 mm punch plate trommel screen with the undersize material dropping to a sump for pumping directly to the feed preparation screen. The +12.5 mm material was fed through a two stage crusher (10 mm gap), and then back to the scrubber (McCubbing and Coopersmith, 2016).

Sized material (+0.85 mm to -12.5 mm) from the scrubber was fed onto a 2440 mm x 915 mm vibrating feed preparation screen that was fitted with 1.0 mm by 17 mm slotted aperture poly screen panels. The sample is then gravity fed into the mixing box and mixed with ferrosilicon, with the mixed dense-media product fed to the 150 mm cyclone. A minimum cut point of 3.00 g/cm^3 was deemed acceptable for the sample treatment based on plant testing, and a cut point of between 3.10 g/cm^3 and 3.20 g/cm^3 was maintained throughout sample treatment. The mixed product is then discharged over 0.6 mm wedge-wire screens with the sinks gravity fed to a can inside a sealed and double-locked rotating cage capable of holding 4 x 20 L securable plastic pails within a double locked glove cage. The float product is gravity fed to a 1,830 mm x 610 mm dewatering screen fitted with a 12 mm x 305 mm poly panel with 6.7 mm square aperture screens. The +6.7 mm float material drops into a feed bin for re-crushing via high pressure grinding rolls (HPGR) with a setting of 4 mm at 55 bar. The -6.7 mm material was collected into a marked double-walled 2 t ore bag for tailings collection, and once filled, was sealed with a uniquely numbered cable seal, weighed and transferred to the secure storage compound (McCubbing and Coopersmith, 2016). A flow chart of the SRC DMS process is depicted in Appendix 2, Figure 2.

Once a concentrate pail was full it was closed and secured with a uniquely numbered security seal internal to the cage via a gloved opening. Pails were then moved from the cage, weighed, numbered and moved to the secure concentrate storage area (McCubbing and Coopersmith, 2016) until sorting was to begin. Concentrates were treated through the recovery circuit as described in Section 11.6.5.

The CH-7 material generally treated well with good material flow, scrubbing and crushing and liberation appeared to be excellent (McCubbing and Coopersmith, 2016). Large amounts of clay in certain portions of the sample caused minor processing issues, which, in a production scenario, would be easily addressed by ore blending, sufficient scrubbing and design of slimes handling (Coopersmith, 2016). Sample granulometry showed that the sample treated very well with minimal diamond breakage and quite high diamond liberation. Processing produced 17,201 kg of concentrate, with high DMS yields, often averaging 4% and consisting of large amounts of olivine. Samples from KIM-5 had anomalously high yield of over 10% at times (McCubbing and Coopersmith, 2016). Grease collection for the heavily clay-altered KIM-5 material was hindered due to hydrophilic surfaces on the diamonds in this material. These diamonds were recovered well by the X-ray with only the smallest diamonds (from X-ray tailings) being repelled by grease (Coopersmith, 2016). An extensive audit of the tailings resulted in complete recovery of these refractory diamonds (McCubbing and Coopersmith, 2016).

Coopersmith (2016) noted that the SRC DMS plant operations proceeded normally and the plant was fairly consistent in maintaining a set density and producing quality concentrate with minimal loss of heavy materials. The diamond recovery efficiency appeared to be very high with nominal loss in the small size fraction. Recovery of diamond from the X-ray tails on the grease table may be low, indicating a refractory diamond issue from the surficial weathered kimberlite.

The SRC has QA/QC procedures in place for diamond processing and recovery (refer to Section 11.6.7). Almost the entire process was observed by QP Howard Coopersmith. There were no noted issues with processing, recovery, sorting and reporting (Coopersmith, 2016).

11.6.2 CH-6 Bulk Sample – 2013

Of the 404.31 t (dry) of kimberlite collected for the CH-6 bulk sample, 8.41 t were processed as a test sample at the SRC using their 5 tph DMS (Coopersmith, 2013). The majority of the sample, 395.9 t, was processed at the De Beers 5 tph DMS facility. At the time, the SRC was ISO 17025 accredited for caustic fusion processing but was not accredited for DMS processing and recovery of commercial-size diamonds. The De Beers facility is privately run and is also not accredited, however, both facilities and Peregrine employed strict QA/QC protocols for diamond processing and recovery. Both facilities are run professionally and the majority of the processing and recovery was under the supervision of Independent QP Howard Coopersmith. No sample preparation occurred prior to processing.

The purpose of the 8.41 t test sample, completed at the SRC in July, 2013, was to determine how well the kimberlite would process in light of its altered nature. The primary goals of the test were to:

- Determine how the trench material fed out of the bulk bags;
- Determine whether primary crushing would be required;
- Ascertain best practices for secondary crushing and re-crushing;
- Observe material liberation characteristics;
- Estimate clay content and optimize handling of clay-rich feed;
- Estimate optimum plant throughputs;
- Obtain moisture contents;
- Estimate heavy mineral concentrate yield; and
- Design sample treatment protocols for the remaining material to be treated at the De Beers treatment facility.

Upon arrival at the SRC, all bags' conditions and security seals were checked, and bags were weighed. Primary crushing was not required due to the weathered nature of the kimberlite. Material from individual bags was fed into the DMS and subjected to scrubbing and secondary crushing. Any large gneissic pieces were removed by hand by SRC staff and inspected by QP Howard Coopersmith as the sample was fed into the plant. Plant configuration was the same as in 2010 with the exception of having only a single trommel and a single larger cone crusher (10 mm gap) for secondary crushing (Coopersmith, 2013). The final heavy mineral concentrate was treated through the SRC diamond recovery circuit.

The remaining 395.9 t of the sample was treated at the De Beers facility during September through November 2013 using a process identical to that of the SRC (Thomson, 2013). The sample was separated into six processing units and processed one at a time. A primary crushing stage was not required, therefore bags were emptied directly into the scrubber and was then split on a 14 mm woven wire trommel screen with the undersize material dropping to a sump for pumping directly to a feed preparation screen fitted with polyurethane panels with 1.0 mm square aperture openings. The +14.0 mm material dropped through a 4 in x 6 in jaw crusher set at 12 mm with the crushed oversized material recycled back to the scrubber. Oversized country rock was removed by hand from the process at the scrubber feed under the supervision of QP Howard Coopersmith. The material is gravity fed into a ferrosilicon mixing box with the resulting dense-media slurry fed into the 200 mm cyclone. The resulting floats were screened and the -7.1+1.0 mm washed product was discharged into bulk bags for weighing and storage (available for future audits if necessary) while the +7.1 mm oversize was re-crushed via 9 by 12 foot double roll crusher set at 5 mm. The sinks (i.e. DMS concentrate) were washed and screened to +1.0 mm, with the +1.0-12.5 mm fraction being gravity fed to 20 L concentrate pails, located within a secure cage (Thomson, 2013). A flow chart of the De Beers DMS process is depicted in Appendix 2, Figure 3. As part of routine sample monitoring, De Beers staff collected small samples for granulometry and moisture-content analysis; the material was removed and returned to the processing circuit under supervision of QP Howard Coopersmith (Thomson, 2013).

DMS concentrates were collected in secure containers in a locked concentrate cage. When cans were full they were closed with locking can rings and uniquely numbered security sealed in the cage through gloved openings. Concentrate cans were moved to a secure area prior to being shipped via Brinks to the SRC for diamond recovery (Thomson, 2013). Treatment of the concentrate through the recovery circuit at SRC is described in Section 11.6.5.

The CH-6 material treated very well with good material flow, scrubbing and crushing results and good diamond liberation. A total of 1,920.37 kg of DMS concentrate was produced, representing a 0.41% yield (Thomson, 2013). The weathered nature of the material allowed for a high rate of processing as approximately 75% of the sample by weight reported to undersized tails which required extensive slimes handling but was not problematic. The diamond recovery efficiency was very high with nominal loss at the small size fraction. Recovery of diamond from the X-ray tails on the grease table may have been low, indicating a refractory diamond issue similar to that observed in weathered material from CH-7 (Coopersmith, 2016). However, any unrecovered diamonds would likely be small and of low quality, therefore not affecting revenue.

The SRC and De Beers facilities have QA/QC procedures in place for diamond processing and the SRC for recovery. Almost the entire process was observed by QP Howard Coopersmith.

11.6.3 **CH-7 Mini-Bulk Sample – 2010**

The CH-7 KIM-1 mini-bulk sample was processed at the SRC using their 5 tph DMS plant in late summer 2010. At the time, the SRC was ISO 17025:2005 accredited for caustic fusion processing but was not accredited for DMS processing and recovery of commercial-size diamonds. However, the SRC and Peregrine both employed QA/QC protocols for diamond processing and recovery and the entire process was under the supervision of QP Howard Coopersmith. No sample preparation occurred prior to crushing and processing other than the addition of natural diamond tracers as discussed in Section 11.6.7.

Upon arrival at the SRC, all bag security seals were checked, bags were weighed and then the material was fed into the 400 mm x 250 mm jaw crusher (set with a 30 mm gap). Crushed material fell into a new ore bag and once full, was closed and sealed with a uniquely numbered security seal and stored on site securely until it was time for further processing (McCubbing, 2011).

Bags of crushed kimberlite were composited into four processing units simply to mitigate against DMS problems compromising the entire sample. Excess microdiamond material collected but not processed by caustic fusion was crushed and added into the DMS sample. Each processing unit was treated one at a time with plant flushes in between. Material was scrubbed and then split on a 12.5 mm punch plate trommel screen with the undersize material dropping to a sump for pumping directly to a feed preparation screen fitted with 12 mm by 0.85 mm aperture panels. The +12.5 mm material dropped through a two stage crusher (10 mm gap), and was fed back to the scrubber (McCubbing, 2011a).

Sized material (+0.85 mm to -12.50 mm) and scrubbed material was washed and mixed with ferrosilicon, with the mixed dense-media product fed to the 150 mm cyclone. The mixed product is then discharged over 0.6 mm wedge-wire screens with the sinks gravity fed to a can inside a sealed and double-locked cage. The float product is pumped to a tails screen where -6 mm material drops into an ore bag of coarse plant tails, which is sealed, numbered and weighed for storage. The +6 mm float material drops into a feed bin for re-crushing via HPGR with a setting of 4 mm at 65 bar. Re-crushed HPGR product was pumped back to the scrubber for re-processing (McCubbing, 2011a).

DMS concentration was performed on +0.850-12.00 mm feed material and resulting heavy mineral concentrate is fed vial sealed tubes into cans in a locked carousel cage. Once a can is full it is closed and secured with a security seal internal to the cage through gloved opening. Cans are then moved to a secure room prior to diamond recovery (McCubbing, 2011a). The DMS concentrates were treated through the recovery circuit as described in Section 11.6.5.

Coopersmith (2011b) noted that the CH-7 material treated easily with good material flow, scrubbing and crushing results with excellent diamond liberation. Processing produced 928.95 kg of concentrate, representing a 1.85% yield. Although the diamond recovery efficiency appears to be sufficiently high, there was nominal loss at the small size fraction.

The SRC has QA/QC procedures in place for diamond processing and recovery. Almost the entire process was observed by QP Howard Coopersmith. There were no noted issues with processing, recovery, sorting and reporting.

11.6.4 **CH-6 Mini-Bulk Sample – 2010**

The CH-6 mini-bulk sample was processed at the SRC using their 5 tph DMS plant in the fall of 2010 subsequent to the processing of the CH-7 mini-bulk sample. No sample preparation occurred prior to crushing and processing by the SRC and the same process and parameters were used to complete the CH-6 sample processing as was used for CH-7, which is documented in detail in Section 11.6.3.

The DMS concentrates were treated through the recovery circuit (as described in Section 11.6.5) in the same manner as samples from the CH-7 mini-bulk sample. However, processing units 10B-2 and 10B-4 produced minor concentrate volumes, resulting in a straightforward caustic fusion finish immediately prior to final diamond recovery (McCubbing, 2011b).

Coopersmith (2011b) noted that the CH-6 material treated easily with good material flow, scrubbing and crushing results with excellent diamond liberation. Processing produced 127.15 kg of concentrate, representing a 0.87% yield. Although the diamond recovery efficiency appears to be sufficiently high, there was nominal loss at the small size fraction.

The SRC has QA/QC procedures in place for diamond processing and recovery. Almost the entire process was observed by QP Howard Coopersmith. There were no noted issues with processing, recovery, sorting and reporting.

In addition to the material processed by DMS, a 157.80 kg sample of carbonate breccia collected from within KIM-L was processed by caustic fusion to determine the diamond content of mantle xenoliths that occur within the carbonate breccia. No commercial sized diamonds were recovered from this material although the 157.8 kg sample weight was combined into the total weight of the 10B-2 process unit.

11.6.5 **Diamond Recovery at SRC**

For all commercial-size diamond testing programs, DMS concentrate was processed at the SRC for diamond recovery using an X-ray and grease table recovery circuit. This system consists of a feed hopper, sizing screens, dewatering process, twin stage X-ray unit, secured concentrate unit, grease table and tailings capture bins. Once sealed pails of DMS concentrate are received at the SRC diamond recovery section and the seals verified, seals and lids are removed and the concentrate material is loaded into the primary feed hopper. From there it is wet-screened into the following size classes:

- In 2010, sizing was +0.85 mm, +3.0 mm, +6.0 mm and -0.85 mm square-mesh size (McCubbing, 2011a and 2011b);
- In 2013, sizing was +0.75 mm, +2.0 mm, +4.0 mm, +6.0 mm and -12.5 mm square-mesh size (McCubbing, 2014); and
- In 2015, sizing was +0.50 mm, +2.0 mm, +4.0 mm, +6.0 mm and -12.5 mm square-mesh size (McCubbing and Coopersmith 2016).

Gravity fed sized fractions are then de-watered over a vibrating wedge wire screen (+0.85 mm in 2010, +0.67 mm in 2013 and +0.85 mm in 2015), then passed through two “in-series” X-ray fluorescence units, with X-ray luminescence parameters set according to the size of material being treated. Luminescing diamonds are ejected and gravity fed over a wedge-wire dewatering screen to an infrared dryer, then passed into a secure concentrate pail within a glove box cage. All X-ray feed and X-ray unit controls are controlled by the primary operator through use of a control panel located outside the enclosure of the secured process equipment. Any fines that passed through dewatering screens were captured in a -0.5 mm screened sump trap, processed by caustic fusion and reported as part of the batch cleanup. The +6.0 mm X-ray tailings are fed to an oversize collection pail, which was then dried, and hand sorted. The -6.0 mm X-ray tailings are gravity fed to a grease table, where any captured material is hand-scraped from the deck and placed in 200 mm diameter stainless steel +0.85 mm square mesh sieves. The sieves are then placed in a tray over a locked catch pan in an oven at 80°C overnight to melt the grease. The next day, the sieves are removed from the oven and taken to the secure sorting area for a bath with hot water and a degreasing agent for final cleanup. The solids are placed in a petri dish and then securely sealed inside a polyethylene bag that is locked in the secure sorting area to await the final hand sort. The recovery tails from this process are stored for future auditing, if required.

Final hand sorting consisted of secure transfer of X-ray and grease table concentrates to the sorting lab. Due to the large amount of concentrate in 2013, the -2.00 mm X-ray concentrate was subjected to a caustic fusion finish prior to hand sorting in a sealed glove box (McCubbing, 2014). Grease table solids were hand sorted using a binocular bench top microscope. All concentrates were stored in a double locked cage in the secure sorting area until they were sorted.

A flow chart of the SRC X-ray recovery process is depicted in Appendix 2, Figure 4.

For the 2015 CH-7 bulk sample, average yields of 0.15% for the X-ray concentrate, 0.02% for the grease table concentrate and 2.59% for the +6 mm fraction were recovered from the 59 processing units (McCubbing and Coopersmith, 2016). In general, grease table concentration worked well with little mineral matter other than diamond adhering to the grease (McCubbing and Coopersmith, 2016). Unit KIM-5 did not initially show sufficient grease diamond recovery and the grease tails were subject to an audit as detailed in Section 11.6.8.

For the 2013 CH-6 bulk sample, DMS concentrates from both the SRC test and the De Beers plant were processed at the SRC diamond recovery lab (McCubbing, 2014). The recovery of this sample showed good amenability to the recovery technique. Overall, 12% of carats of diamond were recovered by grease, however the grease-recovered stones were small, averaging 0.03 cts in weight (Coopersmith, 2014).

For the 2010 CH-7 mini-bulk sample, the recovery of the sample showed good amenability to the recovery technique, as X-ray ejections and concentrate size were minimal. Overall less than 1% of carats of diamond were recovered by grease, which represents a lower than expected grease recovery (Coopersmith, 2011a).

For the 2010 CH-6 mini-bulk sample, the X-ray ejections and concentrate size were minimal and a good concentration was made. Overall, 18% of carats of diamond were recovered via grease, with most diamonds being small at 0.05 cts in weight. However, one 0.66 ct stone was recovered by this method, showing the importance of this stage in diamond recovery (Coopersmith, 2011b).

11.6.6 **Sample Security and Chain of Custody**

Measures taken to ensure security and validity of commercial-size diamond samples during DMS processing and diamond recovery include:

- Processing facilities are secured sites with controlled access;
- 24 hour security and video surveillance during diamond recovery;

- Fenced and 24 hour video surveillance of outside sample storage areas;
- Security officer present during processing and sorting;
- Dual custody, comprising a security officer and senior operating personnel, is required at all times for handling of sample material or concentrate, and for seals and locks and for access to concentrate areas and high risk processing equipment;
- Restricted personnel access and records maintained of all visitors and personnel present;
- Uniquely numbered padlock seals used on all metal pails, glove boxes and sample containers;
- Security maintained seal register and log of concentrates with logs reconciled upon completion;
- Independent QP or Peregrine QP periodically on site during processing and diamond recovery to monitor the process;
- Concentrate and diamond handling performed inside locked and sealed glove boxes;
- Concentrate fractions undergo detailed weight reconciliations;
- Weights of concentrate reconciled pre- and post-sorting and must be within 2%;
- Uniquely numbered seals utilized on concentrate containers and verified;
- Chain of custody documentation maintained throughout sample collection, delivery, processing and recovery;

All shipment of DMS concentrates and diamonds are undertaken by Brinks Canada with strict chain of custody documentation and in containers secured with numbered seals. For shipments of diamonds to Antwerp, Kimberley Process chain of custody documentation was maintained.

11.6.7 Quality Assurance / Quality Control

QA/QC measures undertaken on all commercial-size diamond samples include:

- Adherence to documented processing and handling protocols;
- Addition of identifiable natural diamond tracers to samples prior to processing, both in the field and at the processing plant to determine recovery efficiency;
- Addition of synthetic tracers with a density of 3.53 g/cm^3 to some samples prior to DMS processing in some tests to ensure density cut points maintained during processing;
- Plant inspection prior to and during processing by trained personnel;
- Independent third party process and recovery monitoring and auditing;
- Recording of DMS operating parameters during processing (moisture measurements, screening analysis of head feed, operating medium pressure at the cyclone, medium density, operational time and motion information, ore dressing studies);

- Daily testing the DMS operating efficiency with density tracers and auditing of these tracer tests by an independent third party;
- Audit of representative coarse DMS tailings from select samples as necessary;
- Monitoring of diamond recovery statistics, including size frequency analysis;
- Review and audit of DMS and diamond data, operating procedures and QA/QC programs.

Peregrine routinely uses natural diamonds to exercise appropriate and efficient sample QA/QC during bulk sample programs. The company has established an inventory of natural diamond tracers, ranging from 0.09 ct to 1.62 ct in weight that are susceptible to X-ray capture and with serial numbers laser-inscribed on a polished face. The diamond tracers were added to random bulk sample bags in the field (CH-7 mini-bulk and bulk samples and CH-6 bulk sample), at a core logging facility (CH-6 mini-bulk sample) and in some cases, additionally at the DMS plant prior to processing. Details regarding tracer addition for each sample are as follows:

- 2015 CH-7 LDD bulk sample: A total of 266 laser-etched diamond tracers ranging in size from 0.09 ct to 1.62 ct were added randomly into sample bags during sample collection by Peregrine. An additional 14 laser-etched diamond tracers were added to sample bags at the SRC DMS plant by QP Howard Coopersmith prior to processing. All 280 tracers were recovered (McCubbing and Coopersmith, 2016) as whole, unbroken stones during sorting at the SRC, a 100 percent recovery rate.
- 2010 CH-7 KIM-1 mini-bulk sample: A total of 111 laser-etched diamond tracers ranging in size from 0.2 ct to 1.62 ct were added to ore bags during sample collection (Holmes, 2010). In addition, 120 blue synthetic tracers with a density of 3.53 g/cm^3 were added to the sample at the SRC prior to DMS processing (Coopersmith, 2011a). All diamond and density tracers were recovered.
- 2013 CH-6 surface bulk sample: A total of 140 laser-etched diamond tracers were added by Peregrine to sample bags in the field during collection (Pell and O'Connor, 2013). An additional 125 laser-etched diamond tracers were added to bags randomly as they were opened at the DMS and ten diamond tracers were added to the X-ray feed by QP Howard Coopersmith (Coopersmith, 2014). Tracers ranged in size from 0.09 ct to 1.62 ct and were previously calibrated to ensure susceptibility to X-ray capture. All except one of the tracers were recovered (0.16 ct stone lost, placed in X-ray feed), for a total recovery of 274 of 275, or 99.6%.
- 2010 CH-6 core mini-bulk sample: A total of 40 laser-etched diamond tracers ranging in size from 0.26 ct to 1.62 ct were randomly inserted into sample bags by Peregrine at the time of collection (Pell, 2010c). In addition, 35 laser-etched diamond tracers ranging in size from 0.14 to 4.74 cts were added to the scrubber feed by QP Howard Coopersmith at the SRC during processing (Coopersmith, 2011b). Peregrine also added 45 blue synthetic density tracers with a density of 3.53 g/cm^3 to the sample prior to DMS processing. All natural diamond and density tracers were recovered.

The coarse DMS float tails, DMS and recovery concentrate tails and most hand sorted recovery concentrates are stored for periods up to two years, thereby allowing timely audits of diamond recovery efficiency.

Both the SRC and De Beers have QA/QC procedures in place for recovery of diamonds by DMS and related final-recovery processes. Such facilities are governed by a series of detailed procedures that are appropriate to ensure the security and integrity of samples and final results. All samples received in the laboratory are accompanied by chain of custody documentation and with security seals that must be verified prior to sample processing. Upon receipt, the samples are stored in a secure facility with restricted access.

SRC employs strict QA/QC protocols for its diamond recovery process circuit. The X-ray machine is calibrated each day and tested with luminosity index tracers using predetermined settings to determine recovery rate. The temperature of the process water for the grease table is maintained at 25°C automatically; however, no specific grease testing is undertaken by SRC. QP Howard Coopersmith tested the grease with grease specific tracers in 2010 and all were recovered (Coopersmith, 2011a). The diamond recovery circuits are in restricted areas and all samples, concentrates, diamonds and data are locked in safes.

Various measures were implemented during sample processing in order to prevent sample contamination. The DMS circuit was thoroughly cleaned prior to sample processing and after each processing unit was complete. An extra thorough clean was completed between processing of different geological units. Any minor spillage that occurred was collected with security personnel present and reintroduced into the plant with the corresponding processing unit. Screens were cleaned and un-blinded by spraying and scraping. The scrubber was reversed and a corkscrew inside the drum pushed any remaining material forward to the pump box and into the plant. The plant was run for at least thirty minutes without a load to ensure a proper flush of the circuit and to prevent cross-contamination of samples (McCubbing and Coopersmith, 2016). Recovery circuit clean-ups were done between each processing unit also and consisted of de-pegging screens, surging feeders and a wash down of screens and feeders in order to flush the circuit clean. The circuit was run without material for at least 45 minutes before introducing the next processing unit. Once all material had passed through the circuit, a final clean-up was performed (McCubbing and Coopersmith, 2016).

In the SRC diamond recovery laboratory multiple sorts of each sample by separate trained sorters is undertaken to ensure recovery of all diamonds. Each fraction receives at least one clean pass (i.e. no diamonds) by a second sorter. Samples are weighed once they are put into the gloved box for sorting at shift start and again at shift end. Recovered diamonds were sealed in small bags and stored in sealed containers prior to removal from the glove box. For diamond sorting, either QP Howard Coopersmith or Peregrine representatives were present.

11.6.8 Audits

Audits of DMS tailings and diamond recovery circuit tailings can be undertaken to benchmark or re-affirm diamond processing and/or recovery efficiencies. Peregrine has repeatedly used the SRC facility and the company is familiar with processing outcomes for six (CH-1, CH-7, CH-6, CH-28, CH-6, CH-7) separate bulk samples treated there since 2010. A comprehensive DMS tailings and recovery circuit tailings audit performed for the CH-1 mini-bulk sample in 2010 established industry-appropriate or better diamond recovery efficiencies for the SRC facility. All but one of subsequent bulk sample processing outcomes fell within diamond recovery parameters expected for this plant and Peregrine's QP for diamond processing endorsed that full audits were not required, nor were any performed, for:

- 2010 CH-6 mini-bulk sample from core;
- 2010 CH-7 mini-bulk sample from surface of KIM-1;
- 2013 CH-6 bulk sample from surface; and
- All, except three of 59 processing units in the 2015 CH-7 LDD bulk sample.

A comprehensive recovery tails audit of all three processing units from the 2015 CH-7 bulk sample hole CHI-251-15-LD05 was ordered after unusually low grease recoveries were noted. The audit comprised three separate, controlled pathways, with all three pathways ending in a caustic fusion finish. The audit revealed that diamonds from LD05 were properly liberated and properly ejected by X-ray fluorescence circuits, and the grease table itself was working properly; however, substantial smaller-sieve diamonds failed to be captured on grease due to the presence on them of a hydrophilic (grease-repellent) coating. The coating is tentatively related to lateritic weathering experienced by the kimberlite in this hole. The post-grease tails audit captured an extra 10.11 carats of diamond, representing a 20% carat-weight uplift over the 49.98 cts recovered prior to the audit (Table 11-1). DMS and recovery circuit tails from the 2015 CH-7 bulk sample have been disposed.

Table 11-1: Results of caustic fusion audit of hole CHI-251-15-LD05.

Processing Unit		15-5A	15-5B	15-5C	TOTAL
Number of Diamonds per Sieve Size (mm square mesh sieve)	+1.180 mm	54	34	63	151
	+1.700 mm	17	6	15	38
	+2.360 mm	6	1	5	12
	+3.350 mm	0	0	0	0
	+4.750 mm	0	0	0	0
	+6.700 mm	0	0	0	0
Total Number of Diamonds		77	41	83	201
Carats >1.180 mm		4.31	1.75	4.05	10.11

11.7 Commercial-size Diamond Breakage

11.7.1 CH-7 Diamond Reconstruction and Breakage Study

During December 2015, Peregrine commissioned a reconstruction and related breakage study for commercial-sized diamonds obtained during the 2015 LDD RC bulk sampling of the CH-7 kimberlite. The study was triggered by “unusually high” breakage commentary from three informed observers and was completed independently by Dr. Tom McCandless. Dr. McCandless noted damage on 75% to 90% of some 692 cts of diamonds examined, and his efforts to reconstruct whole, +0.66 ct diamonds from visually comparable fragments contained in 54 separate process units were partially successful in 43 of 74 attempts. Estimates of the missing portions of partially reconstructed diamonds support a conclusion that 10% to 40% loss of carat weight occurred due to -1.13 mm diamond fragments reporting to undersize slimes (McCandless, 2016a). The data collected indicated that the diamond breakage occurred predominantly during large-diameter RC drilling. Subsequent cross-correlation of breakage data and drilling parameters suggested the diamond breakage was likely influenced by the competence (or “hardness”) of the kimberlite being drilled (McCandless, 2016b).

11.7.2 CH-7 Diamond Breakage Study

The December 2015 reconstruction study by Dr. McCandless was followed up in March 2016 by a conventional (i.e. non-reconstructive) breakage study, again performed by Dr. McCandless (McCandless, 2016c). In this study, a total of 651 carats of diamonds in the +5 DTC size class were examined and categorized by DTC sieve class within each geological domain, such that the incidence of breakage could be compared to industry-standard breakage studies, which are typically recorded and analyzed by sieve class (i.e. not by process unit, and not based on diamond reconstructions). The results showed:

- The CH-7 KIM-1 (surface bulk sample) contains over 21% fragmented diamonds, similar to diamonds from CH-1 (surface bulk sample) examined in 2010 (McCandless, 2010). Mechanical breakage is nearly absent in the fragments;
- More abundant fragments in KIM-2 through KIM-5 (32%) due to their recovery by RC drilling. Mechanical breakage ranges from 7% to 36% with the greatest breakage occurring in KIM-3 (36%) and KIM-4 (28%);
- Fragmented diamond abundance increases with decreasing size class coinciding with a dramatic increase in mechanical breakage surfaces on fragments for RC-collected samples in KIM-2 through KIM-5 (further evidence of breakage from RC drilling);
- Carat-weight loss related to recovery by LDD drilling (i.e. in excess of that incurred for bulk samples not derived by LDD drilling) is estimated at between 8% and 15% for all diamonds in and larger than the DTC 1 size class.

12 Data Verification

Peregrine Diamonds maintains in-house databases, software and related reports that capture and describe the growth of geological and related data for the Chidliak project since exploration work initiated in June 2005. Active or curated data sets related to such work cover:

- Heavy mineral samples and compositions of kimberlitic indicator minerals;
- High-resolution airborne and ground geophysical surveys, utilizing magnetic, electromagnetic and gravimetric methods;
- Core and small-diameter RC drilling for discovery, delineation and sampling of kimberlites;
- Processing and/or assay of samples of drill core for microdiamonds, bulk density, moisture content, geotechnical properties, acid rock drainage (ARD) potential, petrography, whole rock geochemistry and kimberlite groundmass mineral compositions;
- Mini-bulk sampling of kimberlite through surface trenching or core drilling;
- Bulk sampling of kimberlite through surface trenching or large-diameter RC drilling;
- Processing of mini-bulk and bulk samples to recover macrodiamonds; and
- Sorting and valuation of discrete parcels of macrodiamonds.

All data incorporated into the previous Chidliak Technical Reports has been subjected to extensive internal (by Peregrine) and external verification, as documented in Farrow et al. (2014, 2015) and Nowicki et al. (2016). Key datasets used as a basis for geology models and consequently also Mineral Resource and TFFE estimates have been subject to extensive internal verification and/or audit against vendor-issued assay or valuation certificates (e.g. McCubbing and Coopersmith, 2016; Pell, 2016; Grütter and Wilson, 2015; Fitzgerald, 2015). In the case of drilling data, Peregrine conducted extensive internal audit or data collection processes and cross checked final results, as described in Section 10.1.6.

The following data sets for the CH-6, CH-7 and CH-44 kimberlites were verified by independent, external Qualified Persons. They concluded the “data are of high quality and are suitable for use in estimation of Mineral Resources” and “based on the verification work carried out, the authors believe the project data to be reliable and to meet or exceed the standards of industry best practice” (Nowicki et al., 2016):

- Pre-2017 drill logs, petrography and representative samples for 78 core holes (14,238 m) and 116 small-diameter RC holes (1,504 m);
- Pre-2017 microdiamond sample assay results for 10,536 kg of drill core and surface bulk samples;
- Pre-2017 bulk density assay results for 3,051 samples;

- Drill logs and related data for six large-diameter RC holes (1,212 m) in CH-7 from which a total of 329 m3 (809.5 t [dry]) of kimberlite was collected and processed for macrodiamonds; and
- Macrodiamond recoveries from 14 t of CH-6 drill core (2010), 47.2 t of CH-7 surface trench material (2010), 404.3 t of CH-6 surface trench material (2013), and 809.5 t of CH-7 RC-drilled material (2015).

All new (2017) data incorporated into this Technical Report has been subjected to extensive internal verification and/or audit against vendor-issued assay or valuation certificates, in a similar systematic fashion as in previous years. Based on the verification work carried out, the authors of this report believe the project data to be reliable and to meet or exceed the standards of industry best practice.

13 Mineral Processing and Metallurgical Testing

Specific process or metallurgical testing has not been undertaken on material from the CH-6 and CH-7 kimberlites in support of the Mineral Resource estimates. However, mineral processing parameters were routinely collected during LDD drilling on site and plant operations at SRC and include:

- Granulometry and slimes content of LDD drill products;
- Moisture contents of plant head feed;
- Granulometry of processed materials was captured at eight stages throughout the SRC DMS plant, starting with the Primary Crusher product and ending with DMS Concentrate;
- DMS plant yield (heavy mineral concentrate);
- X-ray and grease table yield.

The preliminary treatability information indicate that a conventional DMS-based mineral processing flowsheet for the kimberlite is appropriate to effectively capture diamonds greater than 1.0 mm.

14 Mineral Resource Estimates

14.1 Approach to Mineral Resource Estimates

The Mineral Resource estimates for the CH-6 and CH-7 kimberlites are based on four primary components:

1. A geological model for each kimberlite that defines the boundaries of the deposit (pipe shell) as well as the internal geological domains that encompass the volumetrically significant kimberlite units. The geological domains form the basis of the resource domains for which Mineral Resource estimates are being made. The KIM-L geological domain in CH-6 was further subdivided into two resource domains to account for expected grade variation. The geology and resource models are represented as a series of triangulation solids created in Dassault Systèmes GEOVIA GEMS™ version 6.8 (GEMS). Further analysis of density and microdiamond data for CH-6 was performed using Leapfrog™ Geo version 4.2.1.
2. Estimates of bulk density, representing the variation in bulk density within each body and, in combination with volumes derived from the geological models, provided estimates of the tonnage of kimberlite present.
3. Estimates of average diamond grade (in carats per tonne) for each resource domain using diamond size frequency distributions.
4. Estimates of the average value of diamonds within each resource domain based on estimated diamond value distributions (dollar per carat per sieve size class).

14.1.1 CH-6

Microdiamond[3] and macrodiamond[4] data were obtained from a corresponding volume of KIM-L material (the surface bulk sample), allowing for definition of a total content diamond size frequency distribution (SFD) and hence calibration of the ratio of microdiamond stone frequency (stones per kilogram, st/kg) to recoverable macrodiamond grade. Drill core microdiamond results were used, in conjunction with this established calibration, to determine average grade estimates for a high grade KIM-L resource domain (KIM-L.HG), a normal grade KIM-L resource domain (KIM-L.NG),

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[3] The term microdiamond is used throughout Section 14 to refer to diamonds recovered through caustic fusion of kimberlite at a bottom screen size cut-off of 105 µm (~0.00002 ct). Rare larger diamonds that may be recovered by a commercial production plant may be recovered through this process but are still referred to as microdiamonds.

[4] The term macrodiamond is used throughout Section 14 to refer to diamonds recovered by commercial diamond production plants, which typically recover diamonds larger than the Diamond Trading Company (DTC) sieve category (~ 0.01 ct). The DTC+1 sieve is roughly equivalent to 0.85 mm square-mesh sieve.

and a KIM-C resource domain. Details of the data and methods used to generate each component of the CH-6 resource estimate are provided Section 14.4.

14.1.2 CH-7

The geological model for CH-7 is more complex than that of CH-6 with seven geological and resource domains defined. Estimates of the average grade for these domains were based either directly on the bulk sample LDD sample grades or on a combination of LDD sample grade and distributed microdiamond data in a similar manner to the approach used for CH-6.

Since no new work was performed at the CH-7 kimberlite during 2017, the Mineral Resource previously reported for CH-7 (Nowicki et al., 2016) is being restated as-is in this report. Section 14.5 provides a summary of the data and methods used by Nowicki et al. (2016) to generate each component of the CH-7 resource estimate.

14.2 Previous Mineral Resource Estimates

14.2.1 Previous CH-6 Mineral Resource Estimates

Peregrine commissioned GeoStrat Consulting Services Inc. (GeoStrat) to provide an independent maiden Mineral Resource estimate for the CH-6 kimberlite in 2014 (Farrow et al., 2014). The estimate was prepared in accordance with CIM guidelines and NI 43-101 standards. In 2015, Geostrat updated the Mineral Resource estimate for CH-6 based on additional core drilling, small-diameter RC drilling, and sampling and diamond testing completed to the end of 2014 (Farrow et al., 2015). In 2016, Peregrine commissioned Mineral Services Canada Inc. (MSC) to provide an updated Mineral Resource estimate for CH-6 based on additional core drilling, sampling and diamond testing completed to the end of 2015 (Nowicki et al., 2016). All previous resource statements for CH-6 are summarized in Table 14-1.

Table 14-1: Previous Mineral Resource Statements for the CH-6 kimberlite.

Kimberlite	Resource Classification	Tonnes (Mt)	Carats (Mct)	Average Grade (cpt) (+1.18 mm)	Depth of Resource (mbs)	Estimate by	Date Released
CH-6	Inferred	2.89	7.47	2.58	250	GeoStrat	2014-05-07
CH-6	Inferred	3.32	8.57	2.58	250	GeoStrat	2015-01-26
CH-6	Inferred	4.64	11.39	2.45	260	MSC	2016-04-07

Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

14.2.2 **Previous CH-7 Mineral Resource Estimate**

Peregrine commissioned MSC in 2016 to provide an maiden Mineral Resource estimate for the CH-7 kimberlite based on core and large-diameter drilling (LDD), sampling and diamond testing completed to the end of 2015 (Nowicki et al., 2016). Results are summarized in Table 14-2.

Table 14-2: Previous Mineral Resource Statement for the CH-7 kimberlite.

Kimberlite	Resource Classification	Tonnes (Mt)	Carats (Mct)	Average Grade (cpt) (+1.18 mm)	Depth of Resource (mbs)	Estimate by	Date Released
CH-7	Inferred	4.99	4.23	0.85	240	MSC	2016-05-05

Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

14.3 Previous Estimates of Targets for Further Exploration

As part of the 2014 Resource definition process (Farrow et al., 2014), Targets for Further Exploration (TFFE) were outlined at CH-6, CH-7 and CH-44 in the portions of the kimberlite bodies where drilling information was considered insufficient to define a Mineral Resource. New drilling and related data resulted in 2015-era TFFE updates for CH-6, CH-7 and CH-44 (Farrow et al., 2015) and 2016-era TFFE updates for CH-6 and CH-7 (Nowicki et al., 2016). The TFFEs are summarized in Table 14-3.

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Table 14-3: Summary of Targets for Further Exploration at Chidliak

Kimberlite	Year	Tonnage (Mt)		Estimate by	Date Released
		Low	High		
CH-6	2012	3.61	5.73	GeoStrat	2012-04-02
CH-6	2014	2.60	3.47	GeoStrat	2014-05-07
CH-6	2015	3.20	4.38	GeoStrat	2015-01-26
CH-6	2016	2.34	3.74	MSC	2016-04-07
CH-7	2014	2.75	3.97	GeoStrat	2014-05-07
CH-7	2015	3.72	6.01	GeoStrat	2015-01-26
CH-44	2014	1.16	2.05	GeoStrat	2014-05-07
CH-44	2015	1.27	3.19	GeoStrat	2015-01-26

The potential tonnages defined as TFFE are conceptual in nature as there has been insufficient exploration to define Mineral Resources on these targets and it is uncertain if future exploration will result in the tonnage estimates being delineated as Mineral Resources.

14.4 CH-6 Mineral Resource Estimate

14.4.1 Resource and TFFE Domains

The geological domains described in Section 7.3.3 (KIM-L and KIM-C) form the basis of the resource domains (for which Mineral Resource estimates are being made) and TFFE domains (for which no Mineral Resource estimates are being made but for which volume and tonnage ranges are being reported).

Microdiamond data clearly indicate the presence of a zone of elevated microdiamond stone frequency in the southern portion of KIM-L (Figure 14-1). This zone appears continuous throughout the vertical extent of KIM-L down to a depth of at least 470 mbs (210 masl). It is necessary to account for this zone in the CH-6 grade estimates due to the extent of the discrepancy in stone frequency between it and the remainder of KIM-L (Section 14.4.4.3). Substantive characterization of KIM-L has to date not resolved clear geological differences between the high grade and the normal grade portions of KIM-L, though bulk density appears approximately 3% higher on average for samples representing the zone with high diamond grade. Further work is required to establish the basis for the observed difference in diamond grade.

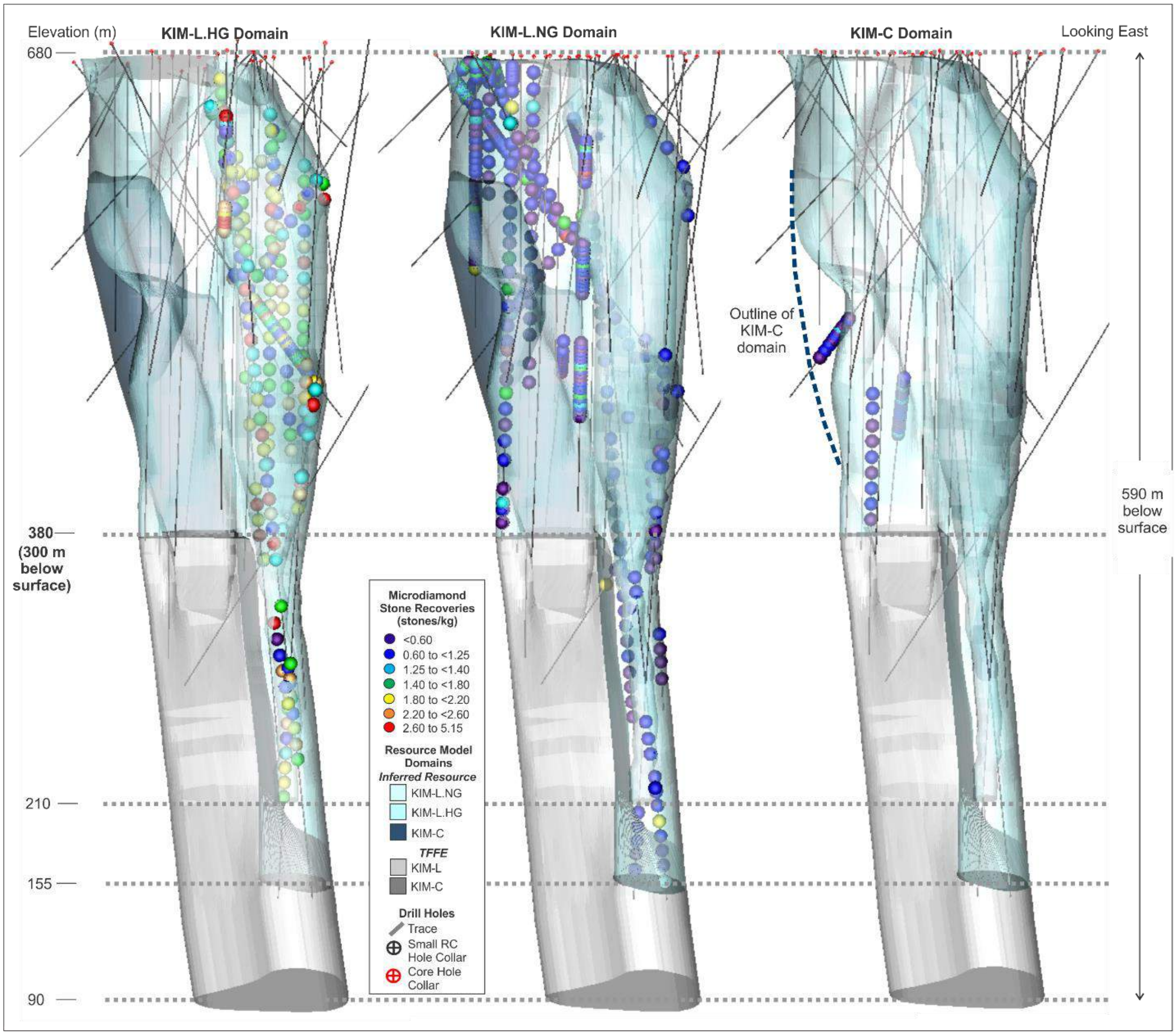
Following the precedent established by Nowicki et al. (2016) to delineate a KIM-L high grade (KIM-L.HG) domain, a KIM-L.HG 3-D solid was conservatively modelled to encompass microdiamond results above a threshold of 1.25 +212 µm st/kg (Figure 14-1). The updated KIM-L.HG volume does not extend in a material way into areas not sampled, and has expanded laterally and to depth as a result of data acquired during the 2017 drill program. The KIM-L.HG resource domain now extends from surface to a depth of 470 mbs (210 masl). The KIM-L normal grade (KIM-L.NG) resource domain extends from surface to 525 mbs (155 masl) and almost completely surrounds KIM-L.HG. The KIM-C resource domain extends from 80 mbs (600 masl) to 300 mbs (380 masl). Sufficient evaluation data are available to support Mineral Resource estimates for each of these resource domains.

TFFE domains comprise kimberlite for which no Mineral Resource estimates can be made based on data available. The TFFE domains of CH-6 include:

- A portion of the KIM-L geologic domain between 300 mbs (380 masl) and 590 mbs (90 masl), the base of the current model. This portion of KIM-L is not well constrained by drill coverage and is not adequately represented by microdiamond samples.
- A portion of the KIM-C geologic domain between 300 mbs (380 masl) and 360 mbs (320 masl) that is not well constrained by drill coverage nor represented by microdiamond samples.

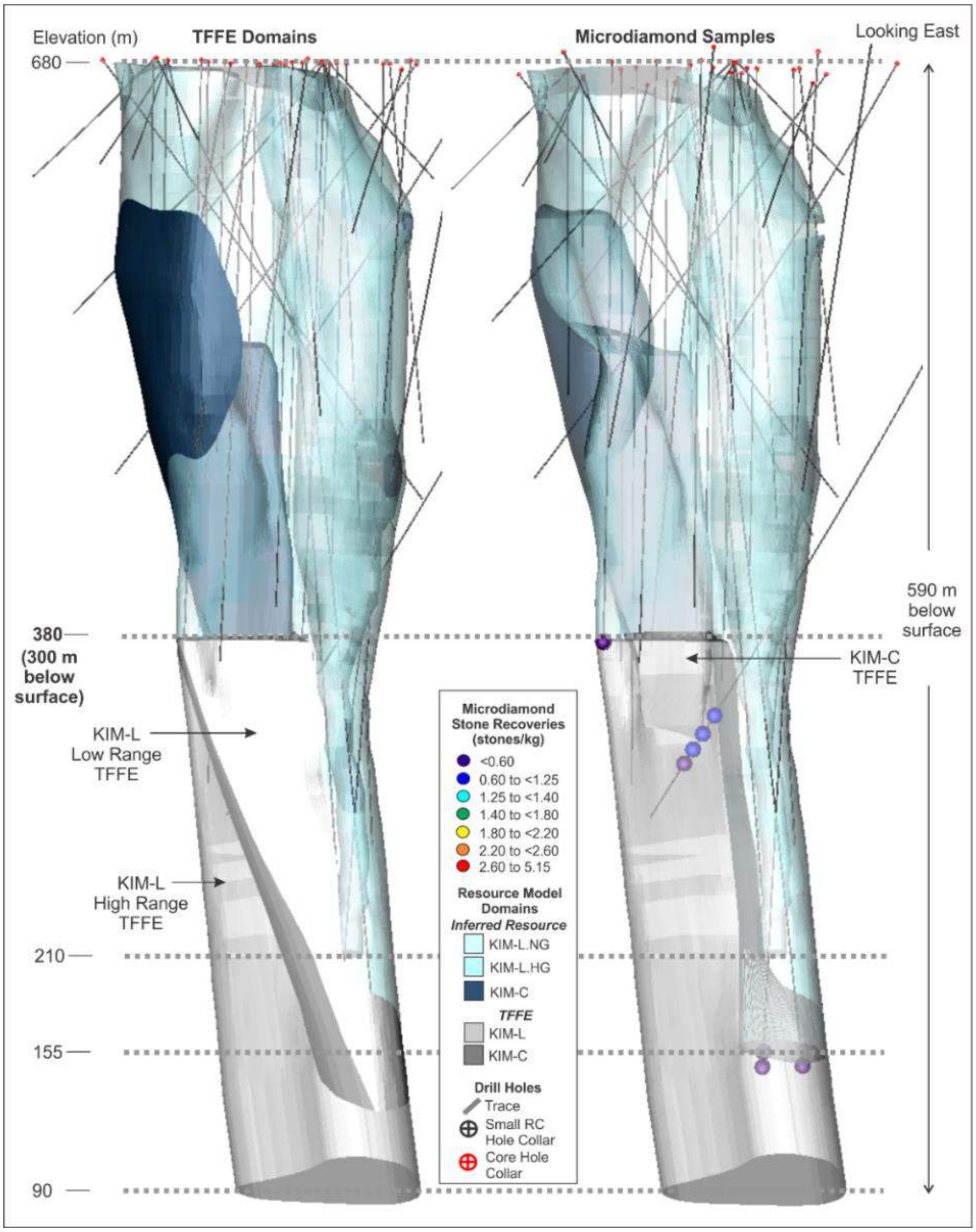
Both a high range and low range shape was modelled for the KIM-L TFFE domain, in order to determine a volume and tonnage range for this portion of the pipe. Refer to Figure 14-2 for illustration of drill holes and microdiamond samples present within the TFFE domains in CH-6.

Figure 14-1: CH-6 resource domains and microdiamond recoveries.



Microdiamond stone recoveries for the KIM-L.HG, KIM-L.NG and KIM-C resource domains in CH-6. Dots illustrate the midpoint location and recoveries (+212 µm st/kg) of each sample aliquot. Some samples appear to fall outside their respective domains – this is an artefact of the 3-D display. Higher stone frequencies are present in a discrete zone in the south of the pipe and were used to model a KIM-L.HG resource domain that spans almost the entire vertical extent of the KIM-L geological domain.

Figure 14-2: CH-6 High range and low range TFFE domains with microdiamond recoveries



Microdiamond stone recoveries for the KIM-L TFFE domain in CH-6. Dots illustrate the midpoint location and recoveries (+212 µm st/kg) of each sample aliquot. Some samples appear to fall outside their respective domains – this is an artefact of the 3-D display.

14.4.2 Block Model

A block modelling approach was used for estimation of volume, tonnage and grade for the KIM-L.HG and KIM-L.NG resource domains; and for estimation of volume and tonnage for the KIM-C resource domain. The block model comprises 849,600 blocks with dimensions 10 by 10 by 10 m in 120 rows, 120 columns and 59 levels. A partial (percent) block modelling approach was applied in order to accommodate estimation of multiple domains using GEMS software. The block model was populated with percentage of each rock type using a vertical needle orientation with a needle density of 3 by 3. Volumes for geology domains were compared to the volumes of the 3-D modelled solids and were accurate within 0.05%.

The block model was then populated with bulk density and grade values as described in Sections 14.4.3 and 14.4.4.

14.4.3 Bulk Density and Tonnage

A total of 2,396 bulk density measurements (exclusive of duplicate and repeat QA/QC measurements) were used for bulk density estimation in CH-6. Bulk density displays a clear increase with depth in KIM-L (Figure 14-3). While there is significant overlap in the bulk density ranges for KIM-L within the KIM-L.NG and KIM-L.HG domains, the data indicate a higher overall bulk density for the latter. In the KIM-L.NG domain, density increases with depth to the base of drilling at 540 mbs (90 masl). The KIM-L.HG domain shows a similar trend, but with consistently higher density values for any given elevation and slight inflection point at approximately 280 mbs (400 masl), below which no further increase in bulk density is evident. A possible slight increase in density with depth is observed in KIM-C, however there is less sampling shallower than 140 mbs (540 masl).

Bulk densities averaged for KIM-L.NG and KIM-L.HG across respective blocks in the resource block model (Table 14-4) are consistent with density-depth relationships illustrated in Figure 14-3, and quantify a 3% higher density for KIM-L.HG relative to KIM-L.NG. Checks were performed to ensure there was no density sample overlap between modelled resource volumes.

Table 14-4: Summary statistics for bulk density data for the CH-6 resource and TFFE domains.

Resource Category	Resource Domain	No. Samples	Bulk Density (g/cm^3)			
			Average	Minimum	Maximum	Standard Deviation
Inferred	**KIM-L.HG**	**539**	**2.68**	**1.95**	**2.96**	**0.13**
	KIM-L.NG	**900**	**2.60**	**1.83**	**3.04**	**0.16**
	KIM-C	**124**	**2.64**	**2.31**	**2.90**	**0.09**
TFFE	KIM-L	14	2.67	2.58	2.78	0.05
	KIM-C	2	2.65	2.62	2.68	0.04
n/a	CR	817	2.73	2.43	2.98	0.08
	TOTAL	**2396**				

Statistics shown include density data from all rock types that occur within each model domain.

In order to calculate tonnage for resource estimation in CH-6, bulk density data for all rock types sampled within the each resource domain were extracted from drill holes as separate point datasets in GEMS. These were then used to interpolate density locally into the CH-6 block model for the KIM-L.HG and KIM-L.NG resource domains by inverse distance square weighting using a search ellipse of 50 (X) by 50 (Y) by 100 (Z) m. In order to avoid over-smoothing of the data, all density interpolated into blocks were informed by a minimum of two and a maximum of four data points. This range ensured that the representative density sampling populated the most blocks possible for the local estimate. GEMS ignores blocks with too few samples and uses the closest samples for blocks with too many samples. This process was chosen for the KIM-L resource domains because bulk density data are spatially representative and comprehensive (refer to Figure 14-3). For the KIM-C resource domain, an average bulk density of 2.64 g/cm^3 was populated into the block model because bulk density data was considered spatially under-represented.

For non-resource domains, average bulk densities were used (refer to Table 14-4). An average bulk density of 2.64 g/cm^3 was used for the KIM-C TFFE domain, as only two data points were available within this modelled volume. No bulk density data exists for overburden from Chidliak, and an estimate of 2.0 g/cm^3 has been used in the 3-D geological model.

Volume and tonnage estimates for the CH-6 resource domains, as determined by block modelling and the procedure described above, are summarized in Table 14-5.

Figure 14-3: Bulk density results and model averages with depth for the CH-6 KIM-L.HG, KIM-L.NG & KIM-C resource domains.

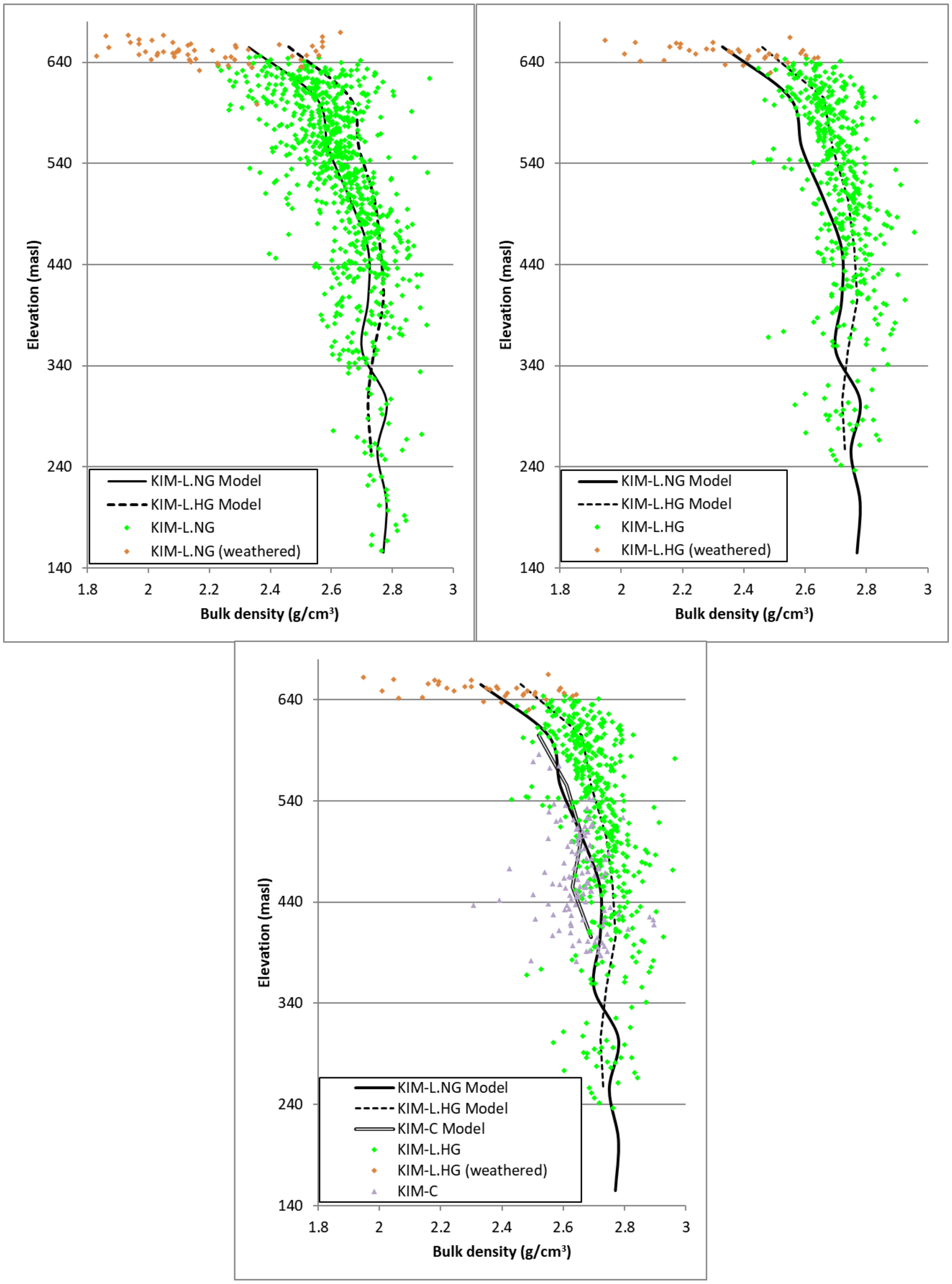


Table 14-5: Volume and tonnage estimates for CH-6 resource domains.

Resource Domain	Volume (Mm^3)	Average Bulk Density (g/cm^3)	Tonnage (Mt)
KIM-L.HG	0.48	2.68	1.29
KIM-L.NG	1.99	2.60	5.18
KIM-C	0.37	2.64	0.99
TOTAL			**7.46**

Inferred Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Volume and tonnage estimates for the TFFE domains are provided in Table 14-6 and were derived by application of average bulk density to the applicable ranges in volume of the modelled solids. Refer to Figure 14-2 for visual representation of these TFFE volumes.

Table 14-6: Volume and tonnage estimates for CH-6 TFFE domains.

TFFE Domain	Volume (Mm^3)		Average Bulk Density (g/cm^3)	Tonnage (Mt)	
	Low	High		Low	High
KIM-L	0.38	0.85	2.67	1.01	2.27
KIM-C	0.03	0.03	2.64	0.08	0.08
TOTAL	**0.41**	**0.88**		**1.09**	**2.35**

The potential tonnage defined as TFFE is conceptual in nature as there has been insufficient exploration to define a Mineral Resource. It is uncertain if future exploration will result in the TFFE being delineated as a Mineral Resource.

14.4.4 **Diamond Grade**

14.4.4.1 *Approach to grade estimate*

The approach adopted for grade estimation follows that of Nowicki et al. (2016) and is based on the concept of using calibrated microdiamond data to estimate diamond grade. Methods to calibrate and implement the concept in practise have been developed over the past few decades and the approach is accepted as a cost-effective industry norm, particularly during resource-development cycles (Davy, 1989; Deakin and Boxer, 1989; Ferreira, 2013; Nowicki et al., 2017; Stiefenhofer et al., 2016; 2017). The successful application of the approach depends on (1) obtaining microdiamond and macrodiamond data that represent the domains for which grades are being estimated, (2) defining a well-constrained, representative geological model with spatially continuous geological units and, (3) obtaining a comprehensive representatively distributed set of microdiamond samples from the resource domain to be evaluated.

For the CH-6 grade estimates, microdiamond data from drill core were used, in conjunction with micro- and macrodiamond data from the 2013 surface bulk sample collected from KIM-L, to estimate diamond grade for each of the resource domains. The principles of this grade estimation approach are as follows:

- Define a representative total content diamond SFD for the KIM-L geological domain. The total content SFD reflects the combined size distribution of microdiamonds and macrodiamonds as established by the 2013 surface bulk sample.
- Define recovery factors that reflect the difference between the total content SFD and the macrodiamonds recovered during sample processing.
- Assess the microdiamond SFD characteristics of KIM-L to confirm significant variation does not occur between or within the defined KIM-L resource domains.
- Assess the microdiamond SFD characteristics of KIM-C to establish its relationship to the total content SFD of KIM-L.
- If the total content SFD is constant, the relationship between microdiamond stone frequency (stones per kg of kimberlite) and macrodiamond grade is fixed. Thus, microdiamond data from drill core samples can be used in conjunction with total content SFD curves and appropriate recovery factors to estimate recoverable macrodiamond grade.

14.4.4.2 *Supporting data*

The diamond datasets generated from the drilling and sampling work discussed in Sections 10-1 and 11-1 were evaluated and outlier samples were excluded through graphical assessments of the results for each kimberlite unit. Outliers were defined as individual 8 kg microdiamond sample aliquots that contain more than 5.15 st/kg (using a bottom cut-off stone size of +212 µm), eliminating six of 734 aliquots of KIM-L and one of 44 aliquots of KIM-C from further consideration. The resulting final diamond datasets that were analyzed to estimate and verify grade for KIM-L and to estimate the grade for KIM-C are summarised in Table 14-7. The spatial distribution of samples represented in these datasets is shown in Figure 14-4. The datasets available are as follows:

- A surface bulk sample of KIM-L (1,123.95 ct recovered from 404.31 t) and associated representative microdiamond samples (350 kg). These data were used to develop the KIM-L total diamond content SFD model (Section 14.4.4.4), calibrating the relationship between microdiamond stone frequency and recoverable macrodiamond grade.
- Nearly 10 t of KIM-L drill core and approximately 4 t of KIM-C drill core were processed to recover macrodiamonds in 2010, generating parcels of 35.3 ct and 4.7 ct, respectively. Representative samples of the drill core were retained and processed for microdiamonds with a bottom recovery cut-off of 425 µm. These smaller datasets were used by Nowicki et al. (2016) to verify the KIM-L grade estimates and the KIM-L total content SFD model.

The KIM-C grade estimate reported in this work utilises the 2010-era macrodiamond data as a reference to establish an appropriate SFD model for KIM-C. An independent grade forecasting approach is used to assess the reliability of the KIM-C grade estimate.

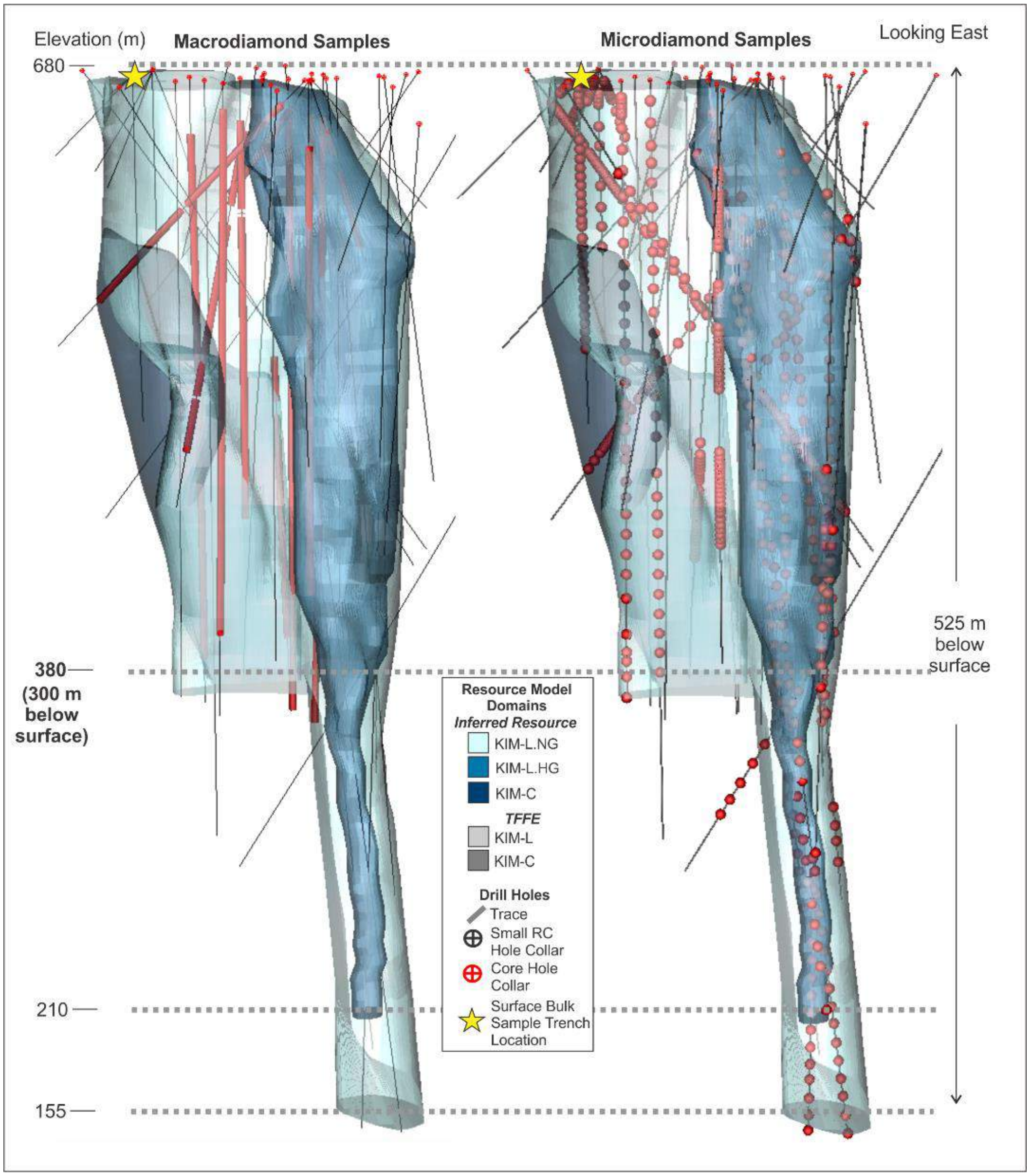
- 5.54 t of drill core from KIM-L and 0.35 t of drill core from KIM-C were processed for microdiamonds. These results have been used to define the extents of the high and normal grade resource domains within KIM-L and to derive the average grade estimates for all resource domains.

Table 14-7: Microdiamond and macrodiamond data used to estimate and verify grade in CH-6.

Dataset	Sample Medium	Aliquots (count)	Mass (t)	Process Bottom Cutoff (µm)	Diamonds (+850 µm)	Carats (+850 µm)
Macrodiamond	Surface bulk sample: KIM-L	n/a	404.31	850	16,386	1123.95
	Drill core: KIM-L	n/a	9.78*	850	465	35.34
	Drill core: KIM-C	n/a	4.06*	850	58	4.7
Dataset	**Sample Medium**	**Aliquots (count)**	**Mass (t)**	**Process Bottom Cutoff (µm)**	**Diamonds (+425 / +106 µm)**	**Carats (+425 / +106 µm)**
Microdiamond	Drill core: predominantly KIM-L	53	0.576	425	119	2.37
	Drill core: KIM-C	11	0.124	425	17	0.12
	Surface bulk sample: KIM-L	40	0.35	106	907	0.79
	Drill core: KIM-L	688	5.54	75/106	17,835	31.61
	Drill core: KIM-C	43	0.35	75/106	677	0.76

* Correct total weight is 13.84t, not 13.76t as stated in Nowicki et al., 2016

Figure 14-4: CH-6 resource model illustrating distribution of macrodiamond and microdiamond samples.



Three-dimensional view of the KIM-L.HG, KIM-L.NG and KIM-C resource domains showing the spatial distribution of macrodiamond (left) and microdiamond (right) sample coverage in drill core. Red intersections on the left illustrate the entire sampled interval for macrodiamonds; dots on the right illustrate the midpoint location of each sample aliquot. Some samples appear to fall outside their respective domains – this is an artefact of the 3-D display. The yellow star marks the location of the 2013 surface trench bulk sample from KIM-L.NG.

14.4.4.3 *Microdiamond stone frequency and SFD characteristics*

Drill core logging and limited petrographic investigation indicate broad scale variability in texture and componentry throughout the KIM-L geologic unit. Microdiamond stone frequency and SFD characteristics were investigated to assess the degree to which the observed geological variability is reflected in the diamond distribution of KIM-L, and no relationship(s) were determined. Drill core logging of KIM-C has outlined broadly similar geological componentry, though with substantially less geological variability than KIM-L. The relationship(s) of KIM-C geological variability and microdiamond sample results have not been investigated further, on account of the null result obtained for similar data sets from KIM-L (see Table 14-7). Summary statistics for microdiamond stone frequency by domain are provided in Table 14-8 and Figure 14-5; the statistics exclude the outliers discussed in Section 14.4.4.2.

These results show that KIM-C has a lower microdiamond stone frequency than KIM-L and clearly illustrate the difference in microdiamond stone frequency between the KIM-L.HG and KIM-L.NG domains. Variation in stone frequency with depth within the KIM-L resource domains was assessed by grouping microdiamond results for each into depth ranges (Figure 14-6). Holes were sample aliquot depths were not reported were excluded from the depth analysis. No significant changes with depth are evident, and the adoption of average calibrated macrodiamond grades within the KIM-L.HG and KIM-L.NG domains is therefore considered valid.

Table 14-8: Summary statistics of microdiamond stone frequency (+212 µm st/kg) from CH-6 drill core samples excluding seven high-frequency outlier data.

Data Type	Descriptor	KIM-L Total	KIM-L.HG	KIM-L.NG	KIM-L TFFE	KIM-C
Sample Information	Count	688	271	405	12	43
	Mass (kg)	5,543	2,204	3,242	98	349
+212 um microdiamond stone frequency statistics	Average (Mean)	1.23	1.83	0.85	0.58	0.64
	Median	1.09	1.70	0.79	0.51	0.61
	Minimum	0.00	0.37	0.00	0.25	0.00
	Maximum	5.15	5.15	3.29	1.32	1.36
	Standard Deviation	0.79	0.82	0.46	0.28	0.35

Numbers may not add due to rounding

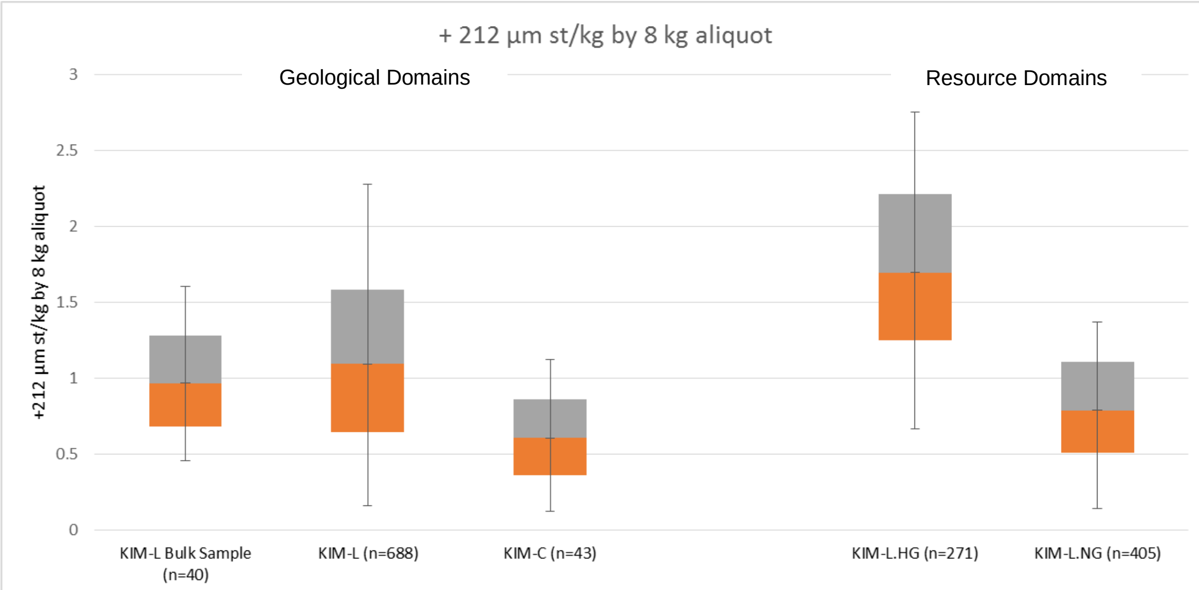


Figure 14-5: Microdiamond stone frequencies (+212 µm st/kg) from the CH-6 bulk sample and drill core samples grouped by geological domain and by resource domain. n = number of sample aliquots represented. The orange and grey boxes indicate the 25th to 75th percentile values.

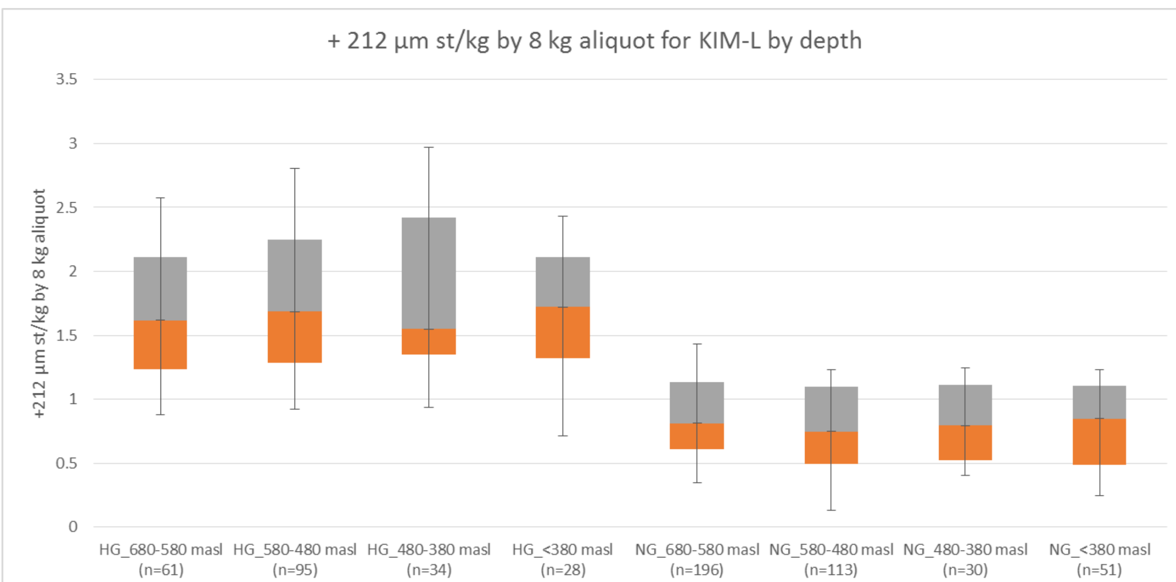


Figure 14-6: Microdiamond stone frequencies (+212 µm st/kg) from CH-6 drill core samples grouped by elevation range within the KIM-L resource domains. . HG = KIM-L.HG, NG = KIM-L.NG, n = number of sample aliquots represented. The orange and grey boxes indicate the 25th to 75th percentile values and the contact between them is the median. Error bars represent the 10th and 90th percentile values.

Resource-level diamond grade estimates are made based on the assumption that the SFD remains constant within a resource domain, implying that the SFD as well as stone densities within the CH-6 resource domains need to be assessed. Figure 14-7 accordingly illustrates microdiamond SFDs for drill core samples from the KIM-L.HG domain (2,204 kg), the KIM-L.NG domain (3,242 kg) and the KIM-L surface bulk sample (350 kg). The SFD's are remarkably congruent, in particular considering the lower-weight 350 kg sample from the KIM-L surface bulk sample, and the (expected) relative variability of coarser-size diamonds in it. The SFD of KIM-L.HG is similar to that of KIM-L.NG, with a subtle indication that KIM-L.HG has a slightly coarser-grained SFD than KIM-L.NG (Figure 14-7). Comparison of SFDs by domain and elevation range (Figure 14-8 and Figure 14-9) indicates no significant differences in SFD within each domain at different elevations.

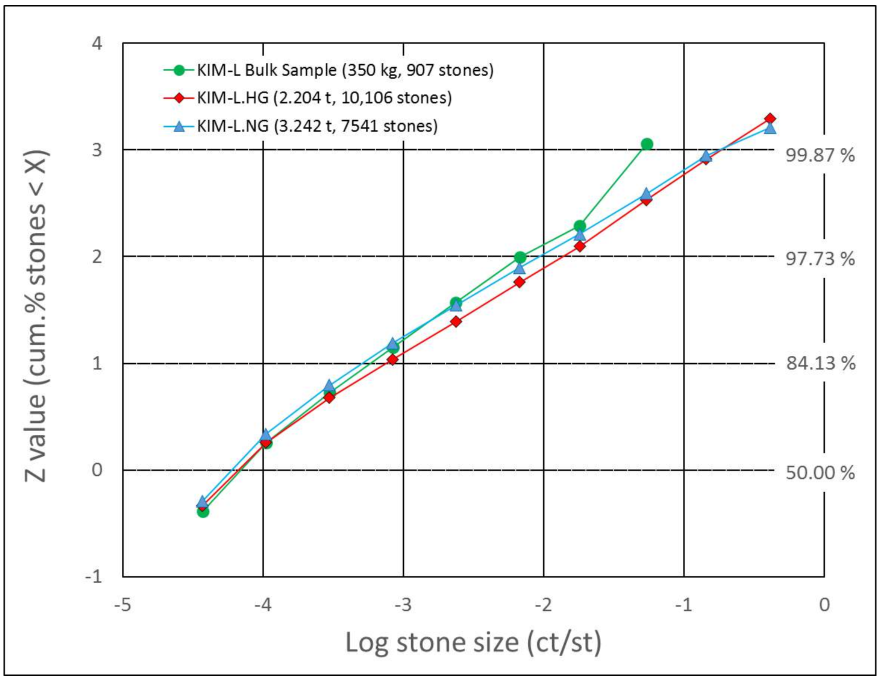


Figure 14-7: Microdiamond SFDs (+106 μm) for the KIM-L bulk sample, and the KIM-L.HG and KIM-L.NG resource domains. SFD is shown on a cumulative log probability plot (showing the proportion of diamonds below a given stone size).

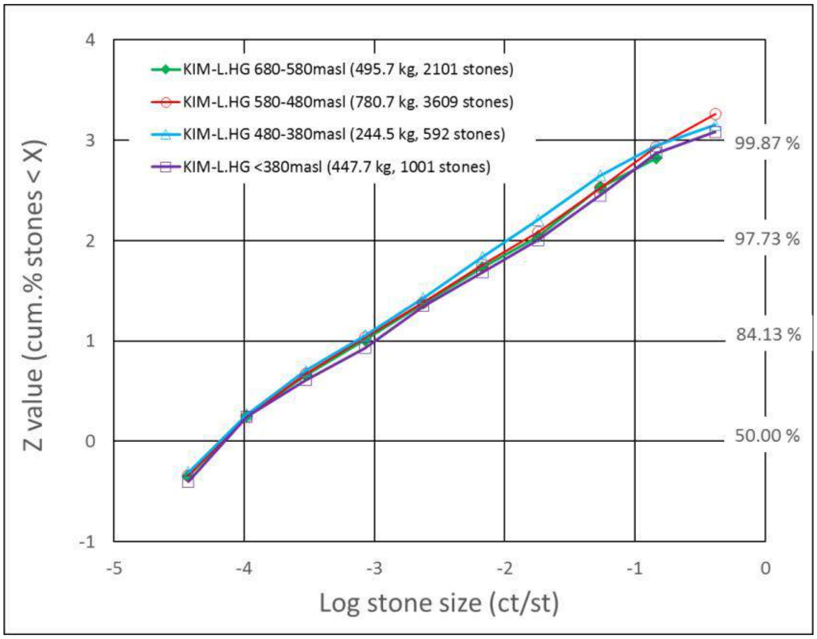


Figure 14-8: Microdiamond SFDs (+106 µm) for the KIM-L.HG domain by elevation range. These are the same depth ranges illustrated in Figure 14-6. SFD is shown on a cumulative log probability plot (showing the proportion of diamonds below a given stone size).

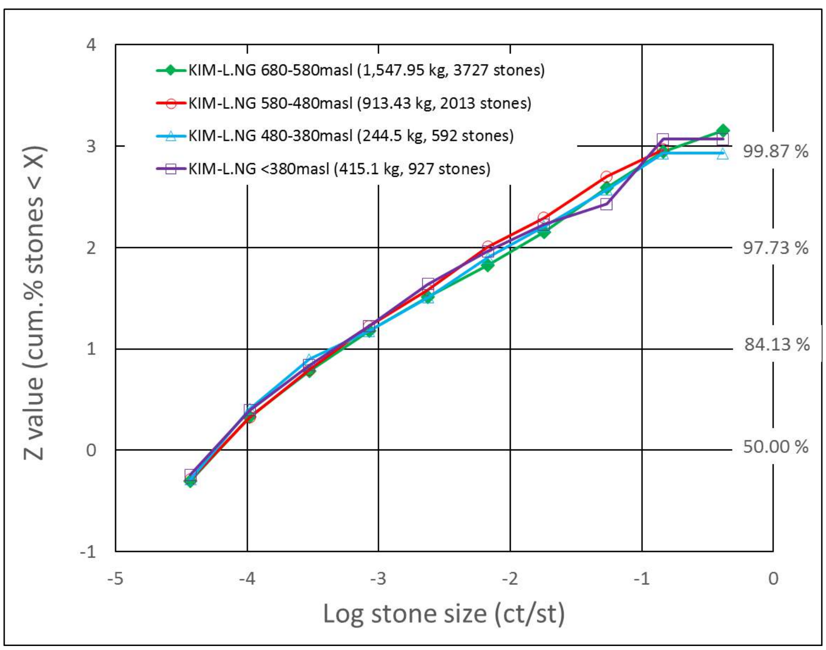


Figure 14-9: Microdiamond SFDs (+106 µm) for the KIM-L.NG domain by elevation range. These are the same depth ranges illustrated in Figure 14-6. SFD is shown on a cumulative log probability plot (showing the proportion of diamonds below a given stone size).

Since there are no macrodiamond data available for KIM-L.HG to confirm if it indeed has a coarser SFD, the SFD is assumed equivalent to that of the KIM-L.NG domain. This represents a conservative approach to grade estimation, as noted by Nowicki et al. (2016). A 350 kg aggregate sample of KIM-C core defines a microdiamond SFD with a finer distribution than KIM-L at diamond sizes smaller than ~ 0.05 ct (Figure 14-10). At diamond sizes within the commercial size range above ~ 0.05 ct, the SFD for KIM-C closely approaches that of KIM-L, implying that the commercial size range of the KIM-L SFD would serve as a valid proxy to construct a total content SFD for KIM-C. A recoverable macrograde estimate for KIM-C can then be derived by calibrating the domain-specific micro/macrograde relationship and following the same procedures as described in Section 14.4.4.1.

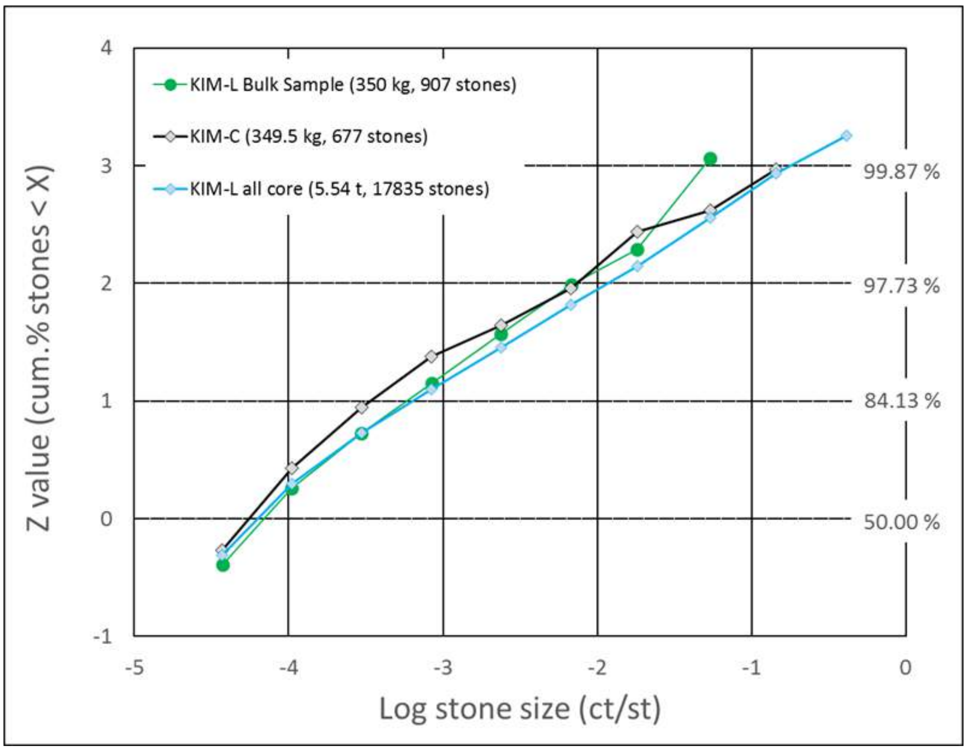


Figure 14-10: Microdiamond SFDs (+106 µm) for KIM-C compared to the KIM-L bulk sample and all KIM-L core samples. SFD is shown on a cumulative log probability plot (showing the proportion of diamonds below a given stone size).

In summary, a single commercial-sized SFD model, corresponding to that of the 2013 surface bulk sample result, has been used for the purpose of CH-6 resource estimation in this work. Recoverable macrograde estimates then depend primarily on calibration of two micro/macrograde relationships: one for the KIM-L domain and another for the KIM-C domain.

14.4.4.4 *Total diamond content SFD models and recovery corrections*

Peregrine QP's have adopted the KIM-L total content SFD model developed by Nowicki et al. (2016) after independently verifying that the SFD model reproduces the KIM-L bulk sample microdiamond and macrodiamond data (Table 14-9). A check was also performed that the recovery factors applied by Nowicki et al. (2016) are reasonable and reproduce the 2.58 cpt (+1.18 mm) grade obtained for the 2013 KIM-L surface bulk sample. The modified lognormal SFD model of Nowicki et al. (2016) is illustrated in Figure 14-11 and presented in Table 14-10, which also contains the recovery factors applied.

Table 14-9: KIM-L bulk sample diamond data showing microdiamond and macrodiamond parcels used to define the total diamond content SFD model for KIM-L.

Parcel	Microdiamonds		Macrodiamonds	
Dry mass	350 kg		404.31 t	
Size class	St	Ct	St	Ct
+106 µm	317	0.00624		
+150 µm	228	0.01352		
+212 µm	150	0.02484		
+300 µm	99	0.04683		
+425 µm	60	0.08596		
+600 µm	32	0.10999		
+850 µm	11	0.12563	6,088	81.90
+1180 µm	9	0.28987	6,193	197.63
+1700 µm	1	0.08493	2,680	247.55
+2360 µm			1,095	276.80
+3350 µm			267	179.67
+4750 µm			57	110.44
+6700 µm			6	29.97
Total	**907**	**0.79**	**16,386**	**1,123.95**

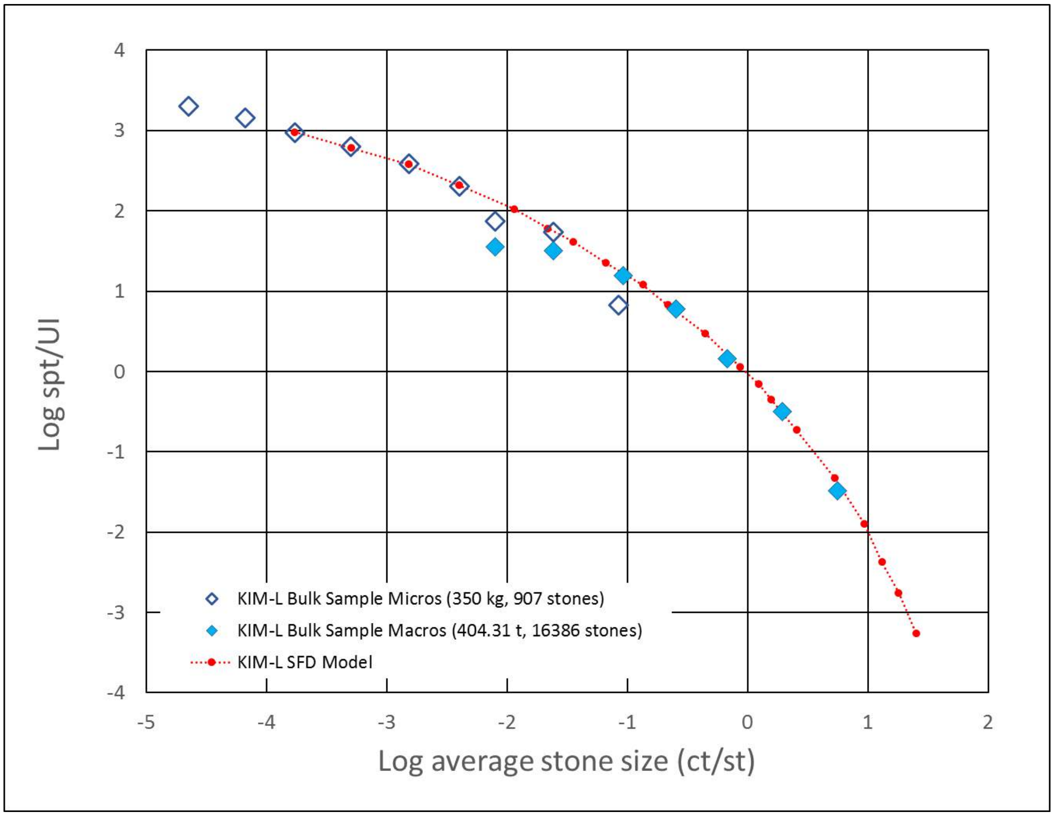


Figure 14-11: KIM-L total content (+212 µm) size frequency distribution model. Grade-size plot (spt/UI = stones per tonne per unit interval against the average size of diamonds in each sieve size class, ct/st = carats per stone) showing the final modelled total +212 µm diamond content SFD for the KIM-L geological domain.

Table 14-10: KIM-L stone size frequency distribution model and recovery factors.

Size class	Total content (+212 µm) SFD model (% ct)	Recovery corrections (%)	Recoverable (+1180 µm) SFD model (% ct)	Recoverable (+1180 µm) SFD model (ct/t)
+212 µm	1.82	0		
+300 µm	3.36	0		
+425 µm	5.96	0		
+600 µm	9.21	0		
+850 µm	12.12	0		
+1180 µm	4.88	55	4.32	0.111
+3 DTC	9.82	73	11.54	0.298
+5 DTC	11.30	95	17.28	0.446
+7 DTC	7.07	100	11.38	0.294
+9 DTC	8.91	100	14.34	0.370
+11 DTC	10.67	100	17.18	0.443
+13 DTC	5.54	100	8.91	0.230
+15 DTC	1.50	100	2.42	0.062
+17 DTC	2.15	100	3.46	0.089
+19 DTC	3.25	100	5.23	0.135
+21 DTC	1.74	100	2.79	0.072
+23 DTC	0.37	100	0.59	0.015
+10.8 ct	0.19	100	0.30	0.008
+15 ct	0.10	100	0.16	0.004
+20 ct	0.06	100	0.09	0.002
				2.580

Model of total (+212 µm) and recoverable SFD models (expressed as percent carats (% ct) in each size class) for KIM-L (used to estimate grade of the KIM-L resource domains) (from Nowicki et al., 2016). The model reproduces the 2.58 ct/t +1180 µm grade of the 404.31 t CH-6 bulk sample.

All currently available micro- and macrodiamond data for KIM-C are summarized in Table 14-11. Peregrine QP's adopted the modified lognormal SFD model for KIM-L to fit the limited available commercial-sized diamond data for KIM-C, and to model a KIM-C SFD at larger diamond sizes than recovered by sampling of KIM-C. A total content (+212 µm) KIM-C SFD model was constructed by integrating all available microdiamond data, as illustrated in

Figure 14-12 and stated in Table 14-12Table 14-11. The micro/macrograde relationship embodied by the KIM-C model SFD and recovery factors stated in were used as the calibrated basis for the KIM-C grade estimates provided in Section 14.4.4.1.

Table 14-11: Microdiamond and macrodiamond results from core samples, used to define the total content (+212 µm) SFD model for KIM-C. One microdiamond outlier has been excluded from the analysis.

Parcel	Microdiamonds		Macrodiamonds	
Dry mass	349.5 kg		4.06 t	
Size class	St	Ct	St	Ct
+106 µm	267	0.00573		
+150 µm	185	0.01108		
+212 µm	108	0.01726		
+300 µm	60	0.02828		
+425 µm	23	0.03951		
+600 µm	17	0.07385		
+850 µm	12	0.14068	12	0.18
+1180 µm	2	0.06963	21	0.69
+1700 µm	2	0.14731	17	1.75
+2360 µm	1	0.23	7	1.55
+3350 µm			1	0.53
+4750 µm			0	0
+6700 µm			0	0
Total	**677**	**0.76**	**58**	**4.70**

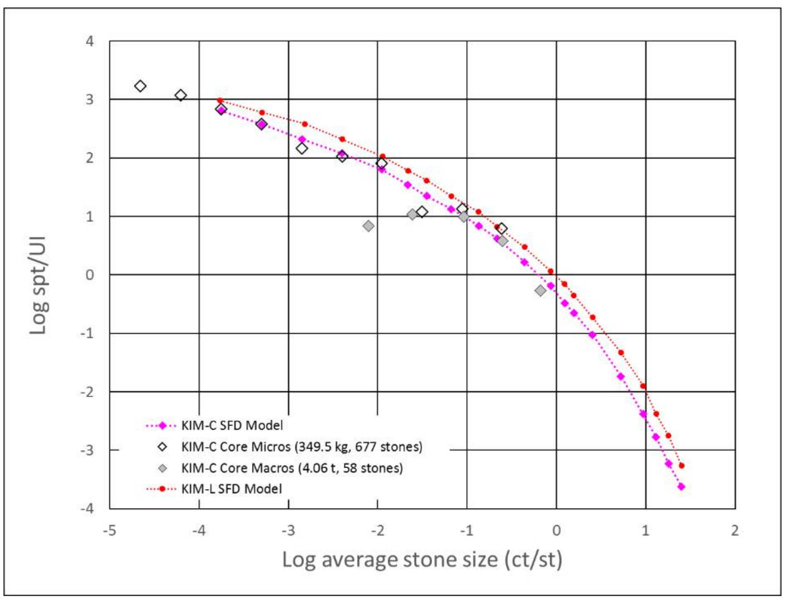


Figure 14-12: KIM-C total content (+212 µm) size frequency distribution model. Grade-size plot (spt/UI = stones per tonne per unit interval against the average size of diamonds in each sieve size class, ct/st = carats per stone) showing the final modelled total +212 µm diamond content SFD for the KIM-C geological domain.

Table 14-12: KIM-C stone size frequency distribution model and recovery factors.

Size class	Total content (+212 µm) SFD model (% ct)	Recovery corrections (%)	Recoverable (+1180 µm) SFD model (% ct)	Recoverable (+1180 µm) SFD model (ct/t)
+212 µm	2.16	0		
+300 µm	3.57	0		
+425 µm	5.56	0		
+600 µm	9.15	0		
+850 µm	12.47	0		
+1180 µm	4.78	55	4.25	0.063
+3 DTC	9.16	73	10.81	0.160
+5 DTC	11.92	95	18.31	0.271
+7 DTC	7.31	100	11.81	0.175
+9 DTC	9.68	100	15.65	0.231
+11 DTC	10.73	100	17.35	0.256
+13 DTC	5.46	100	8.82	0.130
+15 DTC	1.32	100	2.14	0.032
+17 DTC	1.94	100	3.13	0.046
+19 DTC	2.91	100	4.70	0.069
+21 DTC	1.39	100	2.25	0.033
+23 DTC	0.25	100	0.40	0.006
+10.8 ct	0.13	100	0.21	0.003
+15 ct	0.06	100	0.09	0.001
+20 ct	0.04	100	0.07	0.001
				1.478

Model of total (+212 µm) and recoverable SFD models (expressed as percent carats (% ct) in each size class) for KIM-C (used to estimate grade of the KIM-L resource domains).

14.4.4.5 *Grade estimates*

The microdiamond sample coverage for CH-6, while comprehensive, is not strictly spatially representative; certain sampled increments are over-represented (close spaced samples) relative to others (wider spaced samples), and certain portions of the pipe are over-represented relative to others. In order to generate a representative volume-weighted estimate of diamond grade based on microdiamond stone frequency, the data were composited and interpolated into the block model, as described below.

Microdiamond sample results (+212 µm st/kg) were composited at 10 m intervals within the KIM-L.HG and KIM-L.NG domains and were extracted as separate point datasets in GEMS. Long sample increments comprising multiple sub-aliquots for which no spatial (from-to) data were recorded were included with the result centred on the whole sampled interval. Composited sample stone counts were then converted to recoverable grade point data using the established calibration between microdiamond stone frequency and recoverable grade for KIM-L (Section

14.4.4.4). These grade point data were used to interpolate grade into 4,281 blocks in the CH-6 block model for the KIM-L.HG and KIM-L.NG domains using the inverse distance squared method with a search ellipse of 50 (X) by 50 (Y) by 100 (Z) m. In order to avoid over-smoothing of the data, all grades interpolated into blocks were informed by a minimum of two and a maximum of four data points. A second pass using a search ellipse of 100 (X) by 100 (Y) by 200 (Z) m was used to populate 40 blocks of KIM-L.NG in the southern sector of CH-6 that were not populated in the first pass. For the KIM-C resource domain, each of 703 blocks was populated with a calculated global average recoverable grade of 1.45 cpt (see Table 14-12), since the microdiamond sampling within this domain is less comprehensive than that within the KIM-L resource domains.

The total tonnage and carats contained within each resource domain was extracted from the block model through volumetric reserves reporting. The results support an average undiluted grade of 4.58 cpt for the KIM-L.HG domain and 2.11 cpt for the KIM-L.NG domain.

Dilution within the KIM-L and KIM-C geologic units predominantly takes the form of small and variably distributed xenoliths of carbonate and gneiss that cannot be, and have not been, avoided during normal-course microdiamond sampling. Xenoliths larger than 1 m were accounted for and have been avoided during microdiamond sampling, and these comprise 130 of the 6610 m total length of drill core intercepts within the resource domains (i.e. 1.97%). The drill coverage achieved to date is not of sufficient resolution to demarcate specific zones of elevated dilution, and a downward adjustment of 2% was therefore applied to the average grades to correct for dilution not already represented in the microdiamond results. The dilution-corrected average grades shown in Table 14-13 were populated into the block model by domain as the final average +1.18 mm bottom cut-off recoverable grade estimates for CH-6.

Table 14-13: Average recoverable grade estimates for the CH-6 resource domains.

Resource Domain	Recoverable Grade (+1180 µm cpt)
KIM-L.HG	4.49
KIM-L.NG	2.07
KIM-C	1.45

Grades are reported on a recoverable basis at a 1180 µm bottom cut-off and reflect the recovery efficiency of the sample processing plant used to treat the bulk samples.

14.4.5 Diamond Value

14.4.5.1 *Valuation*

A diamond parcel of 1,117.09 ct from CH-6 was valued by WWW International Diamond Consultants Ltd (WWW) in February 2014. WWW (2014) describe the parcel as presenting well in terms of quality, colour and shape with a number of yellow diamonds in the smaller size ranges suggesting the possible presence of fancy yellow stones. Based on the 2014 valuation, the average value for all diamonds in and larger than the DTC 3 size category (1,013.54 ct) was 213 US$/ct and an average modelled diamond value of 188 US$/ct was reported (WWW, 2014). This valuation exercise was updated in March 2016 based on the February 1, 2016 WWW price book, yielding an average actual diamond value for the parcel of 162 US$/ct. The results of this re-valuation exercise (extracted from WWW, 2016a) are presented in Table 14-14.

Table 14-14: 2016 Valuation results for a parcel of 1,013.54 ct from CH-6 in US$/ct.

Size class	Total Carats	Total Stones	Average Carat Per Stone	$/Carat
+9 ct	8.87	1	8.87	3,088
+8 ct				
+7 ct				
+6 ct	5.83	1	5.83	2,522
+5 ct				
+4 ct	8.73	2	4.37	2,025
+3 ct	28.20	9	3.13	400
+10 gr	10.64	4	2.66	409
+8 gr	40.27	20	2.01	440
+6 gr	27.02	17	1.59	258
+5 gr	10.52	8	1.32	330
+4 gr	48.74	48	1.02	212
+3 gr	49.76	66	0.75	145
+11 DTC	182.80	436	0.42	89
+9 DTC	144.24	664	0.22	58
+7 DTC	119.52	887	0.13	49
+5 DTC	210.40	3,170	0.07	44
+3 DTC	118.00	4,000	0.03	26
Total	**1,013.54**	**9,333**	**0.11**	**162**

An updated modelled estimate of average diamond value was generated by WWW (2016a) by combining a value distribution model (model of average diamond value by size class) with a single SFD model. The modelling yielded a base case average diamond value of $149 per carat (Table 14-15), with a low modelled average price of $128 per carat and a high modelled average price of $189 per carat (WWW, 2016a). WWW noted (2014) that it is unusual for the modelled average price to be lower than the parcels actual average price for samples of this size. They attributed this to the fact that all the CH-6 diamonds larger than 4 carats per stone were of relatively high value and might not be representative of the all the stones in these size classes if a larger sample were obtained.

This average value reflects the recovery efficiency of the process plant used to treat the CH-6 KIM-L bulk sample and assumes that no diamonds smaller than DTC 3 will be recovered. This recoverable average value corresponds with the recoverable grades reported in Table 14-13. While the bottom cut-off of DTC 3 is not precisely the same as the 1180 µm square mesh cut-off basis for the grade estimate, these are very similar to each other and for the purpose of an Inferred Mineral Resource estimate, can be considered to be equivalent. In the commercial size ranges, the SFD of KIM-C appears to be very similar to that of KIM-L, so for the purposes of this Mineral Resource estimate, the diamond values from the KIM-L bulk sample are considered applicable to KIM-C.

No updated diamond pricing or price modelling has been done since 2016.

Table 14-15: Average modelled diamond value for CH-6 in US$/ct.

Size class	Model SFD (% ct)	Value distribution ($/ct per size class)
+10.8 ct	1.31	675
+10 ct	0.14	940
+9 ct	0.18	1,180
+8 ct	0.23	1,375
+7 ct	0.30	1,395
+6 ct	0.40	1,455
+5 ct	0.57	1,415
+4 ct	0.88	1,225
+3 ct	1.51	1,005
+10 gr	0.69	725
+8 gr	2.52	530
+6 gr	2.58	340
+5 gr	1.93	260
+4 gr	4.49	180
+3 gr	6.51	115
+11 DTC	17.87	89
+9 DTC	14.10	58
+7 DTC	11.68	49
+5 DTC	20.57	44
+3 DTC	11.54	26
Average model $/ct		**149**

The average value reflects the recovery efficiency of the plant used to treat the CH-6 bulk sample, but assumes no recovery of diamond smaller than DTC 3. The SFD, value distribution and average $/ct values in this table were extracted from WWW (2016a).

14.4.5.2 *QP comments on CH-6 diamond value*

Nowicki et al. (2016) reviewed the WWW valuation data and commented that "The WWW (2016a) average value represents their best estimate of diamond value per size class applied to a model of diamond SFD (for diamonds larger than DTC 3) for CH-6. WWW are recognised international leaders in the field of diamond valuation and the QPs for this report believe it is reasonable to rely on the diamond values provided. The model SFD used by WWW differs slightly from that on which the grade estimates for CH-6 are based (Section 14.4.4.4). However, application of the WWW value distribution model to the CH-6 SFD model did not produce a significantly different average value and no modification to the reported average value for CH-6 is considered to be necessary." Peregrine's internal QP's agree with this statement.

14.4.6 **Confidence and Resource Classification**

14.4.6.1 *Volume and tonnage*

The drill coverage and number of external pierce points obtained are considered sufficient to have constrained the overall volume of the CH-6 pipe, from surface to an elevation of 300 mbs (380 masl), to a high level of confidence. The southern portion of the pipe is reasonably constrained by drilling between 300 mbs (380 masl) and 525 mbs (155 masl), though further definition of pipe-wall pierce-points and potential internal boundaries is required in this depth range to establish the same level of confidence as exists at shallower depths. The internal boundaries of the resource domains are based on the logged boundary between the KIM-C and KIM-L geological domains, and the distribution within KIM-L of microdiamond sampling results with stone frequencies higher than 1.25 st/kg that support a distinct high grade domain. The data used to define these domains is considered sufficient to constrain their volumes.

Uncertainty associated with this approach include:

- The KIM-C geological domain appears to represent a remnant of an earlier deposit preserved along the pipe margins. The seemingly complex morphology of this domain has been simplified by 2017 drilling results, although the contact between KIM-C and KIM-L, while informed by a significant number of drill intercepts, still carries some degree of uncertainty. Based on the apparent limited volume of KIM-C in relation to KIM-L, KIM-C does not represent a significant overall potential source of uncertainty in determinations of the volumes of KIM-L resource domains. The 2017 drilling results constrained the depth distribution of KIM-C within the upper 360 m of the northern half of CH-6, though minor additional volumes of KIM-C may be present at the pipe margin, in areas not currently informed by drilling. The drill coverage achieved to date provides a reasonable spatial representation of the pipe and of the KIM-C domain, and it is unlikely that additional unproven KIM-C volumes will impact materially on the resource domain volumes.

- The microdiamond sample coverage used to model the KIM-L.HG resource domain within the KIM-L geological domain is not sufficiently dense to have constrained this volume to a high level of confidence below 470 mbs (210 masl). The bulk density difference between the KIM-L.HG and KIM-L.NG domains is minor (~ 3%), implying that volume uncertainty pertaining to these domains does not introduce significant tonnage error into the estimate.

Bulk density in CH-6 is considered constrained to a high level of confidence by a large, spatially representative dataset and is not considered to be a potential source of significant uncertainty in the resource estimate. The volume and tonnage estimates for the CH-6 resource domains are considered constrained to a level of confidence acceptable for classification of Indicated Mineral Resources in the depth range shallower than 300 mbs (380 masl), and Inferred Mineral Resources in the depth range 300 to 525 mbs (380 to 155 masl). The appropriate overall classification for the resources declared in this report is therefore Inferred Mineral Resources.

14.4.6.2 *Diamond Grade Uncertainty*

Areas of grade uncertainty and the scale of potential error introduced into the average grade estimates for KIM-L were enunciated by Nowicki et al. (2016); they are duplicated in the discussion points below, with appropriate updates:

- Recoverable macrodiamond grade can be misrepresented by small sample sizes. Extreme value plots (representing cumulative grade with increasing sieve size class) have been assessed and high / low case error range modelling on the KIM-L SFD has been carried out to gauge the scale of this potential error. Due to the relatively large parcel size (1,124 ct) the potential scope of this error is limited (< ±10%).
- The grade estimates for CH-6 are based on a calibration of microdiamond stone frequency to recovered macrodiamond grade in the KIM-L bulk sample. Incorrect calibration of this relationship could occur if the material sampled for microdiamonds is not the same average grade as the overall bulk sample parcel. The microdiamond sample from the bulk sample comprised 40 spatially representative aliquots collected during excavation of the bulk sample. On an individual basis, as expected, these aliquots present variable results. Removal of aliquots with higher and lower recoveries, and generation of multiple random subsets of 20 aliquots from the overall 40 aliquot sample, suggests that the potential error associated with this calibration is less than ±10%.
- The generation of recoverable grade estimates from drill core microdiamond results is based on an assumption of SFD constancy between the 2013 KIM-L surface bulk sample and all KIM-L material comprising the CH-6 resource domains. Despite the geological variability (primarily textural heterogeneity) observed within KIM-L, assessments of microdiamond SFD characteristics (Section 14.4.4.3) indicate no significant differences

between major groupings of results within or between resource domains. Microdiamond data for the KIM-L.HG domain suggest that this material may have a slightly coarser SFD than that of KIM-L.NG (Figure 14-7), implying that the assumption of a constant SFD is a slightly conservative basis for estimation of the grade of the KIM-L.HG domain. The remaining potential for varying SFD relates primarily to the possibility that KIM-L.NG and KIM-L.HG could represent different kimberlite phases. This critical distinction is typically well resolved by routine and special investigations already completed over multiple years at CH-6, and Peregrine QP's consider it a remote and seemingly unresolvable possibility.

- The drill core microdiamond sample database for CH-6 is large, but portions of the pipe at 300 to 540 mbs (380 to 140 masl) are under-represented in the available data (Figure 14-4). Based on the level of variability observed in the grade data to date, and based on the grade estimation approach adopted (which mitigates over-clustering of data in certain areas relative to others) it is not likely that artefacts of the sample coverage will introduce error beyond that acceptable for an Inferred Mineral Resource. An assessment of large groupings of drill core microdiamond data with depth (Figure 14-8 and Figure 14-9) suggests that there is not likely to be a significant overall variation in grade with depth; however, the data available imply that local grade variation of up to ±30% from the average may be present on a scale pertinent to monthly mining production and grade reconciliation. This level of variability is considered acceptable for an Inferred Mineral Resource and does not preclude the use of average domain grades.

- Uncertainty in the relative volumes of the resource domains will also carry an associated grade uncertainty. The volume of the KIM-L.HG domain was conservatively modelled based on the improved resolution of 2017-era drilling and related microdiamond sampling (Figure 14-4). The uncertainty related to the volume of this domain is therefore thought to not present significant potential downside to the current grade estimates.

The scale of potential error related the global average grade estimate for KIM-C has been assessed by application of an exclusive grade forecasting protocol developed by Peregrine QP's. The protocol is based on factoring a test microdiamond data set against micro/macro diamond data for select reference bulk sample results that serve as protocol benchmarks. The protocol is entirely independent of SFD modelling procedures and – importantly – propagates variance parameters that permit assessment of the reliability of grade forecasts. Recoverable grade forecasts based on KIM-C microdiamond data (see Table 14-12) factored against three appropriate benchmarks are:

- 1.78 ± 0.40 cpt [± 22%] at +1.18 mm
- 1.40 ± 0.29 cpt [± 21%] at +1.18 mm
- 1.24 ± 0.33 cpt [± 27%] at +1.18 mm

Since all three forecasts carry variance less than ± 30% and the average 1.47 cpt recoverable grade forecast is effectively identical to the 1.45 cpt estimated resource grade of KIM-C, it is appropriate to consider KIM-C grade supported at an Inferred Resource category.

14.4.6.3 *Diamond Value*

Uncertainty in average diamond value derives from two main factors: (1) uncertainty in diamond value distribution (dollar per carat per sieve size class), particularly in the less well represented coarse size ranges, due to the limited size of the parcel valued (~1,000 ct); and (2) uncertainty in the diamond size frequency distribution (SFD) to which the value distribution is applied to generate an average recoverable diamond value.

Uncertainty associated with the value distribution model has been assessed by WWW (2016a) through the modelling of high and low value distribution models that represent the range of uncertainty present. These models translate to an uncertainty range of -15 to +30%.

Uncertainty associated with the SFD has been assessed by modelling high and low case SFD models that represent an interpretation of the finest and coarsest SFDs that could potentially be resolved in a production setting. The range of value uncertainty associated with these models is on the order of -20% to +30%.

The use of a single average value for the entire CH-6 Mineral Resource estimate assumes that neither the diamond value distribution nor the SFD will vary materially with depth or laterally in the KIM-L and KIM-C domains. Based on the degree to which microdiamond results display broad scale SFD similarity this assumption is considered valid.

The average diamond value for CH-6 is considered constrained to a level of confidence suitable for reporting of Inferred Mineral Resources.

14.4.6.4 *Summary of confidence and resource classification*

The level of confidence to which each major component of the CH-6 Mineral Resource estimate is constrained is shown in Table 14-16. The overall resource classification is based on that of the lowest confidence component.

Table 14-16: CH-6 Mineral Resource estimate confidence levels.

Body	Volume	Tonnage	Grade	Value	Resource classification
CH-6	INF	INF	INF	INF	INF

Confidence with which each major component of the CH-6 Mineral Resource estimate is constrained. The overall Mineral Resource is classified at an Inferred level of confidence.

14.5 CH-7 Mineral Resource Estimate

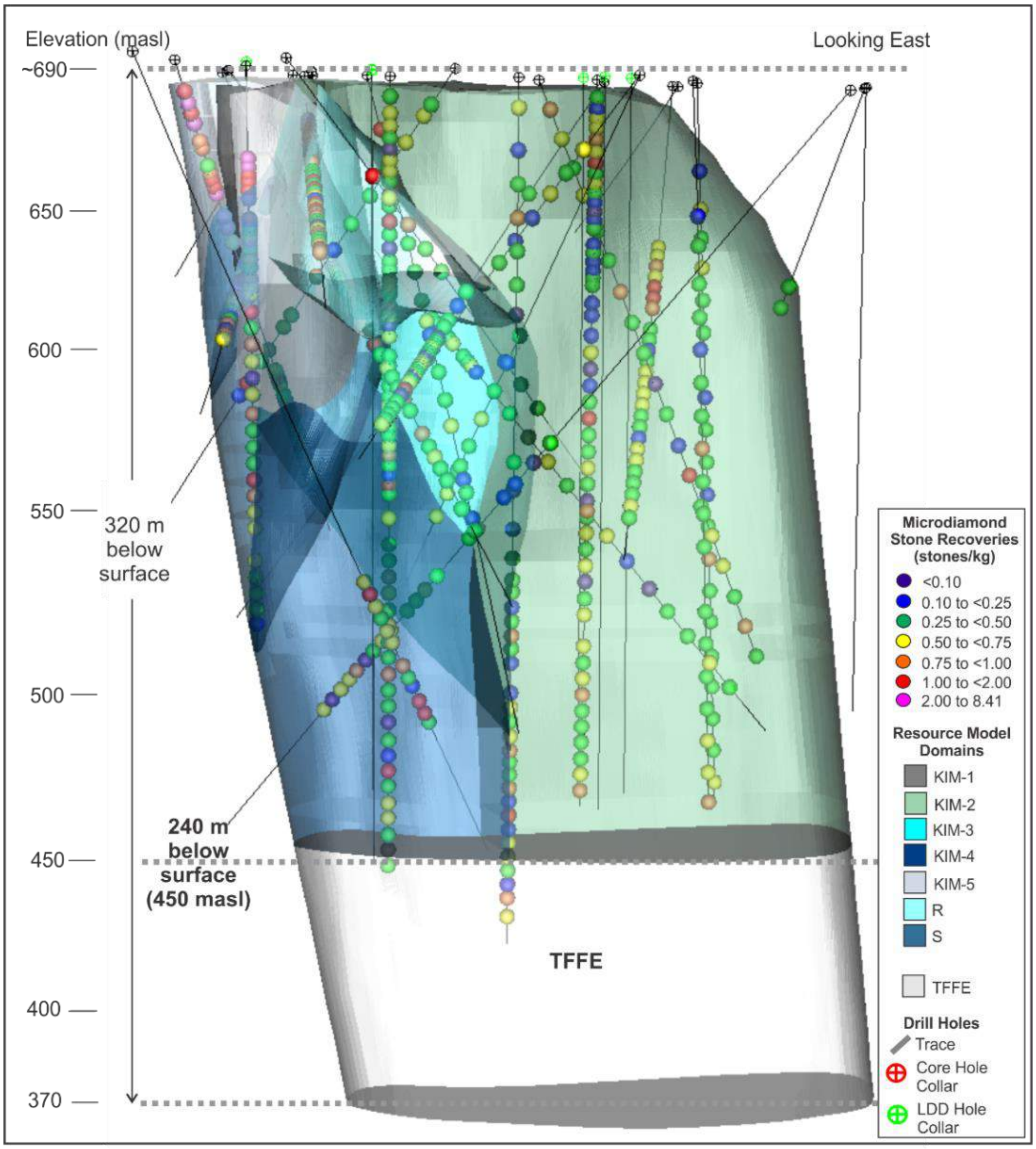
14.5.1 Resource and TFFE Domains

No new, 2017-era evaluation data for CH-7 are available; all available results were incorporated into the previously issued technical report for the Chidliak project (Nowicki et al., 2016). No revision to the previously reported Resource or TFFE estimates has been undertaken. Data and results are stated here as derived from Nowicki et al. (2016).

The CH-7 geological domains described in Section 7 form the basis of the resource domains for which Mineral Resource estimates are being made. Further subdivision of these domains was limited to clipping of domains KIM-2 and KIM-4 at an elevation of 450 masl (240 mbs) to exclude underlying material. Different grade and bulk density estimates were made for KIM-5 above and below 620 masl (70 mbs); this domain was not subdivided – the grade and bulk density estimates were populated into the block model by elevation range for the KIM-5 solid.

A single target for further exploration (TFFE) domain corresponds to the entire pipe in the elevation range 450 to 370 masl (240 - 320 mbs). No Mineral Resource estimate can be made for this material due to a lack of evaluation data, and TFFE estimates of volume and tonnage ranges are reported. The geology of this part of the pipe is not sufficiently well constrained to support subdivision into different TFFE domains. Resource and TFFE domains are illustrated in Figure 14-13.

Figure 14-13: CH-7 resource domains and microdiamond stone recoveries.



14.5.2 Bulk Density and Tonnage

A total of 957 bulk density measurements (exclusive of outlier, duplicate and repeat QA/QC measurements) were used for the CH-7 resource estimate. Summary statistics for results grouped by domain are shown in Table 14-17.

Table 14-17: Summary statistics for bulk density data from the CH-7 resource and TFFE domains.

Resource category	Domain	Samples	Bulk density (g/cm^3)			
			Average	Minimum	Maximum	Std. deviation
Mineral Resource	KIM-1	71	2.70	2.32	3.01	0.15
	KIM-2	358	2.56	1.81	2.93	0.14
	KIM-3	162	2.72	2.29	3.00	0.13
	KIM-4	88	2.79	2.56	2.93	0.09
	KIM-5	34	2.70	2.30	3.00	0.19
	R	22	2.47	2.29	2.67	0.11
	S	79	2.90	2.41	3.05	0.11
TFFE	TFFE	7	2.85	2.66	2.97	0.11
n/a	CR above 630 masl	86	2.71	2.36	2.81	0.06
	CR below 630 masl	50	2.67	2.34	2.81	0.08

- Bulk density values have been populated into the CH-7 block model for each resource and TFFE domain as outlined in Table 14-18ty based on the data available.

- Table 14-18. These values were derived as follows:

- Clear trends of increasing bulk density with depth are present in several domains (KIM-1, KIM-2, S) and were accounted for by averaging the bulk density results within selected elevation ranges. Elevation ranges were selected based on the overall trend for each dataset to adequately represent the degree of variation present.

- In KIM-4 the change in bulk density with depth is very well defined, and bulk density values for selected elevation ranges were derived from a linear regression line fitted to the KIM-4 results. This allowed for estimation of bulk density in shallower portions of KIM-4 that are not represented by sampling.

- The KIM-5 domain shows extreme variability in bulk density values linked to variable degrees of weathering and there are not clear trends with depth for the majority of this domain. However, it is apparent that bulk density samples taken from a small portion of the domain extending below 620 masl yield substantially higher bulk density values than those from higher elevations and hence this portion of the domain has been assigned a higher bulk density (Table 14-18).

- Where no clear trend of bulk density change with depth is present, a single average bulk density was adopted for the entire domain (KIM-3 and R).
- The TFFE domain has been assigned an average bulk density based on the data available.

Table 14-18: Resource and TFFE domain bulk density values adopted for the CH-7 estimate.

Domain	Elevation (masl)	Bulk density (g/cm^3)
KIM-1	>650	2.65
	<650	2.80
KIM-2	>660	1.98
	660 to 640	2.25
	640 to 620	2.49
	620 to 560	2.58
	<560	2.62
KIM-3	All	2.72
KIM-4	>570	2.63
	570 to 550	2.68
	550 to 530	2.72
	530 to 510	2.76
	510 to 490	2.81
	490 to 470	2.85
	470 to 450	2.89
KIM-5	>620	1.93
	<620	2.87
R	All	2.47
S	>570	2.87
	570 to 550	2.93
	<550	2.99
TFFE	All	2.85

Average values for geological domains (not Mineral Resource or TFFE estimates) have also been assigned in the CH-7 block model. The approximate base of the country rock weathering horizon in proximity to CH-7 is 630 masl (60 mbs). Average bulk densities of country rock above and below this elevation were therefore adopted for weathered and unweathered country rock. No data are available for overburden material and an assumed average of 2.20 g/cm^3 was adopted. The CR geological domain was assigned the average value of all bulk density samples with a logged geology unit of “weathered country rock” (2.59 g/cm^3).

Resource domain volume and tonnage estimates are provided in Table 14-19. These estimates were derived through volumetric reporting from the CH-7 block model in GEMS. Volume and tonnage estimates for the TFFE domain are provided in Table 14-20.

Table 14-19: Volume and tonnage estimates for the CH-7 resource domains.

Resource domain	Volume (Mm^3)	Density (g/cm^3)	Tonnage (Mt)
KIM-1	0.08	2.74	0.22
KIM-2	1.13	2.49	2.82
KIM-3	0.25	2.72	0.69
KIM-4	0.22	2.80	0.61
KIM-5	0.05	2.00	0.11
R	0.10	2.47	0.24
S	0.11	2.89	0.31
Total	**1.94**	**2.57**	**4.99**

The bulk density shown for each resource domain, and for the whole of CH-7, is based on the total volume and tonnage extracted from the CH-7 block model in GEMS. Values may not add due to rounding of the reported values to 2 decimal places.

Table 14-20: Volume and tonnage range estimates for the CH-7 TFFE domain.

TFFE domain	Volume (Mm^3)		Density	Tonnage (Mt)	
	Low	High	(g/cm^3)	Low	High
CH-7 450 to 370 masl	0.32	0.83	2.85	0.90	2.36

The potential tonnage defined as TFFE is conceptual in nature as there has been insufficient exploration to define a Mineral Resource on this target and it is uncertain if future exploration will result in the tonnage estimate being delineated as a Mineral Resource.

14.5.3 **Diamond Grade**

14.5.3.1 *Approach to grade estimation*

Micro- and macrodiamond results from each resource domain have been investigated to gauge average grade characteristics, extent of internal grade and SFD continuity and relationships between micro- and macrodiamonds. Two approaches to grade estimation have been applied based on the types of evaluation data available and results of the aforementioned investigation. These include (1) the adoption of recovered LDD grades in KIM-2, KIM-4, KIM-5 and R as average grade estimates for these domains, and (2) the use of calibrated microdiamond data to estimate average diamond grade (see Section 14.5.3.1 for a detailed explanation of this approach) in KIM-1, KIM-3 and S. Average grades have been adopted for all resource domains.

14.5.3.2 *Supporting data*

The diamond datasets generated from the drilling and sampling work discussed in Sections 10 and 11 were evaluated and outlier samples were excluded through graphical assessments of the results for each kimberlite unit. The resulting final diamond datasets that were used to estimate and verify grade in CH-7 are summarised in Table 14-21. The spatial distribution of these datasets is shown in Figure 14-14. The datasets available are as follows:

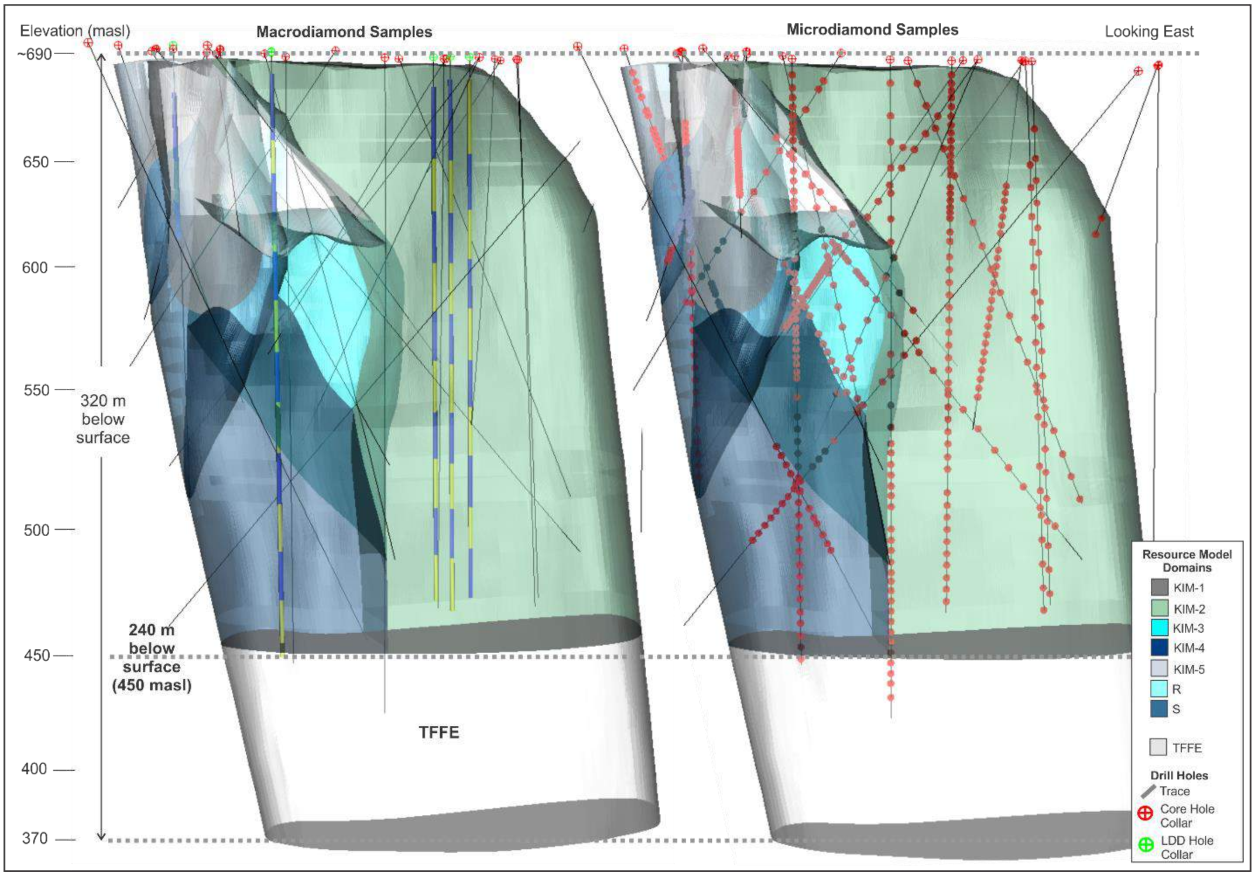
- A surface bulk sample of KIM-1 (49 ct recovered from 47 t) from which a representative microdiamond sample was collected (total of 467 kg). These data were used to develop the KIM-1 total diamond content SFD model.
- Large-diameter drilling of six holes in three locations across the pipe has sampled 809 t in-situ kimberlite from which a combined parcel of 718 ct was recovered from five of the seven resource domains (KIM-2, KIM-3, KIM-4, KIM-5 and R). Microdiamonds have been recovered from 1,183 kg of drill core from pilot holes adjacent to LDD holes; where possible these results have been used in conjunction with the LDD macrodiamond results to develop total diamond content SFD models.
- An additional 3,616 kg of drill core has been processed for microdiamonds. These results have been used to assess grade and SFD variability and to support grade estimates.
- A surface grab sample of KIM-1 comprising 26 aliquots (205 kg) has been processed for microdiamonds. These results were used to support the development of the KIM-1 total diamond SFD model.

Table 14-21: Microdiamond and macrodiamond datasets used to estimate grade in CH-7.

Dataset	Sample medium	Aliquots (count)	Mass (t)	Process bottom cut off (µm)	Diamonds	Carats
Macrodiamond	Surface bulk sample	N/a	47.06	850	502	49.07
	Large diameter drill	N/a	809.47	1180	7,362	717.65
Microdiamond	Surface bulk sample	2	0.47	425	71	0.90
	Large diameter drill pilot holes	144	1.18	106	1,800	2.77
	Drill core	451	3.62	106	5,721	7.65
	Surface grab (KIM-1)	26	0.21	75	363	0.79

Only results from within the resource domains are included.

Figure 14-14: CH-7 resource model illustrating distribution of macrodiamond and microdiamond samples.



Three-dimensional view of the CH-7 resource domains showing the spatial distribution of macrodiamond (left) data from LDD holes and microdiamond (right) sample coverage in drill core. The yellow and blue intersections on the left illustrate the intervals sampled for each processing unit. Red dots on the right illustrate the midpoint of individual 8 kg sample aliquots.

14.5.3.3 *Microdiamond stone frequency and SFD characteristics*

Summary statistics of +212 µm microdiamond stone frequency grouped by resource domain are provided in Table 14-22 and illustrated in Figure 14-15. The individual domains present varying average stone frequencies, ranging from a low of 0.41 st/kg in KIM-3 to a high of 1.62 st/kg in KIM-5. Stone frequency variation with depth in the domains sufficiently well represented to allow for a meaningful spatial assessment (this excludes Domains KIM-1 and R) is shown in

Figure 14-16. Results imply that grade is not likely to vary significantly with depth in any of these domains, with the possible exception of KIM-4 and KIM-5.

Size frequency distributions (SFDs) of microdiamonds from each domain are shown in Figure 14-17. The SFDs of KIM-2, KIM-3, KIM-4, KIM-5 and S are all very similar. The SFDs of KIM-1 and R are similar to each other, but possibly finer grained than those of the remaining domains. Comparison of microdiamond SFDs by elevation range in KIM-2 and KIM-3 (Table 14-22 and Figure 14-18) reveals that SFD does not appear to change meaningfully in KIM-2 or KIM-3 with depth. A spatial analysis of microdiamond SFD characteristics in the other domains is not possible due to their smaller volumes and the more limited microdiamond populations.

Table 14-22: Summary statistics of microdiamond stone frequency (+212 µm stones/kg) by domain in CH-7.

Data type	Descriptor	KIM-1	KIM-2	KIM-3	KIM-4	KIM-5	R	S	TFFE
Sample information	Count	57	222	117	43	62	53	67	7
	Mass (kg)	452	1,792	937	344	501	431	547	56
+212 µm microdiamond stone frequency statistics	Average	0.50	0.43	0.41	0.51	1.62	0.60	0.66	0.52
	Standard deviation	0.32	0.25	0.24	0.30	1.59	0.39	0.35	0.26
	Median	0.39	0.38	0.37	0.50	1.15	0.50	0.63	0.50
	Maximum	1.38	1.23	1.38	1.14	8.41	1.79	1.62	0.87
	Minimum	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.12

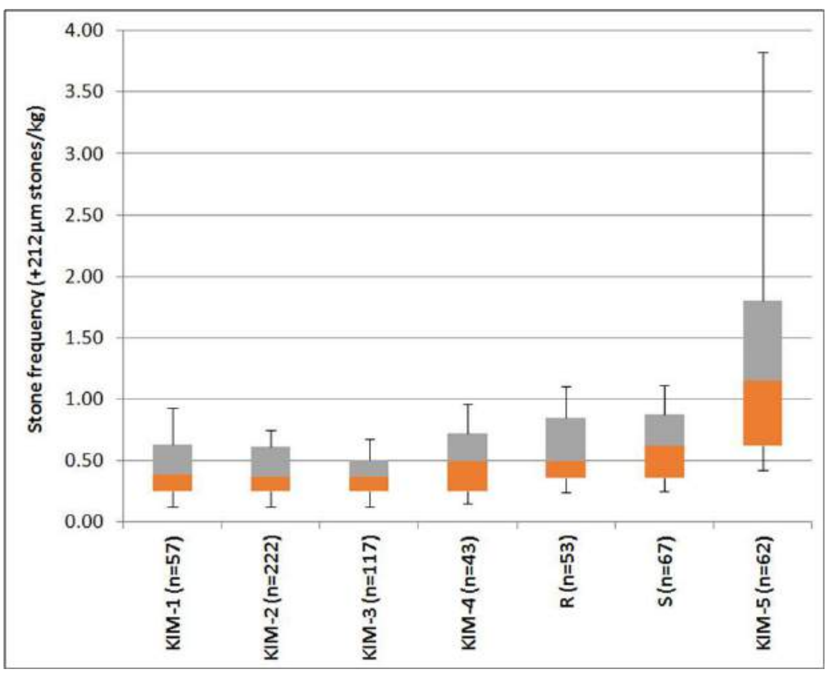


Figure 14-15: Microdiamond stone frequencies (+212 µm st/kg) from drill core samples grouped by resource domain. n = number of sample aliquots represented. The orange and grey boxes indicate the 25th to 75th percentile values and the contact between them is the median. Error bars represent the 10th and 90th percentile values.

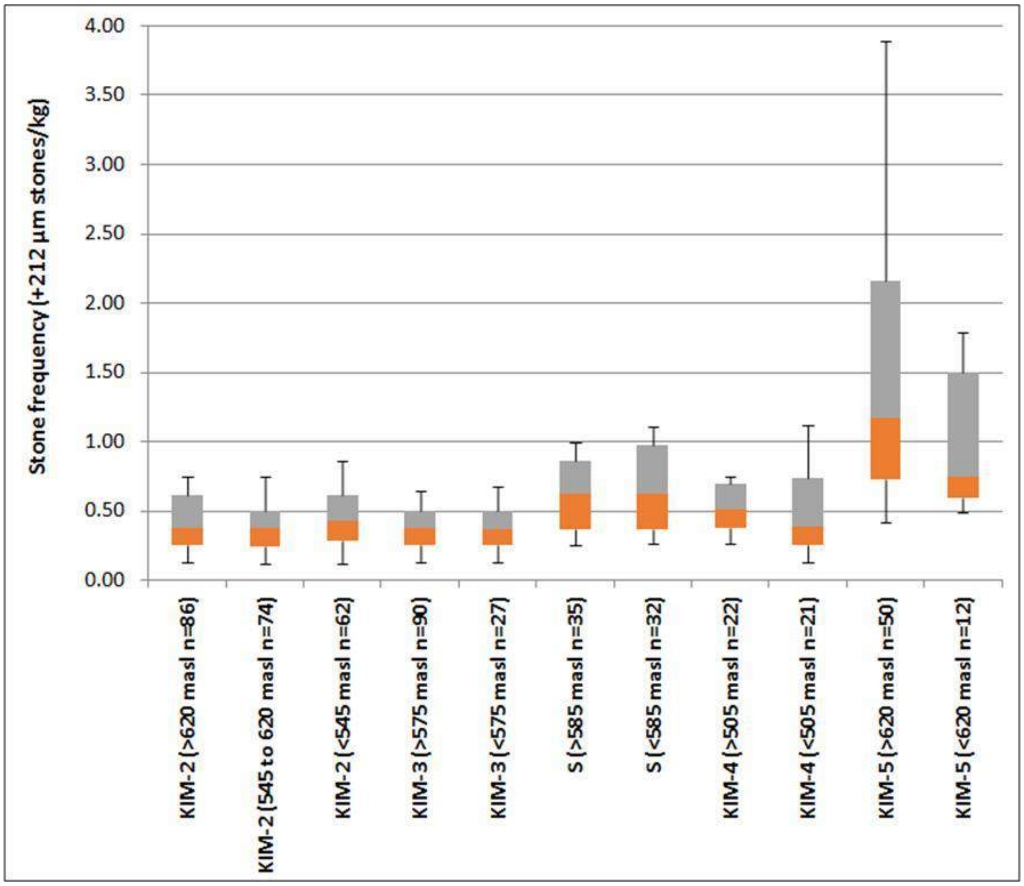


Figure 14-16: Microdiamond stone frequencies (+212 µm st/kg) from drill core samples grouped by resource domain in selected elevation ranges. n = number of sample aliquots represented. The orange and grey boxes indicate the 25th to 75th percentile values and the contact between them is the median. Error bars represent the 10th and 90th percentile values.

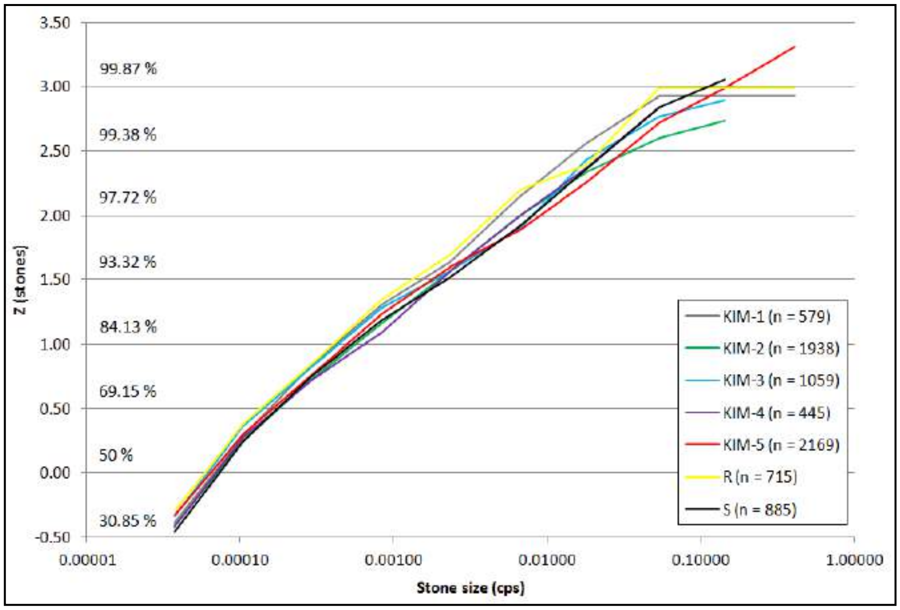


Figure 14-17: Microdiamond SFDs (+106 µm) for the CH-7 resource domains. SFD is shown on a cumulative log probability plot (showing the proportion of diamonds below a given stone size); cps = carats per stone; n = number of +106 µm stones illustrated.

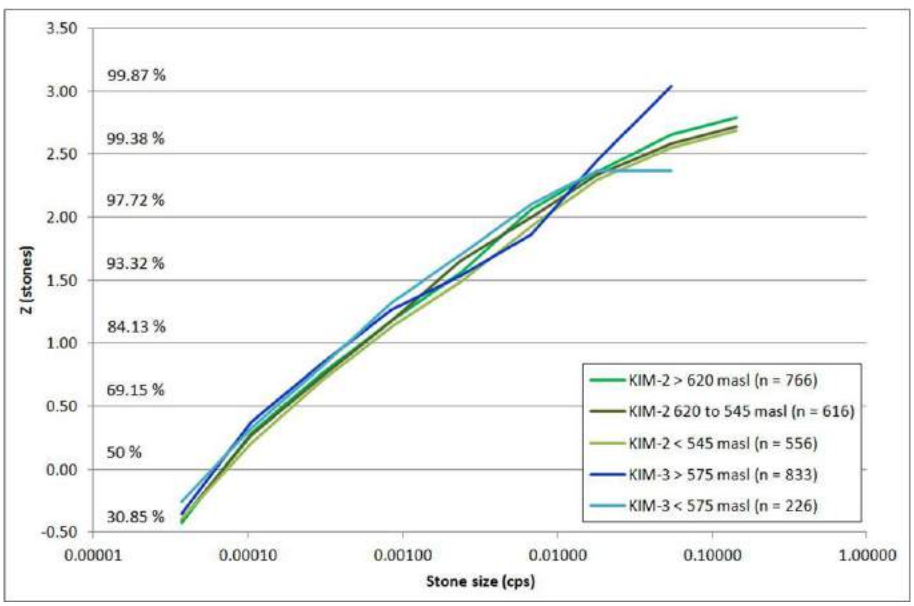


Figure 14-18: Microdiamond SFDs (+106 µm) for KIM-2 and KIM-3 by elevation range. The same elevation ranges illustrated in Figure 14-16 for these two domains are used. SFD is shown on a cumulative log probability plot (showing the proportion of diamonds below a given stone size); cps = carats per stone; n = number of +106 µm stones illustrated.

14.5.3.4 *Macrodiamond stone frequency and SFD characteristics*

Large-diameter drill (LDD) sampling macrodiamond results are summarised by domain in Table 14-23 and compared to results from the KIM-1 surface bulk sample. The LDD stone frequency (+1180 µm st/t) results by processing unit and resource domain are shown in Figure 14-19. Stone frequency results for KIM-2 are consistent with depth and do not provide any indication of significant grade variation beyond that expected to be present in the relatively small 10-15 t (dry) processing units (Figure 14-19). Limited sampling results in KIM-3 imply a possible decrease in grade with depth. However, the number and size of samples do not conclusively resolve a grade change, and the scale of the apparent grade change, particularly in the context of this small domain, is insufficient to justify a model of changing grade with depth in KIM-3. The remaining resource domains (KIM-4 and R) are poorly represented spatially and their LDD grade results are highly variable; this variability is very likely controlled by the observed presence of different kimberlite units in both domains (MSC16/010R). The results from KIM-4 in particular clearly imply the presence of higher and lower grade units.

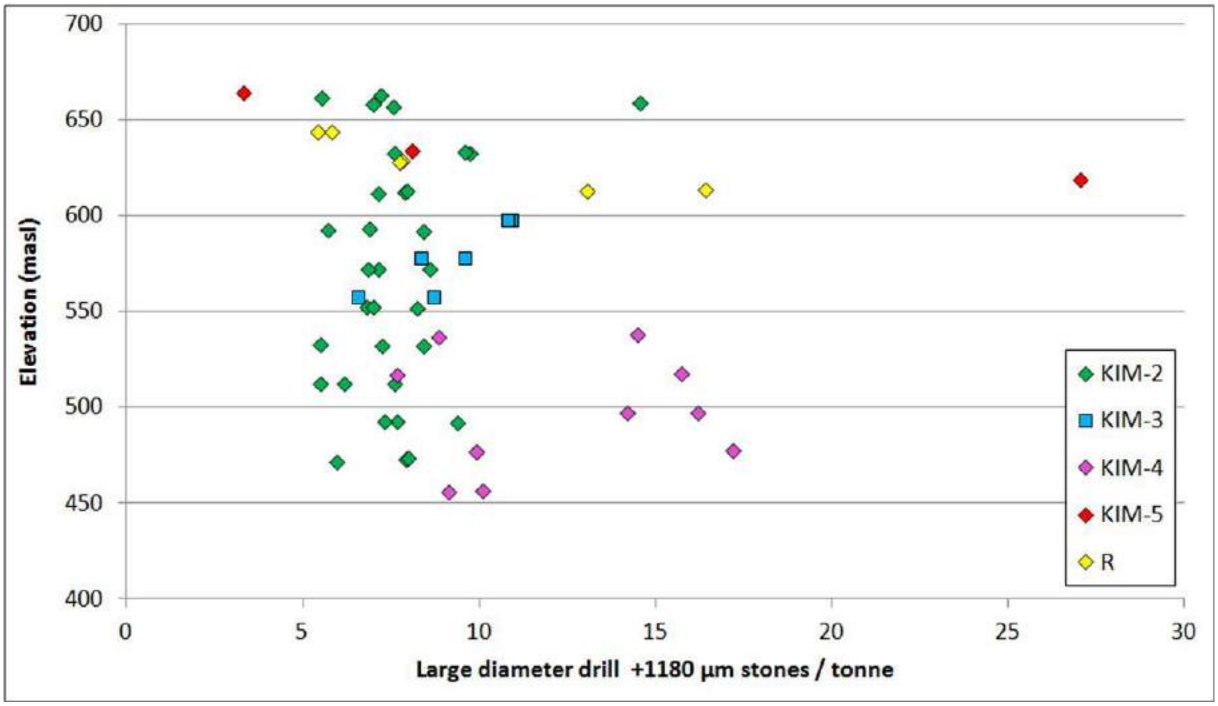
Grade results from the three processing units in KIM-5 are extremely variable; this likely reflects the extensive collapsing of material down hole that occurred during drilling. The overall volume of the KIM-5 LDD sample is considered to be well constrained through volumetric survey (caliper), however the majority of the sloughed volume (added to the upper sample increment) collapsed and was recovered during deeper drilling, and results from the individual processing units are thus not reliable on a singular basis.

Table 14-23: CH-7 macrodiamond data from LDD and surface bulk sampling including stone frequency results (+1180 µm st/t) for each domain.

Resource domain	Sampling method	Process units	Tonnes	Total Stones	Total Carats	Stones /Tonne	Carats/ Tonne	Minimum Stones/Tonne	Maximum Stonnes/Tonne
KIM-1	Surface trench	1	47.06	354	47.29	7.52	1.00	N/a	N/a
KIM-2	LDD drill	34	476.53	3680	363.66	7.72	0.76	5.47	14.54
KIM-3	LDD drill	6	83.04	756	68.14	9.10	0.82	6.55	10.91
KIM-4	LDD drill	10	144.29	1776	157.93	12.31	1.09	7.67	17.19
KIM-5	LDD drill	3	45.68	432	49.98	9.46	1.09	3.29	27.02
R	LDD drill	6	59.92	517	67.84	8.63	1.13	5.43	16.41
Audit*	LDD drill	N/a	0.00	201	10.11				

*Audit work carried out on hole LD05 (KIM-5) recovery tailings, as discussed in Section 11.6.8. KIM-1 data excludes 850 µm results.

Figure 14-19: LDD stone frequency (+1180 µm st/t) results from discrete processing units by domain.



The SFDs for each macrodiamond parcel (including surface bulk sample results for KIM-1) are shown in Figure 14-20. Differences between the domains are present, however it is unclear if these represent true SFD variations or if they are artefacts of the generally small parcel sizes. KIM-1 presents a markedly different SFD in the finer size ranges; this is potentially related to the sampling method (KIM-1 was excavated at surface while remaining domains were sampled through LDD drilling). The SFD within KIM-2 by elevation range and within the higher and lower grade parcels derived from KIM-4 displays encouraging similarity despite the small parcel sizes (Figure 14-21), suggesting continuity in SFD within these domains.

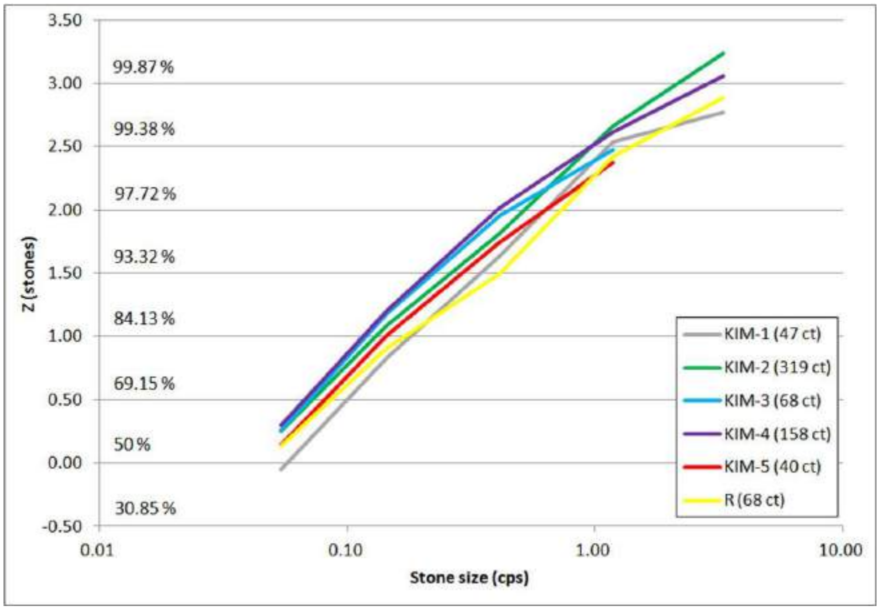


Figure 14-20: Macrodiamond SFDs (+1180 µm) for the CH-7 resource domains. SFD is shown on a cumulative log probability plot (showing the proportion of diamonds below a given stone size); cps = carats per stone.

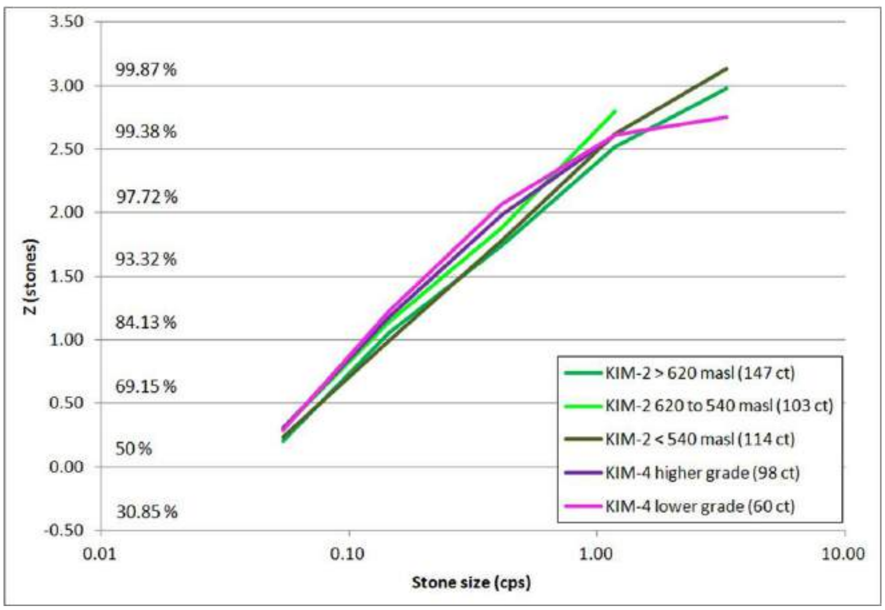


Figure 14-21: Macrodiamond SFDs (+1180 µm) for KIM-2 by elevation range and for groupings of higher and lower grade results in KIM-4. Results indicate good internal SFD continuity for these domains. SFD is shown on a cumulative log probability plot (showing the proportion of diamonds below a given stone size); cps = carats per stone.

14.5.3.5 *Total diamond content SFD models and recovery corrections*

Total (+212 µm) diamond content size frequency distribution (SFD) models were constructed for the KIM-1, KIM-2 and KIM-3 domains where this was supported by the available LDD sample data and associated microdiamond data from pilot drill cores. In the case of KIM-1, the SFD model was based on macrodiamond data from the KIM-1 surface bulk sample and microdiamond data from the KIM-1 surface grab sample (Table 14-24). For KIM-2 and KIM-3, SFD models were based on macrodiamond data from the LDD bulk samples and microdiamond data for equivalent volumes of kimberlite as sampled by pilot core drill holes adjacent to the LDD holes. The micro- and macrodiamond data used to define these SFD models are provided in Table 14-25. The SFD models were used, in conjunction with more spatially representative drill core microdiamond data, to estimate average grades for the KIM-1, KIM-3 and S domains. Drill core microdiamond data in KIM-1 and KIM-3 suggest the overall domain grades will differ from their respective bulk sample grades. Average grade for the S domain (for which no macrodiamond parcel is available) has been estimated using its domain-wide drill core microdiamond data in conjunction with the KIM-2 total content SFD. This approach is considered justified based on the similarity between the KIM-2 and the S microdiamond SFD. The total content SFD models that were used as a basis for grade estimation are provided in Table 14-22, along with the recovery corrections applied (based on recovery efficiency achieved during sample processing) to convert total (+212 µm) diamond content to that recoverable at a 1180 µm bottom cut-off.

Table 14-24: Microdiamond and macrodiamond parcels used to define the total diamond content SFD models for KIM-1, KIM-2 and KIM-3.

Domain	KIM-1				KIM-2				KIM-3			
Parcel	Microdiamonds		Macrodiamonds		Microdiamonds		Macrodiamonds*		Microdiamonds		Macrodiamonds	
Dry mass	205.1 kg		47.06 t		403.6 kg		429.25 t		129.5 kg		83.04 t	
Size class	St	Ct	St	Ct	St	Ct	St	Ct	St	Ct	St	Ct
+75 µm	94	0.00090										
+106 µm	94	0.00223			144	0.00328			45	0.00115		
+150 µm	68	0.00458			124	0.00822			40	0.00262		
+212 µm	51	0.00983			60	0.01092			32	0.00593		
+300 µm	35	0.01960			43	0.02023			16	0.00852		
+425 µm	11	0.01635			24	0.03474			7	0.00782		
+600 µm	8	0.03666			23	0.09156			3	0.01185		
+850 µm	0	0.00000	148	1.78	7	0.08048			2	0.01690		
+1180 µm	1	0.05899	170	5.49	2	0.03441	2,008	67.83			455	15.26
+1700 µm	0	0.00000	112	10.09	1	0.09478	868	73.81			211	17.68
+2360 µm	0	0.00000	54	12.23	3	0.90511	349	84.11			71	17.10
+3350 µm	1	0.64033	16	10.77			104	67.29			14	9.24
+4750 µm			1	2.18			11	18.40			5	8.86
+6700 µm			1	6.53			2	7.39			0	0.00
Total	**363**	**0.78946**	**502**	**49.07**	**431**	**1.28373**	**3,342**	**318.82**	**145**	**0.05477**	**756**	**68.14**

*Only diamonds from LD01, LD02 and LD06 were used to define the KIM-2 total diamond content SFD model

*Only diamonds from LD01, LD02 and LD06 were used to define the KIM-2 total diamond content SFD model.

Table 14-25: SFD models for CH-7 KIM-1, KIM-2 and KIM-3.

Size class	Total content (+212 µm) SFD models (% ct)			Recovery corrections (%)	Recoverable (+1180 µm) SFD models (% ct)		
	KIM-1	KIM-2	KIM-3		KIM-1	KIM-2	KIM-3
+212 µm	2.57	2.41	2.37	0			
+300 µm	4.29	4.27	4.48	0			
+425 µm	6.32	6.86	7.11	0			
+600 µm	8.80	10.48	10.80	0			
+850 µm	10.53	13.10	13.31	0			
+1180 µm	4.25	5.02	5.10	55	3.84	5.00	5.17
+3 DTC	8.32	9.86	9.80	72	9.85	12.85	13.02
+5 DTC	10.66	11.60	12.03	82	14.38	17.22	18.20
+7 DTC	6.39	6.84	6.68	92	9.66	11.39	11.33
+9 DTC	8.27	8.30	7.99	100	13.60	15.03	14.74
+11 DTC	10.31	9.70	8.71	100	16.95	17.56	16.06
+13 DTC	6.04	4.74	4.23	100	9.94	8.57	7.80
+15 DTC	1.73	1.20	1.15	100	2.84	2.17	2.12
+17 DTC	2.63	1.64	1.68	100	4.32	2.97	3.11
+19 DTC	4.30	2.22	2.50	100	7.07	4.02	4.61
+21 DTC	2.92	1.19	1.44	100	4.81	2.16	2.66
+23 DTC	0.74	0.27	0.32	100	1.21	0.48	0.59
+10.8 ct	0.46	0.16	0.17	100	0.75	0.29	0.31
+15 ct	0.26	0.09	0.09	100	0.44	0.16	0.16
+20 ct	0.21	0.08	0.06	100	0.35	0.14	0.12

Models of total content (+ 212 µm) and recoverable SFD (expressed as percent carats in each size class) used as the basis for average grade estimates in domains KIM-1, KIM-3 and S (adopted KIM-2 model). The recovery corrections used to convert the total content to recoverable SFD models are shown, and are based on the actual +1180 µm recovery efficiency achieved during sample processing.

14.5.3.6 *Grade estimates*

Grade estimates for the CH-7 resource domains are provided in Table 14-26. All grades are reported as those recoverable at a 1180 µm bottom cut-off, and reflect the actual recovery efficiency achieved during sample processing. These estimates will therefore need to be adjusted to reflect the expected recovery efficiency of the planned production processing plant. In all cases average grades have been adopted. The basis for each grade estimate is as follows:

- KIM-1: microdiamond sample coverage from drill core in this domain is limited but is more spatially representative than the single bulk sample at surface. Drill core results were therefore applied to the calibrated ratio between microdiamond stone frequency and recoverable grade for KIM-1 to estimate an average grade slightly lower than that recovered in the bulk sample at surface.

- KIM-2: the large and spatially representative drill core microdiamond dataset, as well as the macrodiamond data available, imply good internal SFD and grade continuity for the whole KIM-2 domain. The recovered LDD bulk sample grade was therefore adopted as the average grade for the domain.
- KIM-3: microdiamond data suggest that the overall grade of the KIM-3 domain will be lower than that of the LDD bulk sample (the average stone frequency for drill core samples throughout the domain is lower than was recovered from the core pilot hole adjacent to the KIM-3 LDD samples). Core drilling indicates that dilution is elevated towards the base of KIM-3, mainly in proximity to the domain boundaries, and the average dilution in the LDD pilot core hole is lower than that of the whole domain. Core drilling has also revealed the presence of minor amounts of different kimberlite units (e.g. KIM-6) within the domain. The effect of these units on grade is not constrained, and it is thus not clear if the discrepancy in average microdiamond stone frequency between the domain as a whole and the LDD pilot hole is controlled by varying proportions of different kimberlite units or by varying degrees of dilution, or if it simply reflects the small sample size derived from the pilot hole. Average microdiamond stone frequencies from the KIM-3 domain were applied to the calibrated ratio between microdiamond stone frequency and recoverable grade for KIM-3 to generate an average grade estimate slightly lower than that recovered by LDD sampling.
- KIM-4: the recovered LDD grade has been adopted as the average grade estimate for the KIM-4 domain. Results from the two LDD holes intersecting KIM-4 are very different (average sample grades of 1.32 and 0.85 cpt, respectively), despite them being drilled in close proximity to each other. This is thought to reflect the presence of different kimberlite units with different diamond grade. Comparison of microdiamond results from the domain as a whole to those derived from the pilot hole adjacent to the KIM-4 LDD holes suggests that on average the grade of KIM-4 may be higher than that reflected in the LDD sample, suggesting that the proportion of lower grade material in the domain as whole is lower than that reflected in the LDD sampling. Due to the poorly constrained geology of KIM-4 and the variable nature of the LDD sample results it is not possible to incorporate this potential upside into the estimate for KIM-4 (see Section 14.5.5.2 for further discussion on grade uncertainty) and the average sample grade has been adopted as a conservative best estimate of the domain grade.
- KIM-5: the recovered LDD grade has been adopted as the average grade estimate for the KIM-5 domain above 620 masl (70 mbs). KIM-5 grade and bulk density data suggest that mass loss in kimberlite related to alteration / weathering has a significant control on grade per unit mass. The distribution of “red-mud” intervals within KIM-5 simultaneously

decreases bulk density and increases grade, suggesting that on a volume basis the grade may be more consistent than is apparent in microdiamond results, which are on a grade per unit mass basis. No "red-mud" units were intersected in drill core below 620 masl and this small portion of KIM-5 was not intersected by the LDD holes. Due to the lack of red mud, a significantly higher average bulk density was assigned to KIM-5 material below 620 masl (Section 14.5.2). The average grade for this zone was based on the recovered LDD grade for KIM-5 proportionally corrected downwards by the ratio between microdiamond stone frequency in KIM-5 above 620 masl relative to that below 620 masl.

- R: comparison of microdiamond results from the R domain as a whole to those derived from the pilot hole adjacent to the LDD samples of this domain suggests that on average the grade may be higher than that reflected in the LDD sample. The geology of R is complex, encompassing multiple different kimberlite units, and the variable grade results appear to reflect this complexity. Based on the results available, it is not possible to define a total content SFD model that is sufficiently constrained for use in grade estimation. The (potentially conservative) recovered LDD grade was therefore adopted as the average grade estimate for the R domain.
- S: no macrodiamond data are available for the S domain. Based on the similarity in microdiamond SFD between the S and KIM-2 domains (refer to Figure 14-17), the total content SFD model for KIM-2 has been used, in conjunction with S domain drill core microdiamond stone frequencies, to estimate average recoverable grade for the S domain.

Table 14-26: Average grade estimates for CH-7 resource domains.

Resource domain	Bulk sample results (+1180 µm)			Domain recoverable grade (+1180 µm cpt)
	Tonnes	Ct	Grade (cpt)	
KIM-1	47.06	47.29	1.00	0.94
KIM-2	476.53	363.66	0.76	0.76
KIM-3	83.04	68.14	0.82	0.71
KIM-4	144.29	157.93	1.09	1.09
KIM-5 > 620 masl	45.68	49.98	1.09	1.09
KIM-5 < 620 masl				0.90
R	59.92	67.84	1.13	1.13
S	N/a	N/a	N/a	1.12

Grades are reported on a recoverable basis at a 1180 µm bottom cut-off and reflect the recovery efficiency of the sample processing plant used to treat the bulk samples.

14.5.4 **Diamond Value**

14.5.4.1 *Valuation*

A diamond parcel of 735.75 ct from CH-7 was valued by WWW International Diamond Consultants Ltd (WWW) in February 2016. WWW (2016b) describes the parcel valued as presenting well in terms of quality, colour and shape. Approximately 25-30% of the diamonds are classified as white gems and the proportion of boart diamond is low. Brown diamonds make up 25-30% of the parcel. Very few stones display strong fluorescence.

The results of this valuation exercise (extracted from WWW, 2016b) are presented in Table 14-27. The parcel was delivered and assessed as six sub-parcels derived from resource domains KIM-1 to KIM-5, inclusively, with diamonds derived from weathered KIM-2 material also assessed separately. The average diamond values for these smaller parcels (ranging from 44 to 306 ct) varied from US$ 73 to 154 per carat with an overall parcel average value of 100 US$/ct. No significant differences in terms of diamond characteristics or value distribution between domains were noted, however the parcels were considered too small to confirm a consistent value distribution between domains. While there is no clear indication that the samples have different SFDs, the parcels are too small to reliably confirm this, and further sampling may resolve SFD differences between domains (WWW, 2016b).

Table 14-27: Valuation results for a parcel of 735.75 ct from CH-7 in US$/ct.

Size class	Carats	Stones	Average Carats per Stone	$/ct
+6 ct	6.50	1	6.50	33
+5 ct	15.68	3	5.23	1,455
+4 ct	8.59	2	4.30	80
+3 ct	6.39	2	3.20	100
+10 gr	7.79	3	2.60	24
+8 gr	17.37	8	2.17	635
+6 gr	24.08	15	1.61	159
+5 gr	10.23	8	1.28	194
+4 gr	28.27	28	1.01	114
+3 gr	37.03	48	0.77	108
+11 DTC	145.55	356	0.41	63
+9 DTC	113.45	548	0.21	49
+7 DTC	73.37	591	0.12	39
+5 DTC	155.36	2,449	0.06	31
+3 DTC	86.09	2,719	0.03	26
Total	**735.75**	**6,781**	**0.11**	**100**

Extracted from WWW, 2016b

WWW does not ordinarily quantify or specifically track breakage during valuations and in this instance did not notice any significant difference in the amount of fresh diamond damage when compared to previous samples valued (WWW, 2016b). An independent assessment of diamond breakage (McCandless, 2016a) has however noted that diamond fragmentation in the CH-7 diamond parcel is significant, with only 10-15% of the diamonds presenting no breakage. Breakage was characterized as aggressive, with percussion marks and abrasion present, and is considered to be primarily related to the LDD sample collection method.

A modelled estimate of average diamond value was generated by WWW (2016b) based on the parcel valuation data by combining a value distribution model (model of average diamond value by size class) with a single SFD model representing the proportion of diamond (by weight) expected in each size class. These models yield an estimated average diamond value of 114 US$/ct (Table 14-28). This average value reflects the recovery efficiency of the process plant used to treat the CH-7 bulk samples and assumes that no diamonds smaller than DTC 3 will be recovered. This recoverable average value corresponds with the recoverable grades reported in Table 14-25. While the bottom cut-off of DTC 3 is not precisely the same as the 1180 µm square mesh cut-off basis for the grade estimate, these are very similar to each other and for the purpose of an Inferred Mineral Resource estimate, have been considered equivalent.

Table 14-28: Average modelled diamond value for CH-7.

Size class	Model SFD (% ct)	Value distribution ($/ct per size class)
+10.8 ct	0.99	590
+10 ct	0.15	1,095
+9 ct	0.19	1,095
+8 ct	0.24	1,095
+7 ct	0.32	1,095
+6 ct	0.44	1,095
+5 ct	0.64	1,070
+4 ct	0.99	875
+3 ct	1.71	730
+10 gr	0.77	520
+8 gr	2.74	360
+6 gr	2.66	240
+5 gr	1.91	185
+4 gr	4.17	130
+3 gr	5.43	80
+11 DTC	16.75	63
+9 DTC	15.87	49
+7 DTC	10.26	39
+5 DTC	21.73	31
+3 DTC	12.04	26
Average model $/ct		**114**

Values are reported in US$/ct. The average value reflects the process efficiency of the plant used to treat the CH-7 bulk samples, and assumes no recovery of diamond smaller than DTC 3. The SFD, value distribution and average $/ct values in this table were extracted from WWW (2016b).

14.5.4.2 *Comment on CH-7 Diamond Value (from Nowicki et al., 2016)*

The WWW (2016b) average value represents their best estimate of diamond value per size class applied to a model of diamond SFD (for diamonds larger than DTC 3) for CH-7. WWW are recognised international leaders in the field of diamond valuation and the QPs for the previous technical report (Nowicki et al., 2016) believe it is reasonable to rely on the diamond values provided.

Bulk sample results suggest that the resource domains will present different SFDs when resolved with larger diamond parcels. The impact of varying SFD was assessed by modelling SFD for individual domains (where possible, and in all cases at low levels of confidence) and comparing the average values derived in this way with the declared average value for the Mineral Resource estimate. The range of values suggests that the use of a single SFD to generate average value for all resource domains is valid based on the resolution of the data available. See Section 14.5.5.3 for more discussion on value uncertainty.

14.5.5 Confidence and Resource Classification

14.5.5.1 *Volume and Tonnage*

The drill coverage and number of external pierce points obtained are considered sufficient to have constrained the overall volume of the CH-7 pipe, from surface to an elevation of 450 masl (240 mbs), to a high level of confidence. This represents the portion of the pipe for which Mineral Resource estimates are being made. Confidence in volume below 450 masl to the base of the geological model at 370 masl (320 mbs; the portion of the pipe classified as TFFE) decreases substantially.

The internal boundaries of the resource domains are based on visually logged boundaries between the geological domains, supported by petrographic analysis of core slabs and thin sections, and whole rock chemistry. On an individual basis the smaller geological domain boundaries (e.g. KIM-1, KIM-5) are less well constrained – it is possible that increased drill resolution could result in significant adjustments to the volumes of these small domains. Several of the currently defined resource domains (KIM-4, R and S) are geologically complex and may be further refined into additional domains with improved drill resolution. Uncertainty in the relative volumes of these small domains is only relevant to tonnage estimates if the different domains have significantly different bulk densities. While there are localized instances where uncertainty in boundaries between domains could introduce uncertainties in overall tonnage estimates of up to ±30% (e.g. the boundary between KIM-1 and KIM-2 in shallow portions of the pipe), due to the small volumes of these units, the extent of this error will likely not be relevant on a scale pertinent to mining and monthly / quarterly resource reconciliations. Uncertainty in the volumes of the internal domains is also relevant to grade uncertainty. This is discussed further in Section 14.5.5.2.

Bulk density in CH-7 is considered to be constrained to a high level of confidence in all domains with the exception of KIM-5, which represents <3% of the CH-7 Mineral Resource by volume. Even in KIM-5, where substantial small scale bulk density variation is likely to manifest as a result of localized alteration, it is unlikely that bulk density variation will result in tonnage estimate inaccuracies on a scale pertinent to mining and resource reconciliation.

The overall volumes and tonnages for the CH-7 Mineral Resource estimate are considered to be constrained to a level of confidence acceptable for classification of Indicated Mineral Resources.

14.5.5.2 *Diamond grade*

The macrodiamond parcels obtained from the resource domains of CH-7, which form the basis for all grade estimates, are generally small (refer to Figure 14-21). The small sample sizes introduce two aspects of grade uncertainty. The first is that a small sample may not be spatially or geologically representative of a domain and may misrepresent the average grade. The impact of this on the CH-7 grade estimates was assessed through review of the geological nature and grade information (micro- and macrodiamond) for each domain, to assess the overall continuity and the extent to which grade is likely to vary internally. The second is that coarse diamonds, which can contribute significantly to overall grade, are usually not adequately represented in small diamond parcels. Extreme value plots (representing cumulative grade with increasing sieve size class) were assessed and high / low case error range modelling of the macrodiamond SFD (where possible based on the data available) was carried out to gauge the scale of this potential error. In both instances, the degree of uncertainty introduced by small sample size is considered to be within acceptable levels for an Inferred Mineral Resource estimate.

Diamonds recovered during LDD drilling at CH-7 have been subjected to a degree of breakage that is apparently higher than would typically be incurred during conventional mining. The grade estimates for all CH-7 domains other than KIM-1 are based on the diamonds recovered through LDD drilling. The impact of excessive breakage on diamond populations would be to reduce the proportions of larger stones present and to reduce grade through loss of diamond fragments smaller than the recovery bottom cut-off size. McCandless (2016c) has assessed the breakage characteristics of diamonds recovered by LDD drilling in comparison with those from the KIM-1 surface bulk sample and has estimated that excess breakage related to LDD drilling could have resulted in a grade loss of 8 to 15%. This potential grade upside (for all domains other than KIM-1) has not been factored into the Mineral Resource grade estimates.

The grade estimates for KIM-1, KIM-3 and S are based on a calibration of microdiamond stone frequency to recovered macrodiamond grade, and on an assumption of SFD continuity within these domains. Incorrect calibration of this relationship could occur if the material sampled for microdiamonds is not the same average grade as that comprising the bulk sample. The microdiamond sample results used to calibrate total content SFD curves (where they were used as a basis for grade estimation) have been assessed and the potential error associated with this calibration is considered to be less than ±20%. Based on the degree of variability observed in the overall deposit in terms of the relationships between micro- and macrodiamonds and SFD variation within domains (where this can be properly assessed), it is considered unlikely that varying SFD (within domains) will introduce a degree of grade uncertainty beyond that acceptable for an Inferred Mineral Resource.

Aspects of grade uncertainty relevant to specific resource domains of CH-7 are discussed in the points below.

- KIM-1: The grade estimate for KIM-1 is based on a small microdiamond dataset derived from drill core with limited spatial coverage of the domain. These recoveries are however more spatially representative than the surface bulk sample from a single location at surface. Based on the degree of variation observed in the sample aliquot data it is not considered likely that this will introduce a significant degree of uncertainty into the KIM-1 grade estimate. The KIM-1 total content SFD model is based on a microdiamond dataset (surface grab sample) that is not fully spatially representative of the macrodiamond sample. The representative microdiamond sample collected during excavation of the macrodiamond sample was processed at a bottom cut-off of 425 µm, and could therefore not be used to model a total +212 µm distribution. The +425 µm results from the representative microdiamond sample were however found to correlate very closely with the total content model established, and it is considered unlikely that any significant error would be introduced by this approach.

- KIM-2: The adoption of the KIM-2 recovered LDD grade as the average grade estimate for KIM-2 assumes grade (and SFD) constancy within this large domain. KIM-2 is well represented by microdiamond data, which display no significant variability in grade or SFD internally and are comparable with microdiamond data from pilot core holes drilled directly adjacent to LDD holes. LDD macrodiamond results display good grade and SFD constancy with depth. The assumption of grade and SFD continuity within KIM-2 is considered well supported.

- KIM-3: Available grade and geological information suggests that grade variation in KIM-3 will be controlled by varying dilution and/or the presence of minor amounts of different kimberlite units. The estimate for KIM-3 is based on a large and well distributed microdiamond parcel, and potential grade variation is thought to be adequately represented on an overall basis.

- KIM-4: Highly variable LDD grades and varying geology in the pilot core hole directly adjacent to the LDD holes suggest that grade variation in KIM-4 is likely controlled by the presence of different kimberlite units. The current drill coverage is not adequate to allow these units to be resolved into separate domains, and the grade information available is not at sufficient resolution to constrain the grade of individual units. The average LDD grade adopted is considered to be of low confidence, but with possible upside as microdiamond stone frequencies from all drill cores in KIM-4 are higher on average than those from the pilot core hole.

- KIM-5: The limited and highly variable grade (micro- and macrodiamond) results available for KIM-5 did not permit a conventional assessment of grade uncertainty. Two alternative approaches to estimation of grade in KIM-5 were applied to gauge confidence levels in the current estimate. In the first alternative approach, LDD average grade by volume was converted to grade per unit mass using bulk density for KIM-5 above and below 620 masl.

In the second alternative approach, a total content SFD model for KIM-5 was defined (as best possible based on the available data) and was used in conjunction with drill core microdiamond stone frequency data from above and below 620 masl to estimate grade. Results did not vary by more than ±30% from the current estimate.

- R: This geologically complex domain is comprised of different kimberlite units that cannot be spatially resolved with the current drill coverage. Adoption of the LDD grade as the average grade for R is possibly conservative, as the average microdiamond content for the domain (from all drill core samples) is higher than that in the pilot core hole directly adjacent to the LDD holes.

- S: The grade estimate for this domain is based on an assumption of SFD continuity between it and KIM-2. Based on the range of SFDs (where adequately constrained) in other domains and considering that the main kimberlite units present in S display similar components and textures to other CH-7 kimberlite units (e.g. KIM-5), it is unlikely that an SFD different to that assumed could introduce error beyond the range of -20 / +30%.

The average grade estimate for KIM-2 is considered to be constrained to a higher level of confidence than the other domains. KIM-2 comprises ~60% by volume of the CH-7 Mineral Resource estimate. The estimates for the remaining domains are subject to higher degrees of uncertainty. However, individually these domains represent very limited volumes within CH-7, and the impact of this uncertainty is therefore largely mitigated in the overall context of the Mineral Resource estimate.

As discussed in Section 14.5.5.1, the individual volumes of most of the smaller domains (KIM-1, KIM-5, R and S) are poorly constrained. However, the grade estimates for these domains, which are all located in the north of CH-7, are all very similar and range from 0.9 to 1.13 cpt. The impact of this volume uncertainty on grade is therefore very limited, and is less than the uncertainty on the grade and value estimates themselves.

All grade estimates for CH-7 are domain average estimates. The data suggest that grade in geologically complex / poorly resolved domains (KIM-4, R and, to a lesser degree, KIM-3) could vary significantly (up to ±30%) locally on a scale pertinent to mining and grade reconciliation. Forward planning and economic studies should take cognisance of this probable local grade variation. Grade variation is likely to be less pronounced in the more geologically uniform domains, particularly in KIM-2.

The grade estimates for CH-7 are considered to be constrained to a level of confidence appropriate for Inferred Mineral Resources.

14.5.5.3 *Diamond value*

Uncertainty in the average diamond value for CH-7 derives from two main factors: (1) uncertainty in value distribution (value per size class), particularly the less well represented coarser size ranges, due to the limited size of the parcel valued; and (2) uncertainty in the diamond size frequency distribution (SFD) to which the value distribution has been applied to generate an average recoverable diamond value for all CH-7 resource domains.

Uncertainty associated with the value distribution model has been assessed by WWW (2016b) through the modelling of high and low value distributions that represent the range of uncertainty present. These models translate to an uncertainty range of -15 to +40%. Uncertainty associated with the degree of accuracy with which the SFD model used to generate average value has been constrained is considered to be on a similar or lower scale, based on the average values generated by high (coarse) and low (fine) SFD models that represent the range of uncertainty present in the SFD.

Bulk sample results imply that the resource domains may yield different SFDs when resolved with larger diamond parcels. The uncertainty associated with the assumption of a single SFD as a basis for all value estimates was assessed by modelling SFD for individual domains (where possible, and in all cases at low levels of confidence) and comparing the average values derived in this way with the declared average value for the Mineral Resource estimate. The range of values suggests that the use of a single SFD to generate average value for all resource domains is acceptable based on the resolution of the data available.

Breakage of diamond during LDD sampling is likely to have negatively impacted the valuation of diamonds from CH-7. However, it is not possible to quantify to what extent diamond breakage during LDD drilling may have exceeded that expected to occur during processing of CH-7 ore through a conventional DMS plant. No attempt has been made to correct the average value for diamond breakage.

The average diamond value reported for CH-7 remains subject to significant uncertainty and it is possible that additional sampling may resolve different SFDs and hence different average values for at least some of the resource domains. Average value is however still considered to be constrained to a level of confidence appropriate for the reporting of Inferred Mineral Resources.

14.5.5.4 *Summary of confidence and resource classification*

The level of confidence to which each major component of the CH-7 Mineral Resource estimate is constrained is shown in Table 14-29. The overall resource classification is based on that of the lowest confidence component.

Table 14-29: CH-7 Mineral Resource estimate confidence levels.

Body	Volume	Tonnage	Grade	Value	Resource classification
CH-7	IND	IND	INF	INF	INF

Confidence with which each major component of the CH-7 Mineral Resource estimate is constrained. The overall Mineral Resource is classified at an Inferred level of confidence.

14.6 CH-44 TFFE Estimate

No new 2017-era evaluation data for CH-44 are available; all available results were incorporated into the previously issued technical report for the Chidliak project (Nowicki et al., 2016). No revision to the previously reported TFFE estimates has been undertaken. Data and results are stated here as derived from Nowicki et al. (2016).

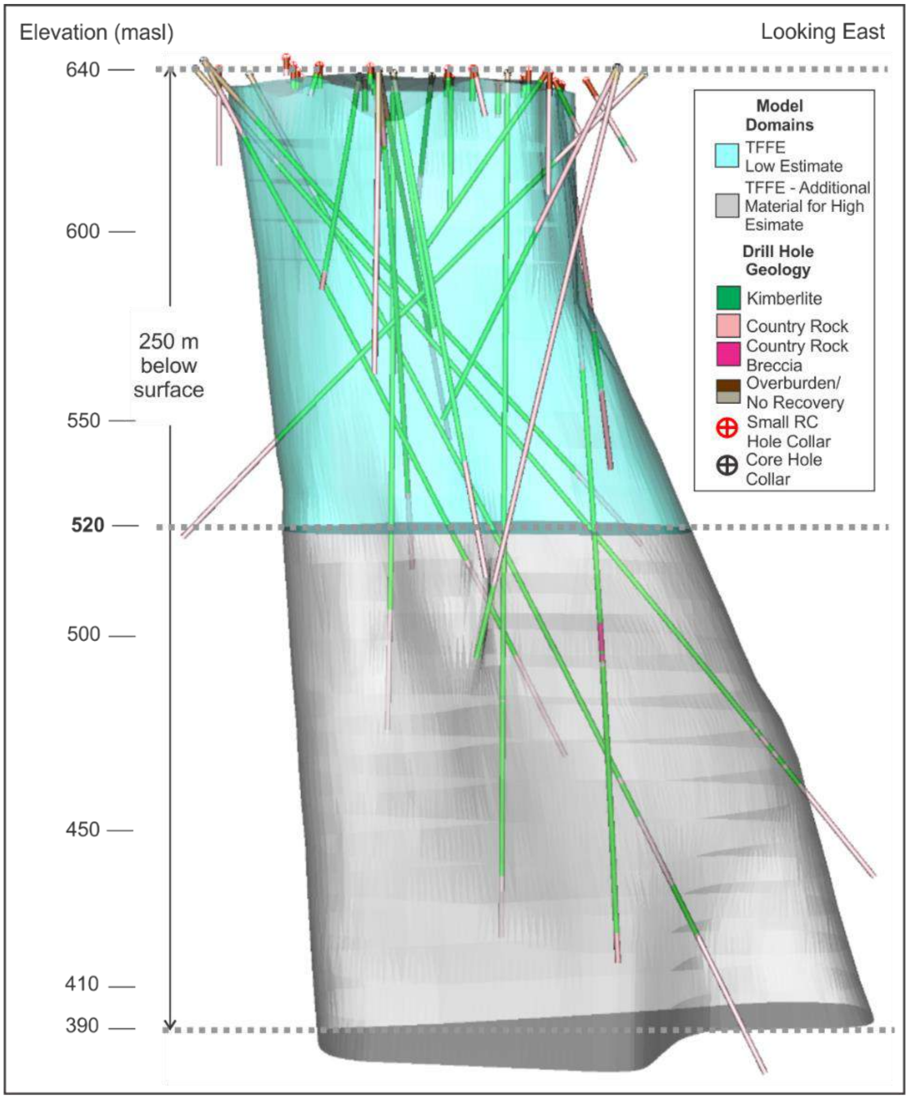
CH-44 is a kimberlite pipe with a surface expression of approximately 0.5 ha for which a geological model extending from surface to 250 mbs (390 masl) has been generated based on delineation core and small-diameter RC drilling. The geological model is constrained with a total of 18 core holes (2,875 m) and 31 small-diameter RC holes (349 m) (Figure 14-22). The volume of the upper portion of the body, from surface at ~640 masl to a depth of 120 mbs (520 masl) is well constrained. Confidence below this depth to the base of the model is significantly lower due to reduced drill coverage. Bulk density is well constrained by a large, spatially representative dataset (Section 14.6.2).

A significant number of microdiamond samples have been collected from drill core (1,454 kg, see Section 10.4.6.3). Stone frequency in these samples averages 0.68 stones larger than 212 µm per kilogram, suggesting that CH-44 has the potential to contain a similar or even higher grade than CH-7. However, no macrodiamond data have been collected from CH-44 to date, and it is not possible to make grade or value estimates at a level of confidence appropriate for reporting of Mineral Resources.

14.6.1 **TFFE Domains**

The CH-44 pipe model has been subdivided into two TFFE domains (Figure 14-22) based on confidence in the pipe volume as defined by drilling. The upper 120 m of the pipe, from surface to an elevation of 520 masl, has been defined as a TFFE domain that represents the minimum possible size of the body, and is referred to as the “Low TFFE” domain. The lower 130 m of the pipe model, spanning the elevation range 520 to 390 masl (120 - 250 mbs), has been separated as a TFFE domain that, when added to the “Low TFFE” domain, represents the maximum size the body could be considered to reach based on the available data, and is referred to as the “High TFFE” domain.

Figure 14-22: CH-44 TFFE



14.6.2 **Bulk Density**

A total of 478 bulk density measurements of kimberlite were used to derive an average bulk density of 2.87 g/cm^3 for all material included in the TFFE estimate. A trend of slight bulk density increase with depth exists for the majority of the dataset and the presence of different kimberlite units (with differing bulk density characteristics) is implied (e.g. cluster of lower bulk density results at ~470 masl). Based on the conceptual nature of a TFFE estimate it is not considered necessary to incorporate these variations into the estimated ranges. An additional 187 measurements in country rock constrain an average of 2.72 g/cm^3 for the host rock.

14.6.3 TFFE Volume and Tonnage estimates

TFFE minimum and maximum volume and tonnage range estimates for CH-44 are provided in Table 14-30.

Table 14-30: CH-44 TFFE volume and tonnage estimates.

TFFE domain	Volume (Mm^3)		Density	Tonnage (Mt)	
	Low	High	(g/cm^3)	Low	High
CH-44	0.44	1.11	2.87	1.27	3.19

The potential tonnage defined as TFFE is conceptual in nature as there has been insufficient exploration to define a Mineral Resource and it is uncertain if future exploration will result in the TFFE being delineated as a Mineral Resource.

14.7 Mineral Resource Statement

A Mineral Resource statement for the Chidliak project that includes all currently defined Mineral Resources is presented in Table 14-31. All grades are reported as those recoverable above a 1.18 mm bottom cut-off and assume the recovery efficiency achieved in the sample process plants used to treat Chidliak kimberlite and recover diamonds from surface excavation and large-diameter drill (LDD) samples. The recoverable grade estimates would typically be adjusted for the expected recovery efficiency of the planned production processing plant. Average US$/ct values have been derived by applying best estimate value distribution models to models of recoverable diamond SFD, and therefore also represent “recoverable” values that correlate with the +1.18 mm grades reported. Changing process plant efficiency (relative liberation and recovery of diamonds) would typically also require an adjustment to these values. The resource estimates for CH-6 and CH-7 extend to depths of 525 mbs (155 masl) and 240 mbs (450 masl), respectively.

Table 14-31: Mineral Resource statement for the Chidliak project.

Body	Resource classification	Depth Range	Volume (Mm^3)	Density (g/cm^3)	Tonnage (Mt)	Grade (cpt)	Carats (Mct)	Value (US $/ct)
CH-6	Inferred	0 to 525 mbs	2.85	2.62	7.46	2.41	17.96	149
CH-7	Inferred	0 to 240 mbs	1.94	2.57	4.99	0.85	4.23	114
All	**Inferred**		**4.79**	**2.60**	**12.45**	**1.78**	**22.19**	**132**

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves.

14.8 Reasonable Prospects for Economic Extraction

The CIM Definition Standards for Mineral Resources and Mineral Reserves states that in order to be classified as a Mineral Resource there should be a reasonable prospect for the eventual economic extraction of the specified ore. JDS Energy and Mining Inc. (JDS) and collaborating QP's previously determined Mineral Resources at CH-6 and CH-7 to possess reasonable prospects of eventual economic extraction by completing a Preliminary Economic Assessment (PEA) that supports an estimated after-tax net present value of CAD 471 million (Doerksen et al., 2016). First-order economic and related engineering assumptions made in the PEA were re-assessed by JDS during February 2018 in view of the addition to the open pit potential of the potential underground mining methods required to extract mineral resources at CH-6 to depths near 550 mbs (130 masl). JDS concluded that the updated CH-6 resource presented in this report satisfies the reasonable prospect of economic extraction to a depth of 525 mbs (155 masl) based on first-order parameters as summarized in Table 14-32.

Table 14-32: Whittle™ open pit optimization and underground mining parameter values used for demonstration of reasonable prospects for economic extraction of the CH-6 Mineral Resource.

Parameter	CH-6 Open pit	CH-6 Underground
Process and G&A cost	C$60/t processed	C$60/t processed
Nunavut Royalty	C$10/t processed	C$10/t processed
Mining cost	C$4.00/t mined	C$105/t mined
Selling costs	4% of carat price	4% of carat price
Mining recoveries	100%	100%
Exchange Rate	1.28C$:US$	1.28C$:US$
Overall pit slope	50 degrees	

15 Adjacent Properties

There are no properties adjacent to Peregrine's Chidliak project.

16 Other Relevant Data and Information

All relevant data and information have been included in this report.

17 Interpretation and Conclusions

Evaluation work carried out in 2017 has provided the basis for a significant increase in the size of the declared Mineral Resource for CH-6. Work carried out in 2017 was specifically planned to substantively increase the declarable resources at an Inferred level of confidence for CH-6. It should be noted that significant uncertainty remains in these estimates with respect to grade and diamond value. Canadian Institute of Mining Definition Standards for Mineral Resources and Mineral Reserves (2014) defines an Inferred Mineral Resource as “that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity”. Peregrine QP’s have assessed prior resource-level work in the light of updated evaluation data resulting from work performed at CH-6 in 2017 and the QP’s are satisfied that the Mineral Resource estimates now reported are constrained to a level of confidence appropriate for classification as Inferred Mineral Resources.

18 Recommendations

The updated Mineral Resource presented for CH-6 in this report represents a 61% increase in tonnage and a 58% increase in carats contained when compared to the prior CH-6 Mineral Resource (Table 18-1). Such material changes to the resource base have important implications for future work cycles and resource development objectives at the Chidliak project. The QP's of this report are accordingly recommending completion of a revised and updated PEA for the Chidliak project. To gauge the impact on anticipated future work programs at CH-6, at CH-7 and possibly other kimberlites of interest, the revised PEA should address:

- Overall mining, processing and ultimately economic impacts of the increased CH-6 resource, specifically including first-order cost and timeline optimisation related to extraction of the underground resource at CH-6
- Optimal extraction sequencing of open-pittable potential ore at CH-6 and CH-7, and potential underground ore at CH-6. The sequencing will inform next-step resource development objectives and priorities for anticipated future pre-feasibility or feasibility-level studies
- Optimal location(s) of infrastructure, in particular the process and diamond recovery plant.

Table 18-1: 2018 versus 2016 CH-6 Mineral Resource estimates.

Kimberlite	Resource Classification	Tonnes (Mt)	Carats (Mct)	Average Grade (cpt +1.18 mm)	Depth of Resource (mbs)	Estimate by	Date Released
CH-6	Inferred	4.64	11.39	2.45	260	MSC	2016-04-07
CH-6	Inferred	7.46	17.96	2.41	525	Peregrine	2018-02-15
	% Increase:	*61%*	*58%*				

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20 Date and Signature Page

This technical report was written by the following Qualified Persons and contributing authors:

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21 Qualified Person Certificates

CERTIFICATE OF QUALIFIED PERSON

I, Catherine Fitzgerald, M.Sc., P. Geo., of the city of Coquitlam in the Province of British Columbia, do hereby certify that:

1) I am currently employed as Project Geologist – Resource Definition by:

Peregrine Diamonds Ltd. ("Peregrine")
654-999 Canada Place,
Vancouver, B.C., V6C 3E1

2) This Certificate applies to the technical report "2018 Technical Report: Mineral resource update for the Chidliak Project, Baffin Island, Nunavut, Canada" with an effective data of February 15, 2018 (the "Technical Report").

3) I graduated with a Master of Science in Geology from the University of Victoria in 2004. I also have an Honours Bachelor of Science degree in Geology from Carleton University, which I obtained in 2001.

4) I am a registered Licensee of the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (license #L3585) and Engineering and Geoscientists of British Columbia (license #45178).

5) I have worked as a Geologist since my graduation from university in 2004. During this time, my positions have been in industry. I have been involved in diamond exploration and project development in Nunavut, the Northwest Territories, Alberta and Quebec, Canada.

6) I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

7) I am responsible for Sections 2, 3, 10, 11, 12, 13, 14 (with the exception of subsection 14.8) and 16 of this Technical Report.

8) I have had prior involvement with the project that is the subject of this report in that I have been involved in data collection, management and interpretation, geological and three-dimensional model development, and resource estimation.

9) I visited the Chidliak project from August 10th to August 21st, 2014 during drilling of the CH-7 and CH-44 kimberlites; and from August 13th to 27th, 2017 during drilling of the CH-6 kimberlite.

10) As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

11) I am not independent of Peregrine within the meaning of section 1.5 of NI 43-101. I am Project Geologist – Resource Definition for Peregrine and have options in the company.

12) I have read NI 43-101 and form 43-101F1, and the Technical Report has been prepared in accordance with that instrument and form.

Effective Date: February 15, 2018

Signing Date: March 29, 2018

ORIGINAL SIGNED AND SEALED

"Catherine Fitzgerald"

Catherine Fitzgerald, M.Sc., P.Geo.

CERTIFICATE OF QUALIFIED PERSON

I, Hermanus S. Grütter, Ph.D., P. Geo., of the city of North Vancouver in the Province of British Columbia, do hereby certify that:

1. I am employed as Vice President, Technical Services at Peregrine Diamonds Limited, with offices at 654-999 Canada Place, Vancouver, BC, V6C 3E1, Canada.
2. I am a graduate of the University of Cape Town (South Africa) having obtained the degree of Bachelor of Science (Honours) in Geology in 1986.
3. I am a graduate of the University of Cambridge (United Kingdom) having obtained a Ph.D. degree in Geology in 1993.
4. I have been employed as a full-time geoscientist in the minerals exploration and related consulting industry from 1987 to 1989, and from 1993 to the present.
5. I am a Registered Professional Geoscientist in good standing in British Columbia.
6. This certificate applies to the technical report titled "2018 Technical Report: Mineral resource update for the Chidliak Project, Baffin Island, Nunavut, Canada", with an effective date of February 15, 2018, (the "Technical Report") prepared for Peregrine Diamonds Ltd. ("the Issuer").
7. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
8. I have read the definition of "qualified person" (QP) set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.
9. I have read National Instrument 43-101 and Form 43-101 F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I am responsible for Sections 1, 17 and 18 of the Technical Report.
11. I am not independent of the issuer as defined in Section 1.5 of National Instrument 43-101.
12. I am involved in planning year-on-year exploration and resource development activities at the Chidliak project, and have directly supervised all related activities at the project site during August 2 to September 5, 2014; March 7-31, 2015; August 11-23, 2015 and July 27 to August 24, 2017.

Effective Date: February 15, 2018
Signing Date: March 29, 2018

ORIGINAL SIGNED AND SEALED

"Hermanus S. Grütter"
Hermanus S. Grütter, P.Geo.

CERTIFICATE OF QUALIFIED PERSON

I, Jennifer Pell, Ph.D., P. Geo., of the city of Vancouver in the Province of British Columbia, do hereby certify that:

1. I am currently employed as Chief Geoscientist by:
   Peregrine Diamonds Ltd. ("Peregrine")
   654-999 Canada Place,
   Vancouver, BC., V6C 3E1
2. This Certificate applies to the technical report "2018 Technical Report: Mineral resource update for the Chidliak Project, Baffin Island, Nunavut, Canada" with an effective date of February 15, 2018 (the "Technical Report").
3. I graduated with a Doctorate of Philosophy in Geology from the University of Calgary in 1984. I also have an Honours Bachelor of Science degree in Geology from the University of Ottawa, which I obtained in 1979.
4. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (license # 27532) and I am a registered Licensee with the Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (L1442) and I am a Fellow of the Geological Association of Canada (F3186).
5. I have worked as a geologist since my graduation from university in 1984. During this time I have held positions in government, universities and industry. I have been involved in diamond exploration and kimberlite research in Northwest Territories, Nunavut, Manitoba and British Columbia, Canada as well as in Brazil, Guinea and Tanzania.
6. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
7. I am responsible for Sections 4 through 9, 15 and 19 of this Technical Report.
8. I have had prior involvement with the project that is the subject of this report in that I have been involved in data interpretation and writing of Assessment Reports to meet government requirements since the inception of this project. I was on the project between September 6th & 14th, 2008 and was involved in the till sampling and mini-bulk sampling programs. I was also responsible for detailed logging of all drill cores at Peregrine's secure core logging facility in Iqaluit, between July 15th and September 15th, 2009. I visited the project on July 25th & 26th, August 18th to 25th and Sept. 1st to 4th, 2009 and was involved in the prospecting, till sampling for heavy mineral analyses and kimberlite surface discovery sampling for caustic fusion analyses. In 2010, I was responsible for detailed logging and sampling of all drill cores at Peregrine's secure core logging facility in Iqaluit, between June 15th and September 20th, 2010. I visited the project on August 30th & 31st and from September 4th to 6th, 2010 and was involved in the prospecting, till sampling for heavy mineral analyses and kimberlite surface discovery sampling

for caustic fusion analyses. In 2011, I was responsible for detailed logging and sampling of drill cores at Peregrine's secure core logging facility in Iqaluit, between May 25th and September 7th. I was also involved in logging and sampling drill cores from three bodies on which more detailed drilling was complete at Saskatchewan Research Council's secure logging facility in Saskatoon, between September 18th and December 2nd, 2011. I was on the project from July 11th to July 18th to oversee the surface mini-bulk sampling of the CH-28 kimberlite and visited the project on August 14th, 15th & 16th, 2011 and was involved in the bedrock mapping and prospecting. . In 2012, I was on site at Chidliak from July 20th to August 14th, involved in prospecting and RC overburden drilling at CH-6. I logged Chidliak core at a secure logging facility in Delta, BC, between October 17th and December 15th, 2012 and between January 9th and February 20th, 2013. Between March 19th and April 13th, I was on site at Chidliak working on the surface bulk sampling program at CH-6 and between August 9th and 20th, 2013, oversaw the unloading of the bulk sample at the ports of Valleyfield and Ste. Catherine, PQ and visited the Sudbury DMS plant to assure the safe arrival of the sample. I was at the Sudbury DMS plant observing the processing between October 22nd and November 2nd. I was in Antwerp, from February 3rd to 6th, 2014 to observe the CH-6 diamond sample valuation. From July 25th to September 5th, I was onsite logging the 2014 drill core from CH-6, 7, 44 & 46 and helping with planning the drilling and exploration. In 2015, I was on site at Chidliak from April 4th to 18th during the CH-7 LDD program, and from August 4th to 23rd, during the summer drill program logging core. I was at the SRC during the final processing and sorting of the CH-7 LDD sample from Dec 1st-4th and 14th to 18th. I was in Antwerp, from January 21st to 28th, 2016 to observe the CH-7 diamond sample valuation. In 2017, I was on site at Chidliak from August 4th to September 5th, logging and sampling core from the summer drill program at CH-6.

9. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

10. I am not independent of Peregrine within the meaning of section 1.5 of NI 43-101. I am Chief Geoscientist for Peregrine and hold shares and options in the company.

11. I have read NI 43-101 and form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Effective Date: February 15, 2018
Signing Date: March 29, 2018

Original Signed and Sealed
"Jennifer Pell"
Jennifer Pell, Ph.D., P. Geo
E-mail : jpell@pdiam.com

JDS Energy & Mining Inc.

PARTNERS IN ACHIEVING MAXIMUM RESOURCE DEVELOPMENT VALUE

JDS Energy & Mining Inc.

Suite 900 – 999 West Hastings Street

CERTIFICATE of QUALIFIED PERSON: Dino Pilotto

I, Dino Pilotto, P.Eng., do hereby certify that:

1. I am currently employed as Engineering Manager with JDS Energy & Mining Inc. with an office at Suite 900-999 West Hastings Street, Vancouver, BC, V6C 2W2.
2. This certificate applies to the technical report titled "2018 Technical Report: Mineral resource update for the Chidliak Project, Baffin Island, Nunavut, Canada", with an effective date of February 15, 2018, (the "Technical Report") prepared for Peregrine Diamonds Ltd. ("the Issuer").
3. I am a Professional Mining Engineer (P.Eng. #2527) registered with the Engineers Yukon. I am also a registered Professional Mining Engineer in Alberta, Northwest Territories and British Columbia. I am a graduate of the University of British Columbia with a B.Sc. in Mining and Mineral Process Engineering (1987). I have practiced my profession continuously since June 1987. I have been involved with mining operations, mine engineering and consulting covering a variety of commodities at locations in North America, South America, Africa, and Eastern Europe.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I have visited the Chidliak Project site on April 12, 2016.
6. I am responsible for Section number 14.8 of the Technical Report.
7. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report and was involved in conceptual studies conducted in 2014 for Peregrine's internal purposes only as well as the technical report titled "NI 43-101 Preliminary Economic Assessment Technical Report for the Chidliak Project, Nunavut, Canada" dated effective July 7, 2016.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

As of the effective date of the Technical Report and the date of this certificate, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: February 15, 2018
Signing Date: March 29, 2018
(original signed and sealed) "Dino Pilotto, P.Eng."
Dino Pilotto, P.Eng.

Appendices

Appendix 1: List of Claims

Claim Name	Claim Number	NTS Map Sheet 1	NTS Map Sheet 2	NTS Map Sheet 3/4	Claim Status	Recording Date	Aniversary Date	Area Acres	Area Hectares	Excess / Deficit Credits
AN001	K15241	26A13	26B16		Active	16-Aug-11	16-Aug-18	189.96	76.87	$0.00
AN002	K15242	26A13	26B16		Active	16-Aug-11	16-Aug-18	619.44	250.68	$0.00
AN003	K15243	26A13	26B16		Active	16-Aug-11	16-Aug-18	549.49	222.37	$0.00
AN013	K15253	26A13			Active	16-Aug-11	16-Aug-18	862.24	348.94	$0.00
AN014	K15254	26A13			Active	16-Aug-11	16-Aug-18	488.73	197.78	$0.00
AN015	K15255	26A13			Active	16-Aug-11	16-Aug-18	958.96	388.08	$0.00
AN016	K15256	26A13			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$928.27
AN017	K15257	26A13			Active	16-Aug-11	16-Aug-19	1,728.60	699.54	$0.00
AN018	K15258	26A13			Active	16-Aug-11	16-Aug-19	988.80	400.15	$0.00
AN024	K15264	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN027	K15267	26A13			Active	16-Aug-11	16-Aug-19	2,299.83	930.71	$0.00
AN028	K15268	26A13			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN029	K15269	26A13			Active	16-Aug-11	16-Aug-19	2,064.30	835.39	$0.00
AN030	K15270	26A13			Active	16-Aug-11	16-Aug-19	2,490.18	1,007.74	$0.00
AN031	K15271	26A13			Active	16-Aug-11	16-Aug-18	40.09	16.22	$0.00
AN032	K15272	26A13			Active	16-Aug-11	16-Aug-18	129.00	52.20	$0.00
AN033	K15273	26A13			Active	16-Aug-11	16-Aug-18	206.60	83.61	$0.00
AN034	K15274	26A13			Active	16-Aug-11	16-Aug-19	1,962.70	794.28	$0.00
AN035	K15275	26A13			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN037	K15277	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$1,427.20
AN039	K15279	26A12			Active	16-Aug-11	16-Aug-21	238.47	96.51	$16,367.64
AN040	K15280	26A12			Active	16-Aug-11	16-Aug-21	2,582.50	1,045.10	$10,330.00
AN041	K15281	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN042	K15282	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN043	K15283	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN044	K15284	26A13			Active	16-Aug-11	16-Aug-21	2,582.50	1,045.10	$10,330.00
AN045	K15315	26A13			Active	16-Aug-11	16-Aug-21	1,497.85	606.16	$5,991.40
AN046	K15286	26A13			Active	16-Aug-11	16-Aug-21	620.00	250.91	$3,720.00
AN047	K15287	26A13			Active	16-Aug-11	16-Aug-21	2,565.50	1,038.22	$10,262.00
AN048	K15288	26A13			Active	16-Aug-11	16-Aug-21	826.40	334.43	$4,958.40
AN049	K15289	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN050	K15290	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN051	K15291	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN052	K15292	26A12			Active	16-Aug-11	16-Aug-21	2,582.50	1,045.10	$10,330.00
AN053	K15293	26A12			Active	16-Aug-11	16-Aug-21	1,111.00	449.61	$6,079.07
AN054	K15294	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN055	K15295	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00

Claim Name	Claim Number	NTS Map Sheet 1	NTS Map Sheet 2	NTS Map Sheet 3/4	Claim Status	Recording Date	Aniversary Date	Area Acres	Area Hectares	Excess / Deficit Credits
AN056	K15296	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN057	K15297	26A13			Active	16-Aug-11	16-Aug-21	1,652.80	668.86	$6,611.20
AN058	K15298	26A13			Active	16-Aug-11	16-Aug-21	1,394.55	564.35	$7,060.71
AN059	K15299	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN060	K15300	26A12			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN061	K15301	26A12			Active	16-Aug-11	16-Aug-19	2,359.00	954.65	$0.00
AN062	K15302	26A12			Active	16-Aug-11	16-Aug-19	516.50	209.02	$21.00
AN063	K15303	26A12			Active	16-Aug-11	16-Aug-19	671.00	271.54	$0.00
AN064	K15304	26A12	26A13		Active	16-Aug-11	16-Aug-19	1,622.00	656.40	$0.00
AN065	K15305	26A13			Active	16-Aug-11	16-Aug-21	671.00	271.54	$4,026.00
AN066	K15306	26A13			Active	16-Aug-11	16-Aug-21	760.00	307.56	$4,560.00
AN067	K15307	26A06			Active	16-Aug-11	16-Aug-19	1,549.50	627.06	$0.00
AN068	K15308	26A06			Active	16-Aug-11	16-Aug-20	2,582.50	1,045.10	$2,568.31
AN069	K15309	26A06			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
AN070	K15310	26A06			Active	16-Aug-11	16-Aug-19	1,291.25	522.55	$0.00
AN071	K15311	26A06			Active	16-Aug-11	16-Aug-19	2,582.50	1,045.10	$0.00
CH015	K12507	26B2	26B7		Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$18,843.83
CH024	K12516	26B2	26B7		Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$7,151.76
CH025	K12517	26B2	26B7		Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$6,811.16
CH026	K12518	26B2			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$1,996.10
CH027	K12519	26B2			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$269.45
CH034	K12526	26B2			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$1,996.10
CH035	K12527	26B2			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$244.45
CH036	K12528	26B2	26B7		Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$702.70
CH037	K12529	26B2	26B7		Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$7,573.00
CH038	K12530	26B2			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$5,729.59
CH039	K12531	26B2			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$491.62
CH046	K12538	26B2			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$5,424.17
CH047	K12539	26B2			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$26,283.64
CH048	K12540	26B2	26B7		Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$3,811.16
CH049	K12541	26B7			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$4,249.57
CH050	K12542	26B7			Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$587,852.95
CH051	K12543	26B7			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$6,488.55
CH052	K12544	26B7			Active	17-Aug-09	17-Aug-19	2,582.50	1,045.10	$701.18
CH053	K12545	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$6,192.67

Claim Name	Claim Number	NTS Map Sheet 1	NTS Map Sheet 2	NTS Map Sheet 3/4	Claim Status	Recording Date	Aniversary Date	Area Acres	Area Hectares	Excess / Deficit Credits
CH054	K12546	26B7	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$109,403.29
CH055	K12547	26B7	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$239,403.29
CH056	K12548	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$10,151.59
CH057	K12549	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$6,401.18
CH058	K12550	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,031.23
CH059	K12551	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,074.37
CH060	K12552	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$587,852.95
CH061	K12553	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,074.37
CH062	K12554	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,425.62
CH063	K12555	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$5,421.47
CH064	K12556	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$5,732.94
CH065	K12557	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$11,047.44
CH066	K12558	26B7	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$14,282.72
CH067	K12559	26B7	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$877.89
CH068	K12560	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$9,148.48
CH069	K12561	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$8,650.82
CH070	K12562	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,347.20
CH071	K12563	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,217.94
CH072	K12564	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$39,092.27
CH073	K12565	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$10,626.43
CH074	K12566	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$39,071.71
CH075	K12567	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,298.12
CH076	K12568	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$7,872.55
CH077	K12569	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$8,140.92
CH078	K12570	26B7	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$897.79
CH079	K12571	26B7	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$181.06
CH080	K12572	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$8,885.91
CH081	K12573	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,076.75
CH082	K12574	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$405.62
CH083	K12575	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$3,270.55
CH084	K12576	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$3,286.16
CH085	K12577	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$1,274.49
CH086	K12578	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$3,286.16
CH087	K12579	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,392.53
CH088	K12580	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,703.83

Claim Name	Claim Number	NTS Map Sheet 1	NTS Map Sheet 2	NTS Map Sheet 3/4	Claim Status	Recording Date	Aniversary Date	Area Acres	Area Hectares	Excess / Deficit Credits
CH089	K12581	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$3,154.89
CH090	K12582	26B7	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$240.56
CH091	K12583	26B7	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$240.56
CH092	K12584	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$3,154.89
CH093	K12585	26B7			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,703.83
CH095	K12587	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$574.49
CH096	K12588	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$2,842.49
CH100	K12592	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$2,883.39
CH101	K12593	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$2,883.39
CH102	K12594	26B7	26B10		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$647.20
CH103	K12595	26B7	26B10		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$647.20
CH104	K12596	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$2,883.39
CH105	K12597	26B7			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$741.75
CH135	K12627	26B10			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$5,033.15
CH136	K12628	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$558.35
CH139	K12631	26B10			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$4,903.38
CH140	K12632	26B10			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$5,002.16
CH142	K12634	26B10	26B15		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$166.80
CH143	K12635	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,534.00
CH144	K12636	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,780.17
CH146	K12638	26B10			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$386.87
CH147	K12639	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$492.62
CH148	K12640	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$498.56
CH149	K12641	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$15,519.85
CH150	K12642	26B10			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$1,733.13
CH151	K12643	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$682.57
CH152	K12644	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$682.57
CH153	K12645	26B10	26B15		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$289.64
CH154	K12646	26B10	26B15		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,303.82
CH155	K12647	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$88.34
CH156	K12648	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$188.34
CH157	K12649	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$611.59
CH158	K12650	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$9,066.05
CH159	K12651	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$15,519.85
CH160	K12652	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$230,586.94

Claim Name	Claim Number	NTS Map Sheet 1	NTS Map Sheet 2	NTS Map Sheet 3/4	Claim Status	Recording Date	Aniversary Date	Area Acres	Area Hectares	Excess / Deficit Credits
CH162	K12654	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$8,273.53
CH163	K12655	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$428.75
CH164	K12656	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$428.75
CH165	K12657	26B10	26B15		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,303.82
CH166	K12658	26B10	26B15		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$89,885.67
CH167	K12659	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$21,198.34
CH168	K12660	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$132,198.34
CH169	K12661	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$121,715.18
CH171	K12663	26B10			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,921.98
CH196	K12688	26B15			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$352.02
CH197	K12689	26B15			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$654.16
CH200	K12692	26B15			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$652.02
CH201	K12693	26B15			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$654.16
CH202	K12694	26B15	26B16		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$85,563.90
CH203	K12695	26B15	26B16		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$4,419.83
CH204	K12696	26B15	26B16		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$637.03
CH206	K12698	26B16			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$3,004.07
CH207	K12699	26B16			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$4,722.25
CH208	K12700	26B16			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$2,649.88
CH235	K12727	26B9	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$109,385.95
CH239	K12731	26B9	26B10		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$21,402.92
CH240	K12732	26B9	26B10	26B15/16	Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$63,970.02
CH241	K12733	26B9	26B16		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$430.47
CH242	K12734	26B9			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$62,680.05
CH245	K12737	26B9			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,408.52
CH246	K12738	26B9			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,275.24
CH247	K12739	26B9			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,378.45
CH258	K12750	26B9			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$1,131.75
CH259	K12751	26B9			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,681.07
CH260	K12752	26B9			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,192.43
CH269	K12761	26B9			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$16,429.09
CH270	K12762	26B9			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$16,429.09
CH301	K12793	26B7	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$17,345.27
CH302	K12794	26B7	26B8		Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$588.51
CH303	K12795	26B7	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$114,852.19

Claim Name	Claim Number	NTS Map Sheet 1	NTS Map Sheet 2	NTS Map Sheet 3/4	Claim Status	Recording Date	Aniversary Date	Area Acres	Area Hectares	Excess / Deficit Credits
CH304	K12796	26B7	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$6,869.28
CH305	K12797	26B7	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$6,351.69
CH306	K12798	26B7	26B8	26B9/10	Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,528.07
CH307	K12799	26B8	26B9		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$306.48
CH308	K12800	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$204.16
CH309	K12801	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$116,326.67
CH310	K12802	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,146.08
CH311	K12803	26B8			Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$28.07
CH312	K12804	26B8			Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$16,724.07
CH313	K12805	26B8			Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$28,355.50
CH314	K12806	26B8			Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$158,956.19
CH315	K12807	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$846.08
CH316	K12808	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,574.86
CH317	K12809	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$14,378.93
CH318	K12810	26B8	26B9		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$15,306.48
CH319	K12811	26B8	26B9		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$14,024.83
CH320	K12812	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$13,504.16
CH321	K12813	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,265.30
CH322	K12814	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,050.95
CH323	K12815	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$158,956.19
CH324	K12816	26B8			Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$39,965.08
CH325	K12817	26B8			Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$172,651.63
CH326	K12818	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$3,394.93
CH327	K12819	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,323.89
CH328	K12820	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$3,204.16
CH329	K12821	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$661.45
CH330	K12822	26B8	26B9		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$206.48
CH331	K12823	26B8	26B9		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$335.27
CH332	K12824	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$558.86
CH333	K12825	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$11,673.61
CH334	K12826	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,490.45
CH335	K12827	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,542.40
CH336	K12828	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$48,927.23
CH337	K12829	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$56,281.69
CH338	K12830	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$230,961.34

Claim Name	Claim Number	NTS Map Sheet 1	NTS Map Sheet 2	NTS Map Sheet 3/4	Claim Status	Recording Date	Aniversary Date	Area Acres	Area Hectares	Excess / Deficit Credits
CH339	K12831	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$337,452.24
CH340	K12832	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,900.11
CH341	K12833	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$956.02
CH342	K12834	26B8	26B9		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$4,364.85
CH343	K12835	26B8	26B9		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$29,411.21
CH344	K12836	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$29,052.57
CH345	K12837	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$335,643.08
CH346	K12838	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$126,452.24
CH347	K12839	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$9,240.83
CH348	K12840	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$170,495.58
CH349	K12841	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$15,233.17
CH350	K12842	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$127,497.47
CH351	K12843	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,402.24
CH352	K12844	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$100,683.59
CH353	K12845	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$332.65
CH354	K12846	26B8	26B9		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$2,539.65
CH355	K12847	26B8	26B9		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$708.45
CH356	K12848	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$100,683.59
CH357	K12849	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,798.23
CH358	K12850	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,594.43
CH359	K12851	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$41,088.03
CH360	K12852	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$15,233.17
CH361	K12853	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$24,688.93
CH362	K12854	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$41,088.03
CH363	K12855	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,594.43
CH364	K12856	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$617.09
CH365	K12857	26B8			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$617.09
CH366	K12858	26B8	26B9	26A5/12	Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$2,574.79
CH367	K12859	26B1	26B2	26B7/8	Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$26,211.58
CH368	K12860	26B1	26B2		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$12,647.91
CH369	K12861	26B1	26B2		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$8,055.03
CH377	K12869	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$15,033.25
CH378	K12870	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$8,752.03
CH379	K12871	26B1	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$13,512.22
CH380	K12872	26B1	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$55,194.87

Claim Name	Claim Number	NTS Map Sheet 1	NTS Map Sheet 2	NTS Map Sheet 3/4	Claim Status	Recording Date	Aniversary Date	Area Acres	Area Hectares	Excess / Deficit Credits
CH381	K12873	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$10,495.84
CH382	K12874	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$20,805.03
CH383	K12875	26B1			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$724.75
CH388	K12880	26B1			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$662.91
CH389	K12881	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$159.75
CH390	K12882	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$495.84
CH391	K12883	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$287,794.25
CH392	K12884	26B1	26B8		Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$299,512.22
CH393	K12885	26B1	26B8		Active, Lease Pending	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$224,512.22
CH394	K12886	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$224,966.86
CH395	K12887	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$62,507.55
CH396	K12888	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$259.75
CH397	K12889	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,193.12
CH400	K12892	26B1			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$719.41
CH401	K12893	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$3,441.43
CH402	K12894	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$64,659.75
CH403	K12895	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$80,377.54
CH404	K12896	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$3,036.58
CH405	K12897	26B1	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$24,543.49
CH406	K12898	26B1	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$25,415.61
CH407	K12899	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$127,493.70
CH408	K12900	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,722.28
CH409	K12901	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$79,817.46
CH410	K12902	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$12,403.52
CH411	K12903	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,435.51
CH413	K12905	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,874.27
CH414	K12906	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,230.62
CH415	K12907	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$11,628.95
CH416	K12908	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$127,493.70
CH417	K12909	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$23,570.73
CH418	K12910	26B1	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$57,915.61
CH419	K12911	26B1	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$170,915.61
CH420	K12912	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$39,644.57
CH421	K12913	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$23,570.73
CH422	K12914	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$3,210.48

Claim Name	Claim Number	NTS Map Sheet 1	NTS Map Sheet 2	NTS Map Sheet 3/4	Claim Status	Recording Date	Aniversary Date	Area Acres	Area Hectares	Excess / Deficit Credits
CH423	K12915	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,903.71
CH427	K12919	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$2,903.71
CH428	K12920	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$228.95
CH429	K12921	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$8,304.38
CH430	K12922	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$39,644.57
CH431	K12923	26B1	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$39,330.76
CH432	K12924	26B1	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$3,742.20
CH433	K12925	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$102,222.28
CH434	K12926	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$222.28
CH435	K12927	26B1			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$228.95
CH436	K12928	26B1			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$890.00
CH439	K12931	26B1	26B8	26A4/5	Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$100,940.46
CH440	K12932	26A4	26B1		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,648.39
CH441	K12933	26A4	26B1		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$414.38
CH442	K12934	26A4	26B1		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$3,379.91
CH449	K12941	26A4			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$554.57
CH450	K12942	26A4			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$577.80
CH451	K12943	26A4	26A5		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$68,290.92
CH452	K12944	26A4	26A5		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$190.77
CH453	K12945	26A4			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$4,463.34
CH499	K12991	26A5			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,266.62
CH509	K13001	26A5			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,622.33
CH540	K13032	26A5	26A12		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,695.19
CH541	K13033	26A5	26A12		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,695.27
CH547	K13039	26A5			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,637.01
CH548	K13040	26A5			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$4,519.49
CH551	K13043	26A5			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,746.43
CH552	K13044	26A5	26A12		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$3,485.75
CH553	K13045	26A5	26A12		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$11,130.49
CH554	K13046	26A5			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,746.43
CH555	K13047	26A5			Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$2,152.67
CH557	K13049	26A5			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,031.06
CH558	K13050	26A5			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$68,213.45
CH559	K13051	26A5	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$23,976.58
CH560	K13052	26A5	26B8		Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$1,865.75
CH563	K13055	26A5			Active	17-Aug-09	17-Aug-19	2,582.500	1,045.10	$11,245.65
CH564	K13056	26A5	26B8		Active	17-Aug-09	17-Aug-18	2,582.500	1,045.10	$1,506.77
								778,685.740	315,122.939	

Appendix 2: Diamond Processing Recovery Flow Diagrams

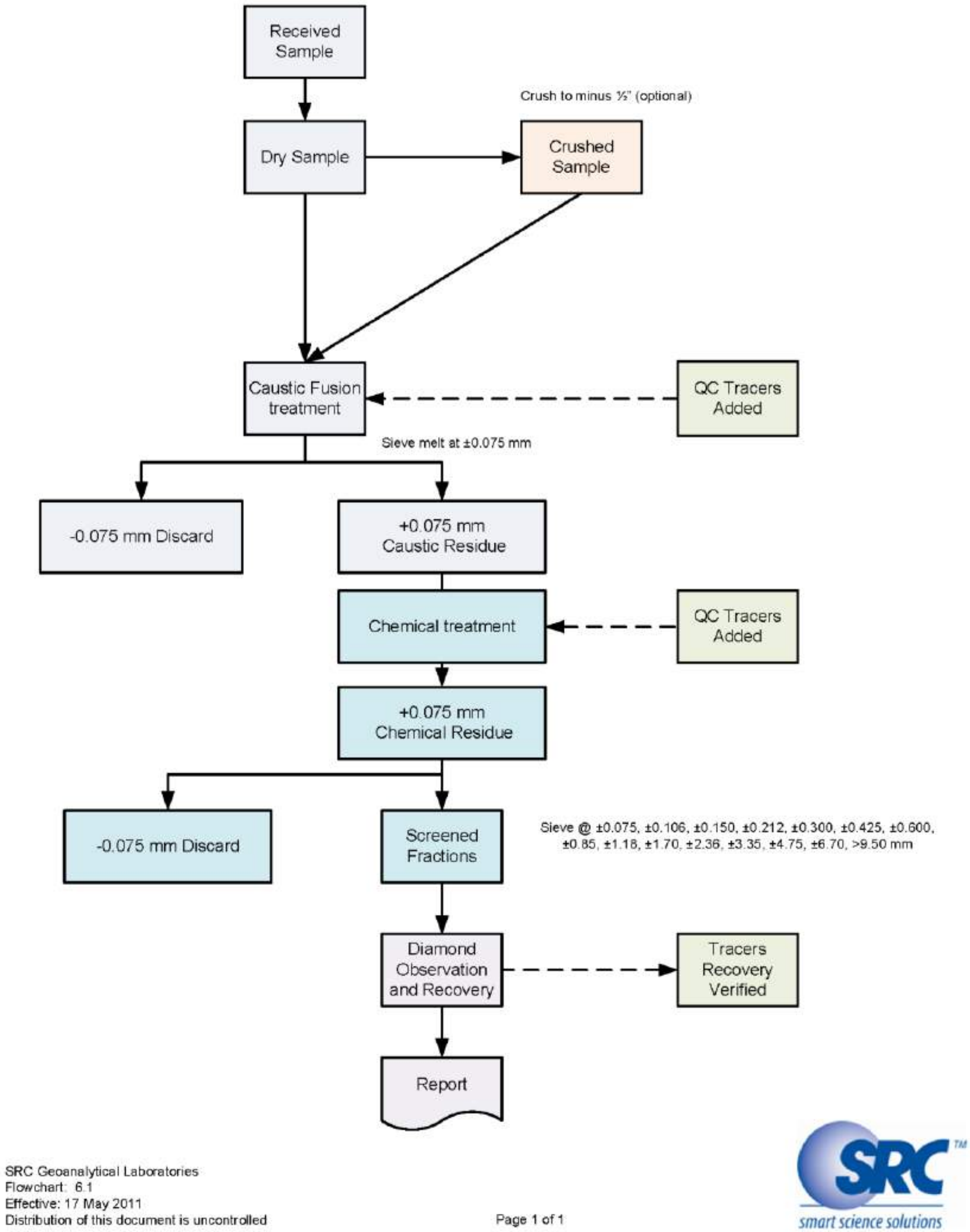

Figure 1: SRC caustic method for diamonds > 106 µm.

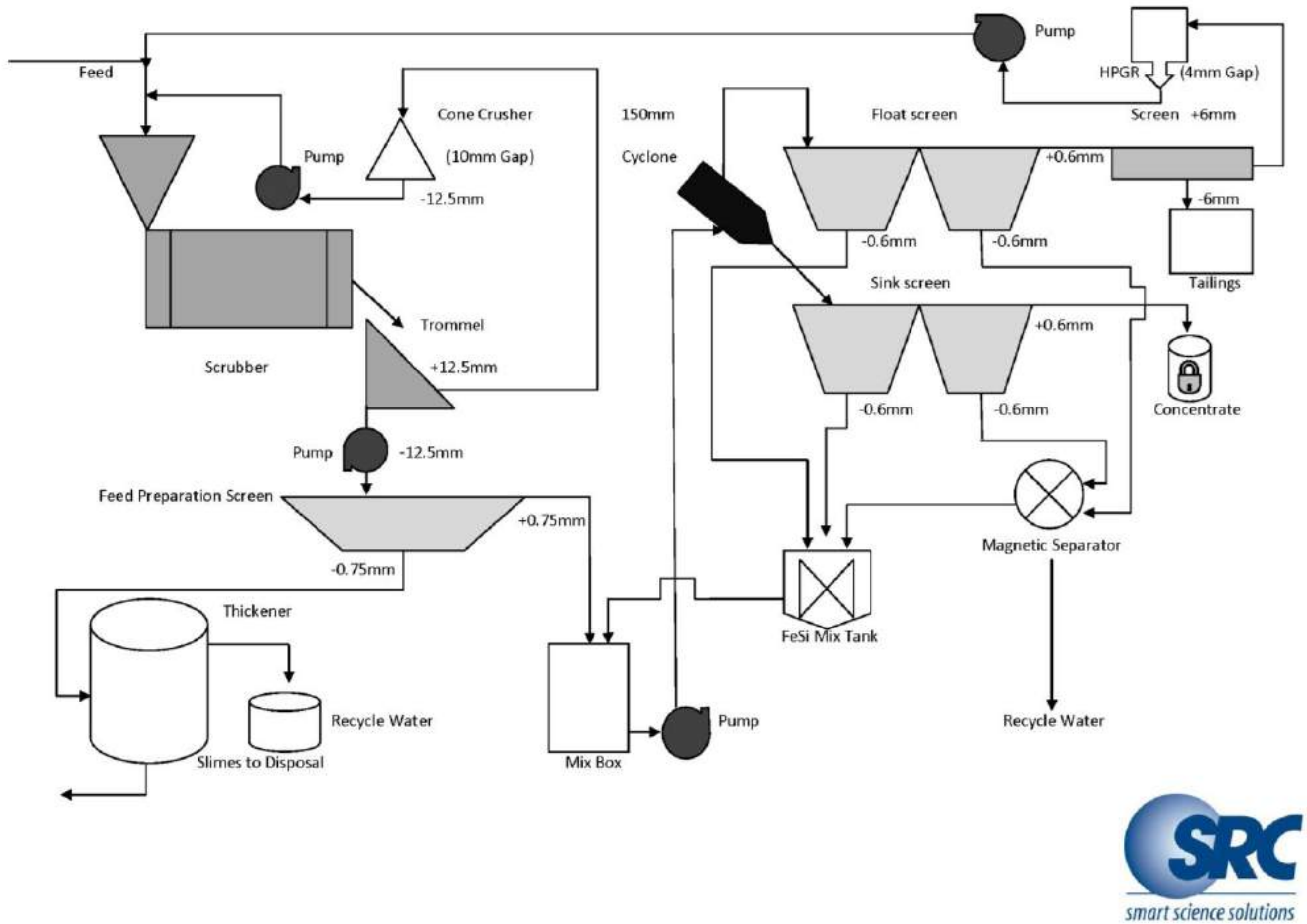

Figure 2: SRC dense media separation process flow diagram.

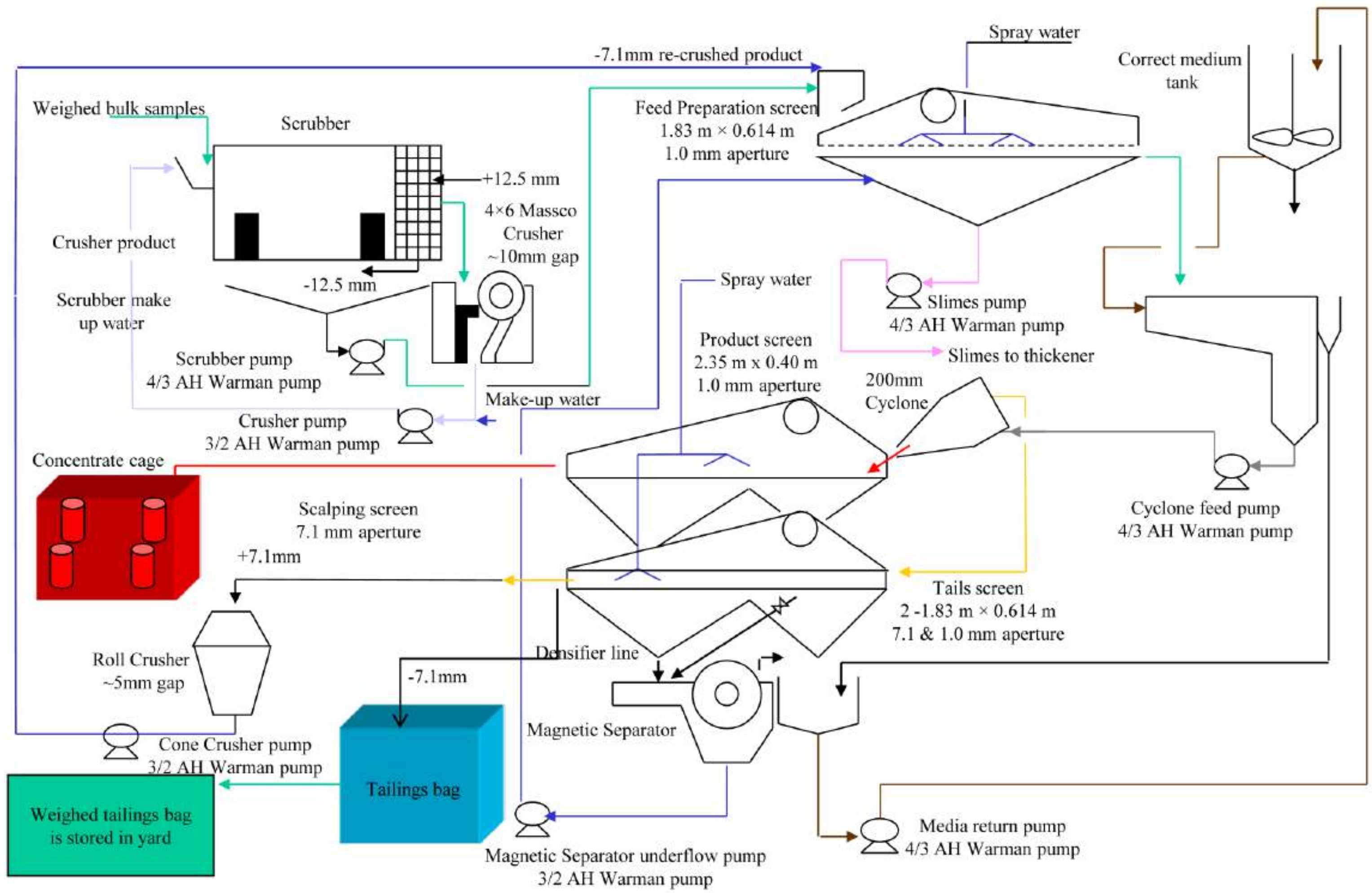

Figure 3: De Beers Sudbury dense media separation process flow diagram.

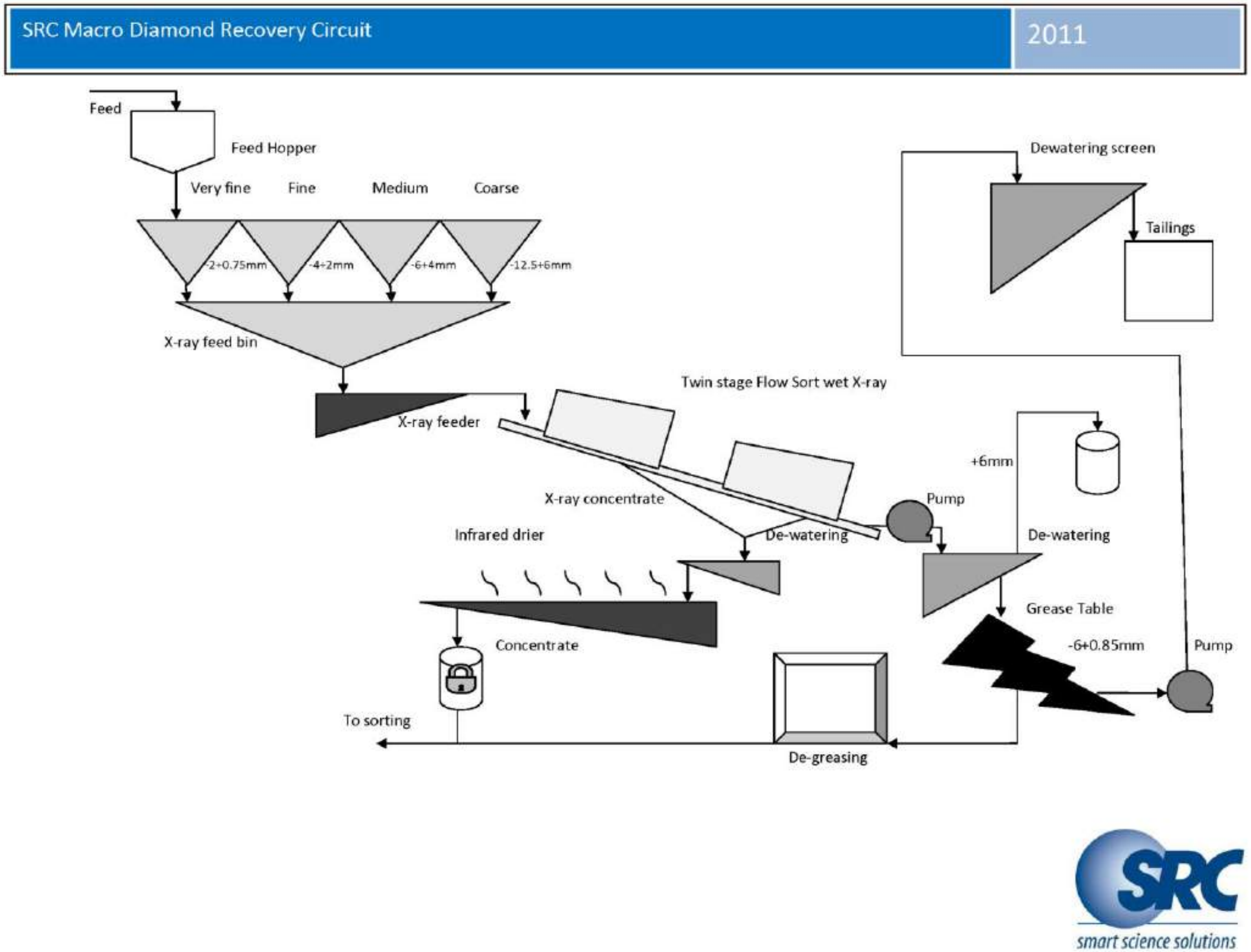

Figure 4: SRC macrodiamond X-ray recovery circuit flow diagram.